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The postgraduate trainee teachers' attitudes, motivation and achievement in an online EFL methodology course. The social constructivist approach

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Introduction

The present dissertation entitled “The postgraduate trainee teachers’ attitudes, motivation and achievement in an online methodology course. The social constructivist approach” constitutes an attempt to find out if the motivation and attitudes of the participants of the online EFL methodology course, delivered in English, exert an influence on their achievement.

The idea to carry out the present research is in connection with the fact that there are many critical voices concerning education in Poland involving foreign language teacher education. It is of vital importance to prepare teachers and future teachers for working in a new environment – which is being altered by the shift from the positivist approach to education to a more constructivist one as well as a progressing integration of technology in almost every aspect of everyday life, including school. Reforms, which are taking place at each level of education: the primary, secondary and tertiary ones, are being carried out in order to improve this situation.

The development of research in the field of education, based on the theory of constructivism is believed to contribute to working out more effective ways of developing trainee teachers’ knowledge and skills and may be a valuable source of insight into the actual situation in contemporary schools. The present investigation was initiated by two previous studies carried out by the author, which proved that despite the fact that foreign language teachers accept the new understandings of the teaching and learning processes, they are not yet satisfied with the level of their integration at school. Another study by the present author revealed that practising foreign language teachers do not use ICT as often as they would like to. Therefore, the online course designed for the purposes of the present

research aimed at finding ways to encourage teachers to use ICT as well as to apply the constructivist principles in order to improve their teaching. It was carried out to provide teachers with a genuine experience in an online environment which challenged their beliefs about teaching. The focus of the research was on the role of the motivational and attitudinal factors in the process of acquiring knowledge and skills.

The lack of consistency in technology enhanced learning research and its deficiency in theoretical foundations made it necessary to anchor the research within frameworks which already exist. For the purpose of the present dissertation, Gardner's motivation model, which has been empirically tested and updated many times, was adopted. Although the model was worked out in order to explain the motivational and attitudinal issues in the context of EFL teaching, it was assumed that the model, modified in order to fit the specific context, may be effective in the research concerning online education. The assumption was that the trainee teachers who have positive attitudes towards ICT and online learning in particular will achieve better results in the online EFL methodology course. It should be remembered, however, that the adaptation of Gardner's model is just a starting point in working out a fuller model of teacher education in the online environment.

The main aim of the study was to find out which of the chosen variables from the adapted model contribute to better results in the e-learning environment. Moreover, another aim was to identify systematic patterns among the variables and to reduce their number to work out the broader dimensions underlying the data. Six research questions were formulated. Three of them concerned the context of the investigation: the participants' ability to use ICT as well as their attitude and ability to use technology to teach English and their attitudes towards e-learning. The three main questions investigated the relationships between attitudinal and motivational variables, and the relationship between these variables and measures of achievement in the online course. Additionally, the relationships between foreign language competence, methodology competence and achievement were investigated.

In the present dissertation the topic of motivation is discussed within the constructivist approach to education. Chapter one constitutes an overview of the issues connected with constructivism, its philosophical roots, problems with defining the term, various understandings and attempts to use the ideas for practical purposes. For the needs of the investigation, social constructivism, which constitutes its theoretical background, is particularly important. In spite of so many understandings, an attempt was made in order to work

out a set of suggestions which may help to use the theoretical assumptions in everyday teachers' work. The chapter includes also an overview of research on the place of the constructivist ideas in the Polish system of education and in foreign language teaching in our country.

Chapter two focuses on the contemporary foreign language teacher education. Firstly, an outline of the development of various models of teacher education is presented towards a more reflective one. Secondly, the main directions in teacher education prevailing in the related literature are analysed. It is clearly visible that a reconceptualization of the issues connected with foreign language teacher education is taking place. Hence, modern teacher education programmes, instead of conveying knowledge, focus on the development of individual teaching style, which would enable trainee teachers to critically assess various solutions in order to adapt them to the particular teaching context they work in. The sections included in the chapter focus on each of the directions separately: the movement from teacher training to teacher education, pedagogy for autonomy, less emphasis on prescription, encouraging critical reflection, a holistic approach, involving teachers in gathering and analysing data about teaching, recognition of sociocultural influences on the learning process and integration of technology. The end of the chapter constitutes an attempt to analyse the situation in the EFL teacher education in Poland after the reforms of 1989 and the research directions concerning foreign language teacher education in our country.

It is commonly approved that motivation and attitudes are predictors of success in learning. The next part of the dissertation, chapter three, addresses the issues connected with the elusive nature of the concept of motivation. Therefore, various understandings of the concept are presented together with an outline of the main alternative theories of motivation categorized according to Dörnyei and Skehan (2003:615f.); namely, expectancy-value theories, goal theories, self-determination theory and social psychological theories of action. Although none of these is free from weaknesses, it is believed that when taken together, they can help to understand better the behaviour of people in the online environment. The growing body of knowledge on the topic of motivation and attitudes encouraged Gardner to make an attempt to work out a model of motivation encompassing various approaches. This model is presented in the next section as the one which is considered to be a universal one, and after adaptation to the particular context, suitable to explain the influence of motivational and attitudinal factors on achievement. The chapter finishes with an

overview of the current research on motivation and attitudes in technology enhanced teaching, including research on CALL as well as on blended learning.

The research methodology applied in the present investigation is depicted in chapter four. It encompasses both quantitative as well as qualitative methods of gathering and analysing data. The quantitative part is based on the *Attitudes and Motivation Battery Test* worked out by Gardner, while the qualitative one on the basis of questionnaires prepared by the present author. The description of the aims of the study and the participants of both the pilot study and the proper one constitute the next part of the chapter followed by the presentation of the EFL methodology course designed for the purposes of the study as well as research tools and methods of data analysis.

In chapter five research findings are presented. Firstly, the context of the study including the participants' ability to use ICT, their willingness and ability to use technology to teach English, as well as attitudes towards e-learning are depicted. Secondly, the motivational and attitudinal variables used in the investigation are analysed together with relationships between them. Thirdly, the results of a factor analysis, are submitted. Finally, the relationships between the variables and measures of achievement in the course are included followed by the analysis of the relationships between foreign language competence, content competence and achievement. Additionally, the chapter outlines the main limitations connected with the study.

In chapter six, the conclusions stemming from the investigation are presented together with implications both for foreign language teacher education in general as well as for designing online courses for trainee teachers. Although the implications are based on the investigation of postgraduate EFL trainee teachers, it is believed that the suggestions may be a valuable source of insight or a starting point for research concerning teacher education in general and foreign language teacher education in particular.

Participation in the contemporary society requires from individuals both English language competence and ICT skills. Educational bodies are aware of this fact, therefore, ICT is gradually finding its place in schools and in institutions educating teachers. As technology enhanced learning is a new field of study, research in the area is lacking, including the investigation of online teacher education and how the use of ICT influences their motivation to learn as well as the question whether it determines success in learning. The present author hopes that the investigation is going to contribute to a better understanding of

the role of motivational and attitudinal factors in online teacher education, which may help to adjust the teacher education programmes to the changing environment.

Chapter 1: Constructivism in education

Introduction

The twentieth century witnessed numerous changes in the approach to teaching and learning, which was a direct reflection of the changes connected with the social and economic situation in Europe. Unsurprisingly, as Vadeboncoeur (1997: 16) explains, educational practices mirror the specific assumptions characteristic for the particular time in history and are embedded within the particular culture in which they take place. At the beginning of and well into the twentieth century the basic skills taught at schools included writing, reading and maths. People were trained to have one job throughout their lives, and to be able to follow rules and instructions imposed by the authorities and employers in the process of production. Unfortunately, as Siek-Piskozub (2006: 160) notices, “individuals have become victims to dehumanised technocratic and economic mechanisms governing our social life”.

Evidently, theories play an important role in the society, influencing the ways in which people see the world and affecting the ways they behave. Moreover, the interpretation of theorists’ works may be critical both to informed research as well as to the ways in which children are taught at school. The educational practice of teachers depends on their individual perception of knowledge, which can be seen as created or received, and of the process of learning, which can be regarded as exploration or repetition. The understanding of the current directions in educational research and of what people’s behaviours and actions mean, can be very useful for practitioners. A very important observation is made by Kumaravadivelu (2001: 537) who notices that “[t]he 1990s witnessed a rare congruence of refreshingly new ideas that can fundamentally restructure second/foreign language teaching and teacher education” and he indicates two mutually informing currents of thought. One of

them stresses the need to find effective teaching strategies (which are going to replace methods); while the other one breaks with the traditional transmission model, which is based extensively on the behaviouristic paradigm originating from the positivist school of thought.

The popularity of behaviourism took root in the 1940s and has been inspiring educators even until now. The structural, or descriptive, school of linguistics, with its proponents such as Leonard Bloomfield, Edward Sapir, Charles Hockett and Charles Fries “prided itself in a rigorous application of scientific observations of human languages” (H. Brown 2007b: 9). It rather neglected human emotions and thought. Indeed, it concentrated only on the observable, external behaviours popularised by the stimulus-response rewards in educating people. As Jensen (1998: 63) notices “[w]e knew very little about the brain at that time, and rewards seemed cheap, harmless, and often effective”. Chomsky (in Otero 2003: 343) accurately synthesizes this approach stating that “[i]t was commonly assumed that language, like other forms of behavior, is a system of habits developed through drill and training, reward and punishment”. For behaviourists, learning meant conditioning observable behaviours by reinforcing the desired responses to a given stimuli. The teacher transmitted knowledge, while the student accumulated it by passive rote learning. This model has been criticized for its didacticism, encouraging memorization, understanding knowledge as merely remembering facts and figures as well as by the fact that it provides the student with no genuine understanding. Chomsky (in Otero 2003: 342) is convinced “that the worst possible conditions for language learning are those marked by rigidity and intellectual and emotional vacuity. There can be nothing more stultifying than language drill, whether it is mere memorization of paradigms or the mindless repetition of patterns divorced from any meaningful context”. Moreover, he further explains that behaviourist ideas were based on false assumptions and reflected the limitations of the methods of inquiry used at that time. Apparently, the behaviourist paradigm is currently on the wane in the field of education.

However, as Novak (1998: 3) explicitly states, there is a need for a *Theory of Education* “to help us deal with the many questions, issues, and problems faced in educating people, educating them in a manner that will empower them to become powerful, confident, and committed knowledge creators and knowledge users”. Constructivism, as a theory which is contrary to positivism, seems to be a satisfactory solution.

Nowadays, constructivism is a broadly accepted learning theory and a growing number of educators are writing about constructivist ideas and trying to implement its principles in their everyday practice. The theory has come to dominate much of educational discourse and has been achieving increasing prominence in the 1980s and 1990s. The idea of constructivism has its roots in philosophy, psychology, sociology, as well as in the theory of education and there is a variety of ways in which it is articulated in professional literature. Constructivist ideas, which stress teaching for meaning making, have influenced much of the contemporary intellectual debate. This approach is guided by the understanding of knowledge that is constructed out of the students' experiences, who, according to Henderson (1996: 6), try "to link new information to what they already know in order to interpret the new material in terms of established schemata". Therefore, no two students' concepts of a particular idea are the same. Thus, knowledge is mediated by discourse rather than imposed by the teacher and students negotiate solutions by articulating their ideas about a certain task, as "[t]o understand something means to know relationships" (Henderson 1996: 6). Consequently, students become active participants of the learning process.

The purpose of the present dissertation, and of the research upon which it is based, is to find out if there are relationships between individual difference variables such as attitudes and motivation and measures of achievement in the online environment in postgraduate teacher education. Moreover, the English as a Foreign Language (henceforth EFL) methodology course presented to the trainee teachers, together with the new way of delivery of its content, was believed to provide a clear link between the theoretical framework of constructivism and the practice of teaching. The research focuses on the trainee teachers' exploration of the theoretical tenets within the constructivist paradigm in an on-line professional development experience which was designed to challenge their assumptions and their everyday practice through the lens of the constructivist approach. The experience is followed by the attempt to determine which individual differences account for the participants' achievement in the course. It is not difficult to notice that both motivational issues as well as the opportunities that technological developments offer teachers are in line with the constructivist understanding of the process of teaching and learning.

However, in order to understand the new way of educating people, it is necessary to reach back in time.

1.1. Connecting contemporary constructivist concepts to teaching ideas from the past

The ideas characteristic for constructivism are not new. Although constructivism is believed to have emerged in the 1980s as a reaction against the transmission model of education, it has a long ancestry. People have been asking questions about human understanding and the nature of knowledge since the beginnings of philosophy in ancient Greece. Null (2004: 180) believes that “those who advocate constructivism should reach back to important thinkers from past centuries to understand their theoretical predecessors and to devise better plans for the present” and it is true to say that the forefathers of constructivism and their ideas have been around for a long time.

1.1.1. The origins of constructivism

Aspects of the constructivist theory can be found in the works of many great philosophers from the past who tried to find out the truth about the nature of knowledge as “nature and how we come to know, are essential considerations for constructivists” (Murphy 1997a). The branch of philosophy dealing with the structure and the genesis of knowledge is *epistemology*, and its link with learning has been discussed for thousands of years even though the term *constructivism* had not been coined until the twentieth century.

The first great philosopher who contributed to the development of the constructivist thought was Socrates (469-399 BC). Murphy (1997a) emphasizes that he “liked to work with students. His approach essentially consisted of leading them through a series of questions in order to promote critical thinking”. According to his approach, it was the teacher who knew the correct answer and the student’s task was to deduce it. Although the goal of the learner was a typically behaviourist one, the pursuit of students’ questions and their active participation in the learning process is now one of the main tenets of constructivist thought. Plato (428/427-348/347 BC) stated that Socrates (as cited in Cooper 1997: 154) had believed that it was much better for students to investigate things and “learn about them through themselves than to do so through their [the object’s] names”, which constitutes a starting point for another constructivist principle – encouraging students to learn through experience.

St. Augustine (354- 430) also contributed to the development of constructivist ideas by noticing that people should be taught “to learn from each other” (Sheed 1999: 52).

Traces of constructivist thought can also be found in John Locke’s (1632-1704) work *An Essay Concerning Human Understanding*, written in 1690. Locke noticed that the mind assembles ideas into more complex structures and that the same ideas have different significance for different people. What is more, the understanding of an individual person changes with time and depends on their previous experience, with the mind of each individual “pursuing its own ends of discourse, and suited to its own notions whereby it designs not to copy any thing really existing, but [to] denominate and rank things, as they come to agree with those archetypes or forms it has made” ([1690]1849: 348). This approach resembles another significant point of the constructivist pedagogy, emphasized by Irzik (2000: 63), that “each student comes to class with his own concepts and ‘knowledge’ (read: beliefs) constructed out of his experiences about how things work”.

As Glasersfeld ([1995] 2002: 49) noticed, Giambattista Vico (1668-1744) “produced the first explicit formulation of a constructivist approach”, believing that people build their knowledge on their own experience and that “reason can know and understand only what it itself has made according to its own rules”. Vico ([1725] 1990:19) also believed that students are expected to learn criticism “so that they can apply the fullness of their personal judgement to what they have been taught”. His ideas produced essential underpinnings for constructivism which were then extended by Kant.

The development of the constructivist ideas is attributed to Immanuel Kant (1724-1804) as he is considered by many authors to be the first true constructivist (Simon 2001: 10). Contrary to the positivist theory, prominent in the 1950s and 1960s, according to which knowledge was absolute and separate from the knower, Kant many years before denied the “possibility of arriving at a precise grasp of absolute knowledge” (Murphy 1997b) expressing the conviction that an individual learns through personal experience without direct access to external reality, and adding that individuals can develop knowledge only by organizing their experience with the use of “fundamental in-built cognitive principles (‘categories’)” (Heylighen 1997). Hence, knowledge is the result of experience as well as the intellectual processes in the mind of the individual. It is not an act of discovery, however, but an act of construing, in which interpretation and understanding are of vital importance. It is not hard to notice that Kant’s ideas are in line with the constructivist paradigms

as they do not rely on the observable only, but also contribute to the development of the cognitive ideas.

Null (2004: 183) argues that Jean Jacques Rousseau (1712-1778), an eighteenth century Enlightenment philosopher, should also be recognized as a major contributor to the constructivist thought. He attacked civilization as the source of corruption and believed that people should return to nature and let children develop by reason of their natural instincts. Null continues that to “put Rousseau’s approach to teaching in modern terms, he argued that all learning should derive from an environment in which students construct their own knowledge” (Null 2004: 183). Another important contribution of Rousseau pinpointed by Null was his conviction that children develop through stages and that caretakers should respond to their needs as they are connected with the particular period of those children’s lives.

Inspired by Rousseau’s ideas, Granville Stanley Hall (1844-1924), worked out an approach to education that “emphasized child development, scientific investigation and the correlation of curriculum with the developmental stages of children” (Null 2004: 185). In a similar manner to Jean Jacques Rousseau, Hall ([1908] 1931: 307) stressed the importance of the study of nature in the process of education, and, what is more, emphasized the weight of adjusting the curriculum to the current abilities of students whose development can be impeded by *injudicious* methods of teaching chosen by the teacher (1931: 320). Probably one of the most significant of Hall’s contributions to the constructivist thought was that “teachers should ‘individualize’ educational lessons based upon numerous variables, for example student ability, vocational interest, age, and gender” (Null 2004: 185). His ideas have re-emerged in the late 20th and early 21st centuries as the constructivist teaching methods.

For many centuries the greatest minds in the world had been thinking about and writing about changes in the system of educating people, encouraging innovation and change. Socrates, St Augustine, John Locke, Vico, Immanuel Kant, Jean Jacques Rousseau and Stanley Hall obviously contributed to the development of the constructivist thought, but only in the 20th century were these ideas expanded and put together to build up a consistent theory which was to lead practitioners in their everyday work.

1.1.2. Modern constructivism

The conceptualization of constructivism is a very complex issue and originates from many fields of science such as psychology, philosophy, cognitivism and the social sciences. Its increasing interdisciplinarity and adding together of many varying approaches makes the concept more dynamic and not bound by the only acceptable perspective which was propagated by positivists. The passive, static approach to education was replaced by a new, active one, which allowed constructivism to become something more than just a theory of learning. It has become a specific way of looking at life and the world which allows for multiple interpretations of many complex and abstract ideas which can guide our everyday behaviour.

Zuengler and Miller (2006: 39) notice three main directions in the contemporary Second Language Acquisition (henceforth SLA) research which originate from the works and ideas of the 20th and 21st century thinkers and scientists. The first one is connected with Vygotsky's zone of proximal development (henceforth ZPD) and concentrates on the possibilities of the development of an individual when working in collaboration with others. Vygotsky (1978: 86) defines it as "a distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers".

The second trend depicted by Zuengler and Miller is connected with the "use of *private speech* or speech directed to oneself that mediates mental behavior. Private speech manifests the process in which external, social forms of interaction come to be appropriated for *inner speech* or mental development" (2006: 39). The third direction focuses on the task based approach to language learning and teaching, which was popularised by Prabhu (1987).

In its contemporary form, constructivism has two founding fathers: Jean Piaget (1896-1980) and Lev Vygotsky (1896-1935), who significantly impacted the realm of educational theory. As Vadeboncoeur states:

[t]hroughout the twentieth century, two competing views of child development and the purpose of education have framed the teaching of pedagogy in teacher education. In the first view, the purpose of education is to educate the individual child in a manner which supports the child's interests and needs. The principles which guide this educational prescription are based on a theory of cognitive development that identifies the individual as the sub-

ject of study. In the second view, the purpose of education is social transformation and the reconstruction of society aligned with democratic ideals. This view is based on a theory of human development which locates the individual within a cultural milieu and identifies the subject of study as the dialectical relationship between the two (Vadeboncoeur 1997: 15).

It is obvious that the focus of attention of the two lines correspond to the ideas worked out by Piaget and Vygotsky. While Piaget emphasized the psychological mechanisms of an individual person responsible for learning, Vygotsky focused on the social factors which influence the learning process.

Simon (2001: 11) states that Piaget is regarded to be the first modern constructivist who synthesized many ideas and concepts repeated by different theorists into one comprehensive psychology and who “united philosophy and psychology to transform society’s conception of childhood thought and intelligence, paving the way for a new paradigm in psychology and education”. Piaget ([1950] 2003: 73) pointed out that learning is an active construction process and children engaged in a particular activity create internal structures called schemata.

The psychological approach propagated by Piaget has been strongly criticized in various education circles, mainly because of its emphasis on the cognitive aspect and negligence of the social one. Additionally, Bruner (1964) and Chomsky (1977) have noticed that “factors such as language and prior experience are more closely associated with the development of new structures than is the quest for cognitive equilibrium” propagated by Piaget (Brooks and Brooks 2001: 27). Fosnot (1993: 1189) notices that Piaget had reformulated his own ideas ten years before death, and instead of talking about assimilation, accommodation, and static equilibrium, started a discussion about successive coordination and progressive equilibrations. Moreover, according to Fosnot (1993: 1192), Piaget “moved away from a static stage theory (preoperational, concrete, formal) toward a delineation of the successive possibilities and logical necessities generated by subjects as they attempted to explore and understand various problems”. Also Novak (1998: 47) expresses lack of enthusiasm for Piaget’s developmental stage theory and makes an important observation that “[t]he inadequacy of the student’s developmental readiness, both in individual cases and in groups, has been a convenient scapegoat for what in many cases could be better explained as inadequate prior preparation or inappropriate instruction”.

Although many scientists and educators believe that Piaget was on the wrong track with his stages theory as well as the quest for cognitive equilibrium (e.g. Brooks and Brooks 2001: 27; Novak 1998: 48), he undoubtedly started a revolution in education and

many of his followers contributed to a better understanding of the cognitive development of people. The main implications for practitioners resulting from Piaget's ideas constitute also the major underpinnings of the constructivist ideology. The first of them is that individuals must be actively engaged in the learning process and that gaining knowledge is a meaning-making process. Another implication is connected with the stages theory, which directed educators' attention to the fact that people have various needs and capabilities. Hence, the learning process should be adjusted to the level of the cognitive development of an individual or of a group of individuals. Moreover, Piaget highlighted the significance of experience in the learning process. Evidently, he remarkably changed the face of educational psychology.

One of the major contributions of Vygotsky to the growth of the constructivist paradigm was the concept of ZPD, associated with learning with the help of more knowledgeable others. Vygotsky's ideas rely on social interactions and meanings being shared by the participants which are then internalized by individuals. Vygotsky believed that individual development is the consequence of social, cultural and historical influence, meaning that a child mediates cognition with their environment. Vygotsky (1978: 85) assumed that "what children can do with the assistance of others might be in some sense even more indicative of their mental development than what they can do alone". Researchers working within the Vygotskian tradition describe the process of learning as participation in authentic activities with the assistance of others. When commenting on Vygotsky, Zuengler and Miller (2006: 39) state that "[o]f significance for SLA research is the understanding that when learners appropriate mediational means, such as language, made available as they interact in socioculturally meaningful activities, these learners gain control over their own mental activity and can begin to function independently".

Vadeboncoeur (1997: 27) summarizes the contribution of both Piaget and Vygotsky by noticing a different direction of cognitive development supported by each of them: "[w]hile for Piaget the direction of cognitive development moves from the individual to the social, the direction for Vygotsky is from the social to the individual". She also emphasizes another important difference between their views, noticing that Piaget believed that the construction of knowledge happens through the acting upon the world of objects, while for Vygotsky it happens, rather, through interaction with the social environment. The differences in the approach are not surprising when we take into account the fact that Piaget used

biological analysis while Vygotsky, who read Karl Marx and Friedrich Engels, looked at the issue from a historical perspective.

Apart from the two great personalities discussed above, many theorists and practitioners have contributed to the development of the modern constructivist perspective in education. It is not possible to mention all of them. Below, a short outline of the most important contributors and their ideas is presented.

Following Kant also John Dewey (1859-1952) believed that there is no objective truth, that knowledge is constructed through the use of language in social contexts and that “things gain meaning by being used in a shared experience or joint action” (1920: 27). As a member of the Progressive Education Association, Dewey was aware of the influence of the educational reforms and of the development of child psychology on the teaching practice. He was convinced that the learning environment should be fitted to the level of development of students and claimed that also their interests are a significant factor in the process of education (1920: 288). Another salient issue raised by Dewey (1920: 238) was a description of learning as an active process. He emphasized that instead of the rote memorization of facts children should be given the opportunity for *personal intellectual productivity*. The author believed that formal instruction at schools should not be isolated from life and that students should be engaged in *constructive* activities resembling those outside school (Dewey 1920: 288-289).

Kelly’s (1905-1967) basic assumption was that “a person’s processes are psychologically channelized by the ways in which he anticipates events” ([1955] 1991b: 4). Like Piaget, Kelly talked about schemata, which he called patterns or templates created by people’s minds (Kelly [1955] 1991a: 7). According to the author, learning takes place when experiences fit the pattern in people’s minds. Obviously, it reflects one of the major constructivist principles which is connected with the use of prior experience in the learning process.

Another influential researcher, whose ideas have had a great impact on contemporary educational thought, is Jerome Bruner. According to him (1997: 19f.), the way individuals understand the world, their construction of reality, are influenced by traditions as well as a *culture’s toolkit of ways of thought*. The aim of education is to help students use the tools not only to adapt to their environment but also to influence it according to their needs. An important observation is made by Brooks and Brooks (2001: 72) when they comment on Bruner’s idea of *mismatch*, namely, that if teachers do not perform any activi-

ties to find out what their students are able to do, they are not able to state what is within their reach. However, according to Bruner, teachers should tailor their teaching not only to their students' capacities but also to their interests (1977: 22) believing also that “[i]nterests can be created and stipulated” (1971: 117, as quoted in Brooks and Brooks 2001: 35).

1.2. Towards a definition of constructivism

Various theorists have tried to define the term constructivism. Due to their different interpretations of the concept, it seems to be almost indefinable. Null (2004: 180) notices that “[c]urrent educational literature [...] is littered with a range of definitions for and understandings of this concept”. Irzik (2000: 622) points out that the main ideas of constructivism are epistemological, but also ontological, cognitive and semantic matters are of vital importance.

1.2.1. Definition of constructivism

As the term has been understood differently by various scholars and educators, there are many variants of constructivism in the field of education. Phillips (1995: 5) compared the concept to a secular religion having many *sects* whose proponents are characterized by some *distrust of its rivals*. He also defined constructivism as a *powerful folktale* concentrating on the origins of human knowledge. Essentially, it can be defined as a theory of learning and teaching. However, the definition of constructivism is strongly connected with the understanding of two notions: knowledge and truth. It is beyond the scope of this dissertation to fully discuss such a sophisticated issue. Suffice it to say that the most radical opinion is expressed by Glasersfeld ([1995] 2002: 26) who claims that if we consider truth to be an observer-independent reality which we have no access to, truth is inaccessible for an individual, so *true knowledge of the real world* is impossible. Irzik (2000: 624) notices that as a consequence, according to this understanding, also facts and reality are not objective but created by individuals, while in the traditional as well as in the contemporary understanding, knowledge is *at least justified true belief*. This opinion influences the way many scientists understand the idea of constructivism.

Another important remark is made by Fojt (2006: 51), who believes that the process of the generation of knowledge is essentially constructivist in nature. Moreover, he claims that knowledge itself is at the same time a construct and a product of the process.

Many theorists have developed a definition of constructivism. Thus, a great deal of constructivisms have emerged. It can even be stated, according to the constructivist way of thinking about the world, that different researchers have worked out their own definitions.

Joan and Dawn Wink (2004), pinpoint the differences between two terms: constructivism and constructionism. While constructivism refers to the ideas developed by Piaget and is called by Phillips (1995) “psychological constructivism”, constructionism is connected with Vygotsky’s theories about the social situation of knowledge. However, not many scientists maintain the distinction (as cited in Surdyk 2006: 173f.). Instead, Vadeboncoeur (1997: 22) defines a spectrum of forms of constructivism: namely, Piagetian, sociocultural and emancipatory constructivism, with the second and third forms being just two interpretations of Vygotsky’s sociocultural approach. The differences between them are explained by Vadeboncoeur in terms of the subject of study, the development of cognitive forms and the liberatory power of pedagogical approaches derived. Another summary of various constructivisms is provided by Murphy (1997b) who notices the differences between radical, social, evolutionary, postmodern, social, and information-processing constructivisms as well as cybernetic systems.

As Vadeboncoeur (1997: 15) notices, multiple interpretations of the idea of constructivism cause a lot of confusion in educational practice. Firstly, there is a debate about which kind of constructivism is the right one. Secondly, there are different pedagogical approaches which are created on the basis of the same interpretation. Finally, these approaches influence everyday instruction in different ways. As a consequence, the way in which the theory of knowledge is put into practice becomes blurred and teachers are disoriented, so to assist teachers to become acquainted with constructivism and to find out their own way is of vital importance. This directly implies the need for constructivist professional development programmes for teachers.

A useful and accurate definition of constructivism was presented by MacKinnon and Scarff-Seatter as “a way of thinking about the events of teaching and learning” (1997: 54) and “a way of thinking about the formation of knowledge and understanding” (1997: 51). More precisely, Siek-Piskozub (2006: 163) emphasizes that within the approach “students are viewed as conscious agents possessing present- and future-oriented goals and a

background of prior knowledge and dispositions, all of which need to be taken into account". This definition stresses an active participation on the part of the students, whose experience is a vital factor in the process of learning.

Although the theory of constructivism is expressed in so many different ways and the taxonomy of various constructivisms is so complex, there are many common topics which allow for deriving a set of principles within the constructivist framework, which will be described in chapter 1.3.1. The most important common characteristics of constructivism, repeated by many authors, is the commitment to the idea of the active engagement of the learner in the process of gaining knowledge and skills. Richardson (1997: 3) notices that various constructivist approaches share the conviction that constructivism is "a learning or meaning-making theory" and that "individuals create their own new understandings, based upon the interaction of what they already know and believe, and the phenomena or ideas with which they come into contact".

As it can be seen from this brief presentation of different approaches to the definition and the interpretation of constructivism, there is lack of consensus among researchers and theorists about defining the notion. Nonetheless, many common themes allow for working out principles and designing the everyday practice of teachers according to them. Moreover, as noted by Murphy (1997b), many "writers, educators and researchers appear to have come to an agreement about how this constructivist epistemology should affect educational practice and learning". It should also be remembered that although constructivism is a widespread contemporary theory of learning and teaching it is, yet, not the only one.

1.2.2. Epistemological, instructional and prescriptive constructivism

An in-depth development of the definition of constructivism which is simultaneously a summary of the many definitions worked out by many scientists was submitted by Null (2004: 181f.). The author observes that there are three levels of constructivism advocated in contemporary educational literature. The first, epistemological constructivism, focuses on the nature of knowledge and answers the questions about "how, why, when, and where" people get to know something. Although Null (2004: 181) believes that "this line of research rarely filters down to the real world of classroom teaching", Vadeboncoeur (1997: 34) claims that it constitutes the basics for pedagogical approaches, and that thus a detailed

analysis of this level of constructivism is essential for building stable foundations of everyday classroom practice.

Another, second level, described by Null (2004: 181) labelled “instructional constructivism”, emphasizes the construction of knowledge by individuals in particular classrooms as the result of the process of teaching and learning. Instructional constructivists define their theory by presenting a set of characteristics such as: the nonlinearity of the teaching and learning processes, the central place of personal meaning making, the importance of understanding students’ points of view by the teacher, adjusting tasks to students’ lives and experiences, taking into account their experiences when planning lessons, interactivity of teaching practices as well as alternative modes of assessment. Such understanding of the theory breaks with memorization, direct instruction, and dominance of the teacher over the learning process, replacing it with meaningful lessons and construction of knowledge constituting a frame on which teachers can design their own instructional practice.

Finally, apart from epistemological and instructional constructivism Null (2004: 182) distinguishes the third level, namely, prescriptive constructivism, which reduces the overabundance of definitions of the notion to a set of practical techniques every teacher can implement in the classroom. He also notes that such understanding, prescriptive in nature, “borders on a violation of the nature of constructivism itself” (Null 2004: 182) as teachers are expected to create their own understandings and techniques to be true constructivists, because experience is totally private and subjective.

1.2.3. Social constructivism

Bearing in mind the main theme of the present dissertation, it is necessary to examine the SLA field with regard to the social approach to teaching and learning. As discussed earlier, Piaget’s cognitive theory based on his experiments with children and concentrating on the internal processes of the development of the mind had a significant impact on education in the 1960s and 1970s. Later, educators and researchers adopted a new orientation including sociocultural approaches which rejected Piagetian constructivism. Marin et al. (2000: 225) discuss the notion of “alternative conceptions” introduced by Gilbert and Swift (1985) which finally started to be recognized as “social constructivism”, and acknowledged the social dimension of learning.

Richardson (1997: 7) points out that “social constructivists have a very different view of the process of construction of knowledge than Piagetians. They do not focus, primarily, on the individual, but view the social as instrumental if not essential, in both the construction and appropriation of knowledge”. Their theory changes the emphasis from the learning process being understood as the individual’s construction of knowledge to learning as a social event. As Straits and Wilke (2007: 58) notice “[f]or social constructivists, a learner’s environment, the people in it, and the words they use help shape an individual’s understanding; the creation of meaning is not purely individual, but to a large extent shared”. Another important remark is made by Zuengler and Miller (2006: 51) who notice that socioculturally informed studies, which understand the learning process as participation, where relations and interactivity play an important role and where power relations influence acquisition of knowledge, offer completely different suggestions for changing the instructional design of teachers.

The research directions in sociocultural studies are summarized by Zuengler and Miller (2006: 51). The first of them concerns the relation between everyday school practice and students’ experiences outside school, the organization of classrooms as “communities of practice” as well as kinds of participation available for students. The second direction concentrates on the identification of classroom interactions and discourse patterns which help students participate actively in a lesson. Other researchers are interested in the types of teacher’s assistance which allow for students’ progress within their ZPD, and the dialogue between peers as the way of making learning effective as well as the issue of assessment, which should be dialogic in nature and contextually sensitive.

Another salient issue raised by Zuengler and Miller (2006: 43) is the problem of the relations of power within the group of people working together on a given task, which is very important for the understanding of the sociocultural approach. One of the main tasks of a teacher is to create more equitable social relations in order to allow every student to meaningfully participate in a lesson.

Summing up, researchers working within this framework emphasize the social nature of learning taking place due to joint tasks and the fact that language learning proceeds because of the active participation of the students. Moreover, the proponents of the theory stress discussion, negotiation and cooperation as the elements encouraging learning and additionally underline the importance of teachers’ beliefs and personal theories in the process. The latter have been discussed in, e.g. Siek-Piskozub and Strugielska (2008: 129-136).

Reflective awareness of teachers concerning the sociocultural dimensions of learning can significantly influence the effectiveness of their instruction, which is of vital importance for designing educational and professional development programmes for teachers, which are prepared in order to help them gain a fuller understanding of their practice.

Although the tensions and debates between cognitivists and socioculturalists are still taking place, there are some researchers and theorists who fight for the integration of both approaches. Larsen-Freeman (1997) in her article “Chaos/complexity science and second language acquisition” brings forward the proposal to use the chaos/complexity theory to explain the intricate mechanisms of second language acquisition. She believes that looking at the issues from the new perspective encourages breaking with *false dichotomies* between different approaches to the learning and teaching process and benefiting from their complementarity (1997: 158). Incorporating both cognitive and sociocultural approaches will better serve contemporary educators in their everyday struggle with complex problems as second language acquisition is nowadays regarded as a dynamic process. Larsen Freeman (1997: 147) adopts Rutherford’s (1987: 37) view of language and compares it to a living organism which grows and changes: hence, the language acquisition process is a resultant of a plethora of interacting factors the outcome of which is unpredictable. That is why simple cause and effect explanations are not sufficient.

Watson-Gegeo (2004: 331) accuses the useless debates between the proponents of the cognitivist and sociocultural approaches of creating a serious impediment to second language acquisition development. Due to the recent paradigm shift in the human and social sciences, she notices, our understanding of such fundamental issues as mind, language, epistemology, and learning is changing, which directly influences second language theory and research. This allows for understanding cognition as a process taking place as a result of social interaction influenced by the cultural and socio-political processes. However, she continues, the shifts resulting in new growth and new visions are painful, because they “question all that we hold dear, all that we have assumed, the theories close to our hearts, the methods we have believed in, the goals we have set for our careers”(2004: 343).

This particular approach incorporating the sociocultural factors into a cognitive orientation is very important for the understanding of the research design presented in the dissertation.

1.3. Constructivism in education

As has been presented in previous sections, several scholars have written about constructivism in education. The question remains, however, if constructivist ideas can be effectively translated into a learning theory and thus be a signpost for the everyday practice of teachers. Another question is if there is a way in which the expert scientific knowledge of the teacher can be helpful for students in developing their ability to learn effectively. What remains a matter of debate is also the way in which changes in the roles traditionally played by teachers and students can be stimulated.

Among significant voices in the discussion it is important to mention Kumaraavadivelu (2006: 70), according to whom, during the 1990s there was a critical turn in the way foreign languages were taught and when language started to be seen as ideology. Thus, as contended by the author, the educational space is no longer limited to teaching phonology, syntax and pragmatics, but is broadened with the social, cultural and political dynamics of language use. Teaching and learning a language is now recognized as something more than just teaching and learning a particular language in its strict sense, but “[i]t is about creating the cultural forms and interested knowledge that give meaning to the lived experiences of teachers and learners”.

Brooks and Brooks (2001: 16f.) point out the need to promote deeper understanding, transforming the ideas taught into broader, more comprehensive concepts, the pursuit of students’ questions, the use of authentic materials, and regarding students as autonomous thinkers who come to a class with some preconceptions about the world and who have the right to express their own point of view. Another issue raised by the authors is the alternative way of assessment including observation and presentations as well as the emphasis on group work.

The present section is divided into four parts, which, taken together, represent an effort to show the place of the constructivist theory in EFL education. In the first part, central principles of the constructivist thought are going to be presented, followed by a detailed description, in the second part, of the constructivist classroom practice. The third part addresses a complex issue connected with the criticism of constructivism, while the final one outlines the position of constructivism in contemporary Polish schools.

1.3.1. Central principles of constructivist thought

Despite so many differences concerning the definition of the idea of constructivism, it should be emphasised that many similarities emerge too, which can be gathered in the form of principles guiding practitioners in their search for an understanding of the teaching and learning process. Although the constructivist attitude towards human learning has been reflected in a great deal of principles worked out by various theorists and educators, one of the most significant facts about constructivism is that its principles can be contextualized to meet the different needs of students as well as teachers, and undoubtedly that is the reason why constructivist ideas have come to figure so prominently in the professional and academic literature of the SLA field and why they have impacted so significantly the realm of educational theory.

Novak (1998: 22) defines principles as “relationships between concepts” which are “perceived regularities in events or objects, or records of events or objects, designated by a symbol”. Hence in education, principles are expected to explain the relationships between the teacher’s behaviour and students’ reactions, the most effective ways of stimulating students to work and the ways in which people learn. One of the major problems with principles in the field of education noted by Novak, however, is the fact that they cannot be expressed with the help of a mathematical formula. The relationships are so complex and depend on so many factors that it is not possible to predict with certainty the outcome of the teacher’s efforts.

Among many sets of constructivist principles (see also Brooks and Brooks 2001; Murphy 1997d) a categorization presented by Simon (2001: 13-15) on the basis of the analysis of theories and current research seems to be the most interesting and clear one. Like other scientists examining the topic of constructivist principles, he believes that for any theory to be considered constructivist, the first principle is the active construction of meaning out of the student’s experience; and he goes on to postulate other principles. The second one stresses the importance of social influences on knowledge construction. The third one is connected with the great role of self-regulatory practices in the learning process while the importance of mental operations and the belief that people are able to perform formalized operations and are capable of abstract thought belongs to the fourth principle. The last principle indicated by Simon emphasizes the fact that cognition helps people organize the experiential world rather than the ontological reality.

Subscribing to the first principle, namely, that individuals actively construct their understanding of the world on the basis of their experience, means that, contrary to the positivist opinion, learning is rather active than passive. Learners build their knowledge using what they already know, they come to a class with experience gained previously and confront it with what they encounter in the new learning situation, so prior knowledge significantly influences their understanding of new concepts. Brooks and Brooks list four educational settings which encourage the active construction of meaning:

- They free students from the dreariness of fact-driven curriculums and allow them to focus on large ideas.
- They place in students' hands the exhilarating power to follow trails of interest, to make connections, to reformulate ideas, and to reach unique conclusions.
- They share with students the important message that the world is a complex place in which multiple perspectives exist and truth is often a matter of interpretation.
- They acknowledge that learning, and the process of assessing learning, are, at best, elusive and messy endeavours that are not easily managed (Brooks and Brooks 2001: 22).

Within this understanding, the classroom is perceived as a place where students' points of view are highly valued and where problems presented by the teacher are of relevance for them. Students are also expected to express their opinions and to talk about their experiences. In such an environment an active engagement on the part of the learners and their genuine interest is much easier to be achieved.

Richardson (1997: 8) notices that "learning cannot be separated from action [and that] perception and action work together" reflecting the belief that knowledge is constructed by the active participation in the learning process but also that learning cannot be separated from the community within which students communicate their ideas.

The second principle of the constructivist thought outlined by Simon (2001: 13-15) relies on the work of Vygotsky (1978: 86) and his conviction that the development of an individual person depends on social interactions and the capability to learn under the guidance of an adult or in collaboration with more knowledgeable peers (1978: 86). Collaborative knowledge building by participation in problem-solving tasks which *challenge students' suppositions* (Brooks and Brooks 2001: IX) and which provoke self-reflection is nothing other than creating meaning as a result of the interaction between the existing

knowledge and the new concepts encountered in social situations. This principle emphasizes the role of prior knowledge in socially situated activities as well as the role of other people in the learning process. Apart from the fact that individuals learn differently because of their inborn characteristics, the environment exerts an impact on them and influences the learning process as well. Vygotsky's ZPD explains the process of learning with the help of more knowledgeable others. Another important issue is that the learning process should be meaningful for students to enable them to move their knowledge out of the classroom context into the outside community to help them deal with everyday real-world difficulties and situations as well as to interpret the multiple perspectives of the outside environment. Willis (1996: 11-16) distinguishes three essential conditions for language learning: exposure to comprehensible input, use of the language to do particular tasks and motivation of the learner. She adds instruction as a fourth, desirable condition, stating that tasks which promote awareness of language forms and reflection on them rather than the activities focused on form, which are to make the production of a single item automatic, are going to be beneficial for students. It is not difficult to notice that all the conditions are socially situated and dependent on interactions within the learning community, as individuals do not construct meaning in isolation.

The importance of self-regulatory practices, indicated by Simon (2001: 14) as the third principle, is explained as "the capability of individuals to control their thoughts, feelings, motivations and actions (...) [as well as their] persistence toward a goal, and their emotional reaction to the environment". The tenets presented by various other authors fit this particular principle such as the one presented by Savery and Duffy (2001: 5f.) described as giving a student the ownership of the process of learning and providing for and supporting the student's reflection on the content as well as the process of learning (2001: 5f.). Moreover, the principle indicated by Brooks and Brooks (2001: 85) connected with the assessment of student's learning embedded directly in classroom activities, which gives the chance for self-reflection and better control over the learning process, also lies within the tenet presented by Simon. Such assessment is a source of feedback and helps students analyse the outcome of their efforts and plan their future actions e.g. seeking the assistance of more knowledgeable others.

The fact that "individuals are capable of formalized operations and abstract thought" (Simon 2001: 15) is the fourth principle of constructivism. Awareness of being able to think logically, to analyze and synthesize information and to develop their own opinions is

highly motivating for students. The development of cognitive abilities is one of the main goals in the process of education. An important remark is made by Brooks and Brooks (2001: 27), who notice that although “we all take in some information passively; the constructivist perspective suggests that even this information must be mentally acted upon in order to have meaning for the learner”. It should also be remembered that understanding depends on the level of development of the student’s cognitive structures at the moment of learning of a new concept. If an individual is not prepared mentally to acquire the new information because the task is too difficult, the teacher’s efforts are going to be ineffective. As Brooks and Brooks state (2001: 15), “[d]eep understanding occurs when the presence of new information prompts the emergence or enhancement of cognitive structures that enable us to rethink our prior ideas”, thus understanding takes place when new experiences are compared with what the student has already acquired. That is why the concepts which are very close to students’ everyday experience are easier to remember. While behaviourists try to break knowledge into parts and then present them to students, which is the reason why the information is not well integrated with other knowledge, the constructivist stance is that “teachers build lessons around primary concepts and ‘big’ ideas” (Brooks and Brooks 2001: IX) as not all students are able to put the small parts together and apply them in other contexts in social situations. The role of mental operations in learning is that constructivism emphasizes the process of acquiring knowledge rather than its product. For example, learning to learn is one of the major goals. As Novak (1998: 22) explains, the consequence is the integration of our thinking, feeling and acting in a wide variety of contexts.

The last, fifth principle, is that “cognition serves the organization of the experiential world, not the ontological reality” (Simon 2001: 15). Because of the fact that experience is individual and subjective, no single concept perceived by different people is totally the same. Moreover, the mental representations of individual experiences build more complex ones and every person does this in a unique way depending on their personal factors and prior knowledge. Bandura, quoted by Simon (2001: 31), notices a very important fact about the subjectivity of people’s experience:

While beliefs provide direction and meaning to experience, they distort it as well. Adherents see what they want to see, reinterpret incongruities to their liking, and even rewrite their memory of events they have experienced. Moreover, by influencing actions anticipatorily, beliefs channel social interactions in ways that create their own self-validating results (Bandura 1986: 36).

Hence, individuals organize their experiences and build their knowledge acting on their *images of reality* (Bandura 1986: 324) and the interpretations they produce serve as reality for them. The mental frameworks people use to perceive the world around them may facilitate as well as disturb perception.

Within this principle another issue can be called upon, namely, that testing ideas against alternative views and alternative contexts is advisable because knowledge is socially negotiated for, as noted by Savery and Duffy (2001: 6), “[t]he quality or depth of one’s understanding can only be determined in a social environment where we can see if our understanding can accommodate the issues and views of others and to see if there are points of view which we could usefully incorporate into our understanding”. As a result of being presented with multiple perspectives and perceptions of concepts, individuals can modify their beliefs and apply current understandings.

As Zeichner notices in the preface to Richardson’s volume *Constructivist teacher education: Building new understandings* (1997: ix), all of the authors who contributed to the volume reject the transmission approach to education, supporting the constructivist way of thinking about education. However, they believe it is not a *monolithic* and *agreed-upon* concept, and do not expect it to be the source of ready recipes for teachers. So even a given list of principles is just a signpost and cannot replace teacher’s intuition and reflection. However, if schools are to be places which facilitate the construction of knowledge, some suggestions need to be made to help teachers draw from the experience of other teachers and researchers and design their own ways of teaching.

1.3.2. Constructivist classroom practice

The previous section presented a summary of the characteristic principles connected with the constructivist way of teaching and learning. In this one, a profile of a constructivist teacher and learner will be outlined as well as example constructivist practices with a special emphasis placed on the project method, which is used in the online course designed for the purposes of the research reported in the present dissertation.

In the related literature, many authors provide suggestions how the constructivist principles can be translated into the teaching practice. Although some theorists believe that limiting the theory to a set of rules defies the whole philosophy and therefore teachers

themselves should create their own unique methods and practices without direct instruction (see also Null 2004: 181f.), such an approach seems to be too radical for the author of the present dissertation. While teachers may be advised to work out their own methods and techniques, at the same time they can draw on the experience and knowledge of others: researchers, theorists and even from their peers. It is significant, however, to treat their advice only as a starting point, as teachers, according to Chomsky (in Otero 2003: 351), “have a responsibility to make sure that their proposals are evaluated on their merits and not passively accepted on grounds of authority, real or presumed. [...] It is the language teacher himself who must validate or refute any specific proposal”.

It is now widely acknowledged that teachers’ beliefs significantly influence their instructional practice. Whether their knowledge is considered to be socially situated or whether it is believed to be individually constructed, it influences their choice of teaching methods. The positivist approach, which has dominated for many years, is still strongly instilled in many schools. Within this approach students develop convergent thinking skills, they are trained to memorize and recall information and if they are able to repeat it and articulate the information to others, teachers are satisfied. The main ways in which students are evaluated is through multiple-choice or short-answer tests. Contrary to this approach, constructivists of different persuasions agree that there is no fixed body of truths which teachers are expected to transmit. Instead, the aim of education is to help students become autonomous thinkers so as to provide them with opportunities to function and act in the world effectively. At the level of the classroom learner-directed teaching, giving students opportunities to decide about the process of gaining knowledge and challenging their assumptions about the world is of vital importance.

In spite of diverse perspectives on the constructivist ways of the process of teaching and learning, most authors are committed to very similar suggestions which should guide teachers’ actions. Mayer-Smith and Mitchell (1997: 13) in the article “Teaching about constructivism: Using approaches informed by constructivism” try to describe features of constructivist learning such as “sharing intellectual control, encouraging questions that assist students in linking knowledge with their personal lives, and implementing flexible and responsive instructional sequences. Other elements include designing tasks that promote student problem-solving, self-monitoring and self-direction”. Following Barnes (1976: 133f.) they argue for “increasing opportunities for student talk which is more tentative, hypothetical, and exploratory” as well as for “the need for teachers to ask more open and exploratory

questions, delay judgement of student responses, and listen and respond to what students are saying, rather than listening for right answers”. Additionally, the authors notice the need to change the methods of assessment and to minimize the amount of facts presented to students in favour of a discussion of principles and the possibilities of their application in everyday life.

Brooks and Brooks present constructivist teaching behaviours in the form of descriptors. According to them constructivist teachers:

- encourage and accept student autonomy and initiative,
- use raw data and primary sources, along with manipulative, interactive, and physical materials,
- when framing tasks, they use cognitive terminology such as “classify”, “analyze”, “predict”, and “create”,
- allow student responses to drive lessons, shift instructional strategies, and alter content,
- inquire about students’ understandings of concepts before sharing their own understandings of those concepts,
- encourage students to engage in dialogue, both with the teacher and with one another,
- encourage student enquiry by asking thoughtful, open-ended questions and encouraging students to ask questions of each other,
- seek elaboration of students’ initial responses,
- engage students in experiences that might engender contradictions to their initial hypotheses and then encourage discussion,
- allow wait time after posing questions,
- provide time for students to construct relationships and create metaphors,
- nurture students’ natural curiosity through frequent use of the learning cycle model

(Brooks and Brooks 2001: 101ff.).

Such teacher practices allow students to search for their own understanding; however, the authors emphasize that they should be treated as proposals only and every teacher is expected to interpret them individually.

The picture of a teacher emerging from the above list is someone who on the one hand is an expert and authority but on the other hand encourages and values learners’ involvement in dealing with intellectual tasks. Brooks and Brooks (2001: 67) explain that neither knowledge nor the process of learning is linear and that “[l]earning is a journey, not a destination”, so students’ opinions are just transitory intellectual stops along the path of

gaining knowledge. Hence, in a constructivist classroom errors are regarded as opportunities to challenge students' thinking and to refine their understanding of a particular concept because students' efforts are treated as works in progress. Constructivist teachers are less concerned about covering material and treat rapid coverage of the curriculum as a waste of time. Instead, as Jenkins (2000: 603) explains, they try to engage students in a conversation, "to explore analogies intended to promote intellectual growth, to probe their understanding, or to challenge their assumptions, arguments or conclusions by whatever strategies he or she judges to be effective" under the condition of an active engagement on the part of the students. Richardson (1997: 7) emphasizes that the assumptions that students bring to the classroom "need to be adjusted, added to, or completely altered. The teacher's role is to facilitate this cognitive alteration through designing tasks and questions to create dilemmas for students". This can be achieved by sharing the responsibility for creating meaning but without supplying all the answers to questions.

Kumaravadivelu (2006: 75) includes a summary of what has been happening in language teaching recently. He notices: "[w]e might even say, with a good measure of poetic licence, that we have moved from a state of awareness toward a state of awakening" and notices that the first period of time characterized by awareness took place before 1990, while the second, overlapping period of awakening started afterwards. H. Brown (1991: 245) describes the period after the 1990s as the time in which the major ideas of vital concern focus on the learners and their intrinsic motivation, cooperation skills and learner strategy training as well as socio-political and geographical issues including the attempt to adapt the content of the curricula to the most important global concerns and the fact that English has become a lingua franca. Hence, the change of emphasis in language teaching from a product-oriented one, which reigned before, to a process-oriented one, as well as adapting a more flexible approach to curriculum design, started to be visible. For Kumaravadivelu (2006: 75f.) *awakening* means adjusting the methods-based pedagogies to the specific needs of particular learners and their environment, allowing teachers to develop their own *theory of practice*, recognizing the importance of learner differences and teachers' beliefs, as well as being aware of the influence of social, cultural, political and historical issues on the instructional practice of particular teachers. However, the author is not sure if the fact of awakening has already changed classroom practice or teacher preparation programmes. One of the ways in which the situation may be changed is proposed by Richardson (1997: 11), who argues that academic research and theoretical disputes are expected to

be “debated, developed and tested within the context of schools, colleges, and classrooms” as it is not enough to limit them to academic meetings.

Particular constructivist practices such as the project method, strategy training, problem-solving tasks, using authentic materials, negotiating tasks with students, cooperation, self-evaluation, autonomy and focus on real-world contexts, to name just a few, are in the process of becoming an integral part of a contemporary EFL classroom. For the purposes of the present dissertation it seems enough to concentrate on the project method as it is one of the main topics of the e-learning course prepared for EFL trainee teachers upon which the research is based. Moreover, the project method, if carried out in a constructivist way, incorporates all the above mentioned practices.

The project method lies within the broader concept of task-based teaching. Due to the fact that various authors define tasks in different ways, R. Ellis (2009: 9f.) recognizes the need for a generalized definition and provides a list of critical features of a task including: a plan of work, primary focus on meaning, real-world processes of language use, integration of the four basic language skills, engagement of cognitive processes as well as a clearly defined communicative outcome.

Królikowski (2000: 3) emphasizes the fact that thanks to the project method, teachers are able to help students build an integrated vision of the world and of humanity. Fried-Booth (1993: 5) notices its potential to bridge the gap between the language students acquire in the classroom and the one which they need in order to achieve their individual goals outside school. They also learn cooperation, and, what is more, in being given choice they are usually more motivated to complete the tasks. The author stresses that it is “personal involvement that gives the impetus to project work” (Booth 1993: 5). Littlewood (2004: 324) explains that the level of students’ engagement in a certain task may influence the outcomes in such a way that some students may focus on form more while others on meaning, so not only the types of tasks but also the properties of the learners influence the quality of the process of learning. The language instruction which takes place during projects is student-centred and allows the teacher to perform a typically constructivist role of a facilitator, guide and counsellor. Alan and Stoller (2005: 12f.) stress that project work is often under-exploited and they outline guidelines for maximizing its benefits. Their guidelines reflect the main ideas expressed by constructivists, which are the prerequisites of an effective use of the method including: negotiating the theme and final product of the project with students, focus on planning, preparing students for gathering data, analysing it as well

as for the linguistic demands of the final activity, evaluating the project themselves and reflecting on practice.

Although some theorists, like Irzik (2000: 636) claim that “with the exception of uncontroversial cognitive constructivism, there is little to be gained by the existing constructivist theory and pedagogy” or like Jenkins (2000: 604), who warns that we should not over-estimate the influence of constructivism on everyday classroom instruction, the present author believes that a lot can be done by a motivating professional teacher training session which is going to help teachers develop an integrated understanding of important concepts as well as pose and try to answer questions which are essential in their educational practice.

Before closing this section on the constructivist teaching practice, it can be assumed that certain teacher behaviours may be particularly helpful in the process of creating a constructivist environment which provides opportunities facilitating students’ adoption of knowledge. Although many teachers are actually creating such environments, still vexing questions remain to be solved and there is a lot of confusion concerning the implementation of the constructivist ideas into the teacher’s everyday work. There are also recommendations for teacher training courses deriving from the constructivist school of thought as to a great extent it is true to say that constructivist, rather than positivist teachers, are likely to shape constructivist learners. This topic will be discussed in chapter two.

1.3.3. Critique of constructivism

Despite the fact that educational literature on constructivism is growing very fast, there are not many books devoted to critical analysis of the theoretical underpinnings of constructivism or its implications for education. As Null (2004: 182) notices “surprisingly few researchers have critiqued constructivism from historical or practical perspectives”. On the one hand, constructivism is regarded as a “powerful model for describing how conceptual change in learners might be promoted” (Keogh and Naylor 1997: 12, as quoted by Jenkins 2000: 599); on the other hand, others, like Devitt (1996: VIII-IX), believe it is the “most dangerous contemporary intellectual tendency” which has caused a plethora of different understandings of the world and assaulted the immune system saving individuals from *sil- liness*.

Although the theory influences language pedagogy on many levels, there remain a plethora of contradictions and confusions concerning the implementation of the constructivist ideas in the process of educating people and the interpretation of the main tenets when used in context. Brooks and Brooks (2001: VII) believe that the basic principles of constructivism “clearly strike a responsive chord with a great many teachers and administrators” (2001: VII); however, the issues involved in the debate are not the ones that are capable of unequivocal resolution. Jenkins (2000: 608) notices that theories of learning, including constructivism, ask erroneous questions and following Woolnough (1998: 17) believes that the most important one is “what makes students *want* to learn?”, instead of “how do pupils learn?”. According to these critics, the answer to the first question is more likely to be of practical value for educators.

The state of flux and confusion within the constructivist framework is a direct result of different understandings of the concept of knowledge as well as the dichotomy between the theory and its practical application. Winitzky and Kauchak (1997: 62) believe that when it comes to teacher education, “abstract knowledge derived from systematic research and theory on teaching and learning plays an important role in helping teacher candidates make sense of and effectively teach within complex learning environments”. It seems reasonable to assume, however, that only theoretical knowledge not supported by practical solutions is of limited value for educators, who need to deal with real situations in their everyday work.

Among other important voices in the discussion on the applicability of theoretical knowledge in educating people it is important to mention Chomsky (in Otero 2003: 370) who feels that “linguistics or psychology more generally have little of value to offer with regard to educational practice”; and he refers to the traditional Cartesian assumption that humans are only *incited and inclined* to act in a particular way, while only machines are *compelled* to do something (in Otero 2003: 370). Such an approach seems to be too radical, however, for the present author, who believes that consciousness achieved due to the understanding of the theoretical underpinnings of constructivism gives teachers confidence and an abundance of ideas which can help them deal with the problems encountered in their everyday practice. Nevertheless, one has to bear in mind that teachers do not have much access to the practical sources of knowledge about the new ways of thinking about teaching and learning, so bridging the gap between researchers’ and teachers’ knowledge and engaging practitioners in the process of gaining knowledge about the most effective ways of educating their students is a challenge of our times.

Another important issue which is a source of a lot of disorder in the field of constructivist thought is accurately summarised by a teacher whose opinion was included in MacKinnon and Scarff-Seater's (1997: 53) article *Constructivism: Contradictions and confusions in teacher education*. The teacher concluded that there is no need to know any science to teach it, because according to the constructivist principles there is no right answer and students are required to develop their own understanding of a particular topic. This is a direct reflection of Glaserfeld's radical constructivism, which has been outlined in 1.2.1. The question is if teacher educators should leave their students with their own interpretations of particular concepts even if they know that they are wrong, and if not, how to help them develop new understandings. Irzik (2000: 634) states that "it is naive to expect the students to discover all or most of the relevant scientific truths by themselves" and in spite of a lot of guidance supplied by the teacher, some students still are not going to be successful. Also Jenkins (2000: 602) believes that "it seems more than optimistic to assume that young students can construct scientific explanations simply by observing phenomena and generating and testing hypotheses".

Irzik (2000: 624) admits that one of the main disadvantages of the constructivist theory is the fact that teachers do not tell students what concepts should be constructed and how it should be done. Undoubtedly, students' opinions and understandings are valuable and should be treated with respect; however, as Jenkins (2000: 602) notices, they "can be used as a starting point" for further discussion. She is also disappointed that constructivism does not suggest any ways how to correct students, and, what is more, doubts if hands-on activities are actually the most efficient way in which students' learning can be promoted (2000: 602). MacKinnon and Scarff-Seater (1997: 54) compare constructivism to discovery learning, claiming that in many cases "when children put forward their science ideas as discoveries (...) the cross-checking and testing of those ideas with other references (peers, teacher's scientific knowledge) is omitted". Nola and Irzik (2005: 177) complain that because of blending the idea of "knowledge" with "belief" and the substituting of the notion of "truth" with "viability", science and science education lose the idea of the right and wrong conclusions. The question remains if teachers should value their students' constructs at the expense of right answers.

An attempt to resolve the dilemma is made by Richardson (1997: 10), who presents a possible solution via the example of constructivist teacher education. According to her there are two possibilities, although neither of them is perfect and has its weaknesses. The

first is direct instruction about constructivism, which is in stark contrast to the means that the teachers are expected to use with their students; the second form is an exploration of the teacher's beliefs and presenting alternative opinions which can lead to a fruitful discussion, although this method may not be appropriate to teach subjects such as science and mathematics. Although formal knowledge has always been the source of power and authority of teachers, also the intuitive knowledge of students should be valued if educators want to make knowledge meaningful for the learners. It should be remembered, however, that the existence of an external reality cannot be rejected and the *right answers* contained in textbooks and worked out by a plethora of great thinkers and researchers from the past centuries cannot be neglected.

Lampert (1997: 85) challenges the traditional belief that conflicts encountered by teachers in their classrooms are resolved through research and the implementation of its results into practice. The project described by her was designed to raise fundamental questions concerning the relationship between academic research and classroom practice by analysing the conflicts which occurred when teachers tried to translate the constructivist theory into their practice. The results of the project proved that teachers skilfully balanced the conflicting goals of the imposed curricula and their students' intuitive knowledge and were able to manage them even in the cases when the goals were analytically contradictory. The fact proves how important is educators' experience in the development of good theories which can be effectively implemented in the classroom as well as of their personal strategies which are essential in particular contexts.

Especially relevant to the discussion of confusion connected with the implementation of constructivist ideas in educational practice is the issue concerning the development of an approach to teaching adjusted to the content of the course. It is obvious that different subject matters such as mathematics, science, history, foreign languages and many others have very different characteristics and require a different approach. Some of them, such as reading, can allow for different interpretations, others, such as mathematics, do not have many possible right answers but only one. This raises the question about the degree to which teachers are to control the teaching process. The compromise between the old and new approaches, when the teacher encourages students to construct their own understanding of particular phenomena whilst still being in control and manipulating the students' way of thinking and having predetermined learning outcomes in mind, is still believed by many to be contrary to the constructivist principles.

One persistent question that arises in the discussion is whether people's actions are really guided by knowledge and the reasoning processes. The question is if all students are aware of what they want to achieve in life and learn with a particular purpose guiding their actions as students. Moreover, a number of learners may not accept the new classroom practices, and the different roles and responsibilities which arise from the constructivist ideas. As Peterman (1997: 163) notices "[t]hose who are in education to be good students may be frustrated by constructivist practices". Their aim is to learn the assigned material and to get a good grade. A different system of assessment embedded in activities, negotiation for grades and often flexible and ambiguous criteria may make the students feel uncomfortable and lost.

Another important fact that is a source of confusion is stated by Jenkins (2000: 606), who notices that "common sense or everyday knowledge is sometimes wrong". She also points out that "many children retain erroneous 'common sense' or 'everyday' understandings of a number of scientific phenomena, despite all attempts of science teachers to effect change" (Jenkins 2000: 605). Winitzky and Kauchak (1997: 63) believe that in spite of the constructivist instruction, students' understandings may significantly differ from the ones expected by the teacher. However, the application of the positivist approach in this case and making students aware of the fact that their ideas are wrong may be discouraging and lead to their withdrawal and passive attitude.

According to Oxford (1997: 57), still another difficulty, with which most constructivists have not come to grips yet, is the fact that constructivist ideas are fragmented and lack consistency, which has a very negative influence on teachers' applications of the theory. Scientists who advocate one aspect fail to cooperate with those who advocate another one. Such multiple and contradictory understandings make the introduction of the constructivist principles even more difficult.

As Brooks and Brooks (2001: 41) notice, the official requirements imposed by the authorities which "*stifle their [teacher's] own inner perspectives*" may explain the coexistence of the conflicting practices of constructivism in the teachers' work. Ambiguous interpretations of what teachers are supposed to do in the classroom, the tension between social and individual standards and the fact that within the constructivist framework it is not possible to draw clear lines between acceptable and unacceptable teaching practices all add to the confusion connected with this approach.

A reasonable solution seems to be to maintain a balance between old and new practices, between constructivist and traditional ways of educating people. Probably it is true to say that constructivist ideas cannot be used all of the time. Jenkins (2000: 605) complains that those who advocate constructivism demand a reduction of the scientific content in teaching, and he asks if constructivist pedagogy can be justified in terms of the time and resources associated with them. Moreover, constructivists have no monopoly on reading comprehension questions, group work or other kinds of tasks now regarded as purely constructivist. On the one hand, the teaching procedures adopted by constructivist teachers draw on many traditional skills; on the other hand, many abilities valued by them may be developed through traditional approaches to certain activities. It is true, as Mayer-Smith and Mitchell (1997: 151) notice, that not all lessons “where constructivist pedagogy is featured, should involve fluid, interactive discussions” and that sometimes even lectures can be valuable if accompanied by a task promoting the development of student understanding.

Taking into account all the issues raised in this section, it can be concluded that the best way seems to be blending different techniques according to the needs of students, keeping the main constructivist tenets in mind. As Winitzky and don Kauchak (1997: 60) notice, “[t]he mere fact that principles must be adapted in order to apply to particular situations doesn’t render them useless”. Moreover, MacKinnon and Scarff-Seatter (1997: 51) observe that regarding constructivism as one of many ways of looking at the process of educating people is much more consistent with a constructivist ideology. On the one hand, there are people fascinated with constructivist ideas who try to implement them into their work, on the other there are those who, like Jenkins (2000: 607), believe that it is a *fashionable research paradigm* which is espoused uncritically. However, in spite of all the confusion and misunderstandings, it seems reasonable to say that teaching practices based on constructivist ideals are supposed to promote meaningful learning more effectively than the traditional, positivist approach.

1.3.4. Constructivism in the Polish system of education

In the present section two main issues are going to be discussed. Firstly, an overview of the current situation in the system of education in Poland will be presented, with a particular emphasis on the tertiary level. Secondly, a short outline of the current research on the place

of constructivism in a language classroom is going to be depicted, including research concerning learner factors filtered through the constructivist lens as well as chosen studies on the role of teachers in the classroom followed by the role of materials and types of instruction used during the lesson.

The current situation in the Polish system of education is influenced by state documents which guide courses of action of decision makers in the area. On the Polish Ministry of Education webpage Z. Marciniak (2009: 7) explains that the system calls for deep reform as the solutions from the previous period are no more effective. National standards reflected in state policy documents map professional ideals which indicate what kind of learning opportunities should be offered to students in Polish schools. The Act on the Education System from 1991 outlines the main aims of education such as ethical values, responsibility, and patriotism, respecting the national as well as the European and world's cultural heritage. Moreover, according to the document, schools are expected to prepare students to be able to perform family and civil duties. Although the act also notices the necessity to create conditions allowing for students' development, its general approach reflects rather the necessity of educating an individual serving the country and the community than of personal growth and taking individual needs into account .

The situation is different when we analyse the curricula prepared for teaching foreign languages at different levels (see also *Podstawa programowa z komentarzami: Tom 3. Języki obce w szkole podstawowej, gimnazjum i liceum 2009*). It is clearly visible that both the cognitive and social perspectives of constructivism have influenced the documents. They focus on identifying the needs of students, their interests and favourite ways of learning. According to them, students should not only gain knowledge but also be able to use it in solving everyday problems, should be able to think critically, to communicate effectively and to cooperate with others.

A similar situation takes place at the tertiary level of education, which is currently undergoing the process of reforms and is a concern of many publications. The tendency in Poland is influenced by such authors as Atkins (1995: 25f.), who believes that there are four general purposes of tertiary education: "(1) providing a general educational experience of intrinsic worth in its own right; (2) preparing students for knowledge creation, application and dissemination; (3) preparing students for a specific profession or occupation; and (4) preparing them for general employment". The above mentioned aims include: the ability to think critically and reflect on one's own performance, attaining a deep understanding

of chosen aspects, and the integration of theoretical and practical knowledge as well as being able to communicate effectively.

Despite the theoretical considerations, introducing constructivist ideals on the tertiary level faces a lot of difficulties. Z. Marciniak (2009) reports that in recent years an interesting trend has been observed in Poland as more and more young people want to learn. As a result, in 2009, after finishing the lower secondary school, 80% of students chose schools preparing for the matriculation exam and about 80% of the group succeeded and started further education at the tertiary level. Hence, currently every second Pole at the age of 19-24 is a student of a college. The consequence of this situation is that the level of abilities of the young people who want to get their bachelor's or master's degree has statistically decreased. Z. Marciniak (2009: 7) notices that two solutions were possible when the trend started to be observed a few years ago. The first one was to increase the requirements for the entrance exams at universities and limit the number of students. The second one, which was chosen by the Polish government, was to care about the least educated people and to design a system of gradually increasing requirements. Therefore, lower secondary schools and higher secondary schools were created and two levels of tertiary education (BA and MA) became available.

To explore the Polish educational system effectively it is also very important to examine it from the level of the classroom, taking into account the major characteristics of the dynamic environment in which the learning process is taking place. The changes in our social, economic and political system which have been visible since 1989 have influenced all areas of life including the educational field.

A report on the present state of current research concerning foreign language teaching in Poland in the years 2000-2006 was prepared by Siek-Piskozub et al. (2008) who provide a multifaceted record of various aspects connected with the new trends in language teaching methodology in our country. A shift started to be observed in foreign language teaching from form-focused instruction to a more communicative approach, which is influenced by humanistic psychology. Siek-Piskozub et al. notice that one of the most influential trends originating from constructivism is a focus on learner autonomy and it is one of the major research directions in Poland.

In spite of the fact that a lot has been done towards a more constructivist outlook on education, there is still a lot of work connected with the changing roles of learners and

teachers as well as materials in foreign language education. A lot of research, which focuses on these issues, has been carried out in Poland in recent years.

To start with, a strong relationship between the acceptance of the constructivist ideas and autonomous attitudes of learners and teachers was proved by Wolski (2008: 65). Many researchers have contributed to a better understanding of learner factors in language teaching. First of all, in spite of the visible changes described above, students in Polish schools still feel the need to be controlled (Chojnacka-Gärtner 2009; Hostyński 2009) and in many cases are reluctant to take responsibility for their learning (Pawlak 2008; Strzałka and Ździebło 2008; Mystkowska-Wiertelak 2008). That is why the constructivist teacher has a limited chance to function in the institutional context (Chojnacka-Gärtner 2009). Pawlak (2008), in the study carried out among 206 students in secondary schools, found out that they are not conscious enough and lack sufficient knowledge to take up autonomous tasks and, what is more, they lack reflection concerning the possibilities of exploring English outside the classroom. Moreover, the majority of students prefer the traditional approach to teaching. Students' adherence to the traditional model of teaching can explain the effectiveness of teaching grammar to Polish students, which was proved by a number of studies analysing the effects of form-focused instruction on students' performance (Pawlak 2006, Piechurska 2001). A very limited presence of autonomous elements in secondary schools was observed by Strzałka and Ździebło (2008) as well as a very limited possibility of choice of materials and content by the learners. Moreover, from Hostyński's (2009) report one can conclude that students have problems with engagement in authentic communicative tasks due to their underestimating of the interpersonal processes taking place on the socio-emotional level.

The area which has attracted much attention of Polish researchers over the past few years is the role of teachers in the classroom. Research shows that, to a large extent, teachers' creativity and independence are limited by their supervisors and the institutional context. One of the main problems is that the most significant measure of effectiveness of teachers' work are the exam results of their students (Bielska 2008). Another important issue is a contrast between a generally positive attitude of teachers to the new trends in methodology emerging from constructivist ideals and their limited ability to implement them into practice, as it was reported by many researchers (e.g. Michońska-Stadnik 2008, Bielska 2008, Korpaczewska 2000, Kęłowska 2006). Also, Siek-Piskozub et al. (2008: 78) report on a number of studies which prove the fact that many teachers do not value auton-

omy in their classrooms despite expressing a positive attitude to the idea (e.g. Wiśniewska 2003, Michońska-Stadnik 2004) and call for research into successful teacher education promoting autonomy. M. Ellis (2009) notices that teachers prefer to use the techniques of dealing with difficulties which require their own participation rather than encourage their students to solve them on their own, while Drożdżał-Szelest (2008) comments on a very poor ability of teachers to develop their students' independence in learning.

Teachers' low syllabus awareness is also outlined in the related literature, as they lack knowledge concerning the syllabi available to them and their choice is limited to coursebooks promoted by a chosen publisher (Trawiński 2009). M. Ellis (2009) reports that the coursebook is very influential when we consider the teachers' decisions and lesson planning and she concludes that teachers are confused about the ways of teaching they should choose. According to Pawlak (2008) many coursebooks include elements promoting students' autonomy. However, as Hofman (2008) outlines, after analysing selected coursebooks for primary school students, the constructivist elements included in there and their value for promoting autonomy may not be comprehensive enough for teachers. The publication of the Polish version of the *European Language Portfolio*, which encourages reflection, use of authentic materials and self-assessment, was believed to improve the situation. There are, however, problems with the implementation of the portfolio in Polish schools as many teachers are discouraged by their students' lack of enthusiasm and systematicity (see e.g. I. Marciniak 2009; Głowacka 2008). Moreover, M. Ellis (2009) has found out that authentic materials are actually used in the classroom very rarely.

Koralewska (2008) addressed issues connected with project work, which is in line with the constructivist way of thinking about teaching. Although encouraging students to work in cooperation is regarded as very important in Polish schools, it is often ineffective because there are problems with the students' ability to share work. In addition, teachers are reluctant to carry out projects according to the constructivist principles, not allowing their students for freedom of choice and limiting their independence and responsibility. A very beneficial influence of group work on the learning process was described by Zybert (2006) who found out that it is the best way to eliminate anxiety in the classroom (as cited in Siek-Piskozub et al. 2008).

Although there is still a lot to be done in the process of transformation of the system of foreign language education in Poland, in some areas progress is clearly visible while in

others the traditional approach dominates. It seems that teacher education promoting constructivist teaching may be one of the most effective ways of influencing the whole system.

1.3.5. Conclusion

The constructivist theory which has gained popularity over the last thirty years is undergoing the process of being operationalized and of informing the actions of educators in their everyday work. It is not enough to lead theoretical debates or to give instructions to teachers. According to the theory, teacher educators should rather challenge teachers' beliefs and encourage them to think critically about their teaching which can be done by solving real-life problems. The understanding of the theoretical underpinnings of a chosen theory is of vital importance for professionals as it influences the type of activities used, materials utilised, relationships between people engaged in the learning process as well as the type of thinking required from students. It is high time to engage practitioners in dealing with the difficult issue of implementation of the approach in the classroom and to employ them in the act of building of the constructivist perspective in education.

Polish schools have started to recognize the need to honour and facilitate the construction of knowledge rather than to stick to the traditional model of teaching in which teachers transfer their thoughts and meanings to passive students. There are, however, a lot of difficulties and already formed habits which are difficult to change. The implementation of constructivist ideals into the context of Polish schools may be a good way of overcoming many problems and may allow young people at different levels of expertise to benefit from classes which are going to prepare them for lifelong learning. It is particularly important for the constructivist perspective to find its place at the university level to educate the prospective teachers who are going to implement constructivist ideas in their work with students, enabling them to think critically, to be creative, to apply the knowledge they have acquired at school in their everyday life and to be able to use modern instruments of self-development. Such teachers would be able to change the world as schools are the principal force influencing social change.

Chapter 2: Approaches to EFL teacher education

Introduction

Due to the growing demands of the changing economic and political climate as well as the process of globalization it is widely assumed that reconceptualization of language teachers' education is essential so that it meets the needs of the changing society. It is necessary to explore again the fundamental issues concerning the nature of teaching and teacher education, filtering them through the constructivist ideas, more relevant for the contemporary European civilization than the positivist paradigm. Therefore, the main aim of the contemporary teacher education programmes recognizes the need to abandon the mere transmission of knowledge, and emphasizes the need to help trainee teachers develop their own understanding of the teaching process. Wallace (1991: 3) distinguishes between *training* or *education* which can be offered by *others* and *development* as the process of taking responsibility for one's own learning. Thus, professional growth, reflection and developing trainee teachers' autonomy as well as enabling them to take responsibility for their learning, have become the priority in teacher education programmes as it is not enough to develop their knowledge of the subject matter only. As Dewey argued (1926: 227): "[t]he sole direct path to enduring improvement in the methods of instruction and learning consists of centring upon the conditions which exact, promote, and test thinking". Freeman and Johnson (1998: 397) stress also the importance of the sociocultural processes of learning to teach. The changing world of education, the increasing requirements of foreign language students, and globalization allowing for easy contacts with foreigners together with recent developments in technology have initiated reforms in teacher education programmes towards more culturally-conscious and interactive ones. Tedick and Walker (1994: 300) call

for the “reexamination of the essence and purpose of teacher education” because this is the only way in which the real purpose of reform can be achieved, namely, through “reconsideration of goals, beliefs, and practice”.

In the following chapter different models of teacher education are going to be critically examined, followed by a detailed analysis of the main directions in contemporary teacher education such as: movement away from teacher training to education, pedagogy for autonomy, inquiry-based approach to learning, critical reflection, a holistic approach to teacher education, the sociocultural influences on teaching, the integration of technology and involving teachers in action research. The final part consists of the analysis of the current issues concerning teacher education in Poland.

2.1. Models of teacher education

Teacher education is undergoing a significant change and this fact requires decisions about the new design of language teacher education curricula as well as the content of the programmes. The main challenge facing the institutional bodies responsible for the design is to find an appropriate balance between theory and practice, which means an informed selection of the issues which will offer a solid basis for the trainee teachers’ practice and development. Day (1991: 38) recognizes two major aspects connected with teacher education. One of them is the knowledge base trainee teachers are expected to acquire; the second issue is the way of delivery of that knowledge, which he refers to as models. The author emphasizes the necessity to understand the interrelationship between these aspects to avoid “the danger of randomly offering courses and other instructional activities for accidental reasons [as] (...) [a]n unstructured approach could result in a haphazard educational experience” (Day 1991: 38).

Wallace (1991: 6) suggests three models of professional education, which are presented in chronological order, as they occurred in the course of history: the craft model, the applied science model and the reflective model. The craft model is based on imitation; Day (1991: 41) calls it an *apprentice-expert model*, meaning that the experienced practitioner instructs the students on what and how to do and their task is to model themselves on the presented behaviour (see Figure 1).

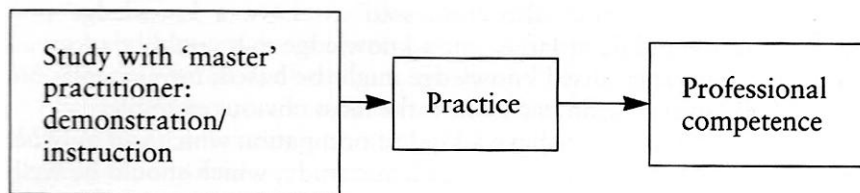


Figure 1. The craft model of professional education (after Wallace 1991: 6).

According to Wallace (1991: 6), in the contemporary dynamic world which is causing rapid changes in EFL methodology and offering new possibilities of instruction, the model does not apply any more as it is static and does not take into account the rapid growth of relevant scientific knowledge in foreign language teaching. However, Day (1991: 41) notices also the positive aspects of the model, which can constitute an exceptional experience for a trainee teacher who has the chance to work with a really professional, experienced and effective mentor by observation of his lessons and discussing of relevant issues.

The applied science model draws on the achievements of empirical science. Wallace (1991: 8f.) believes that “[w]ithin this framework practical knowledge of anything is simply a matter of relating the most appropriate means to whatever objectives have been decided on”. Hence, scientific knowledge is used to define clear objectives and the trainee teachers are equipped with knowledge and the results of experimentation by experts in certain areas and it is their job to apply them in their classroom (see Figure 2). Due to this fact Ur calls it the “*rationalist learn-the-theory-and-then-apply-it model*” (1992: 56, as quoted in Day 1991: 42).

According to the aforementioned model, changes are established by the academics and the research and professional practice are utterly separated because experts and practitioners live in entirely different worlds. On the one hand, teachers’ experience is not valued by the academic world; while, on the other hand, the model is not able to provide teachers with scientific explanations of all their professional dilemmas.

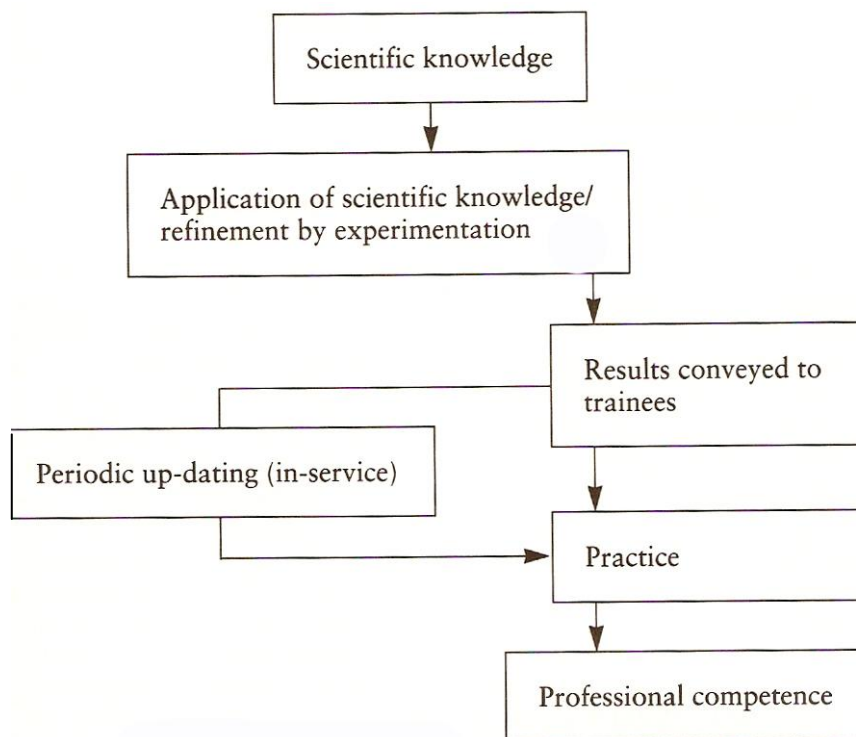


Figure 2. Applied science model (after Wallace 1991: 9).

Moreover, Wallace (1991: 12f.) notices that in many cases the input which a trainee teacher is expected to acquire is based on tradition rather than on practical knowledge. He calls the former *received knowledge* and contrasts it with the latter which he calls *experiential knowledge*, deriving these from two phenomena introduced by Schön (1983), namely, *knowing-in-action* and *reflection*. Knowing-in-action is the ability to interact and make immediate decisions at the level of the classroom, which is often not the essence of interest for researchers and is not connected with a conscious application of the principles worked out by them. The two forms of knowledge are phenomena which a competent practitioner is not able to describe accurately or completely in a reasonable way. They are rather based on intuition and emotions. Schön (1983: 49f., as cited in Wallace 1991: 13) stresses the teacher's ability to display skills "for which he cannot state rules and procedures". Hence, it is rather not based on received knowledge. Wallace (1991: 13) believes that feelings can be explored and consciously stored, which leads to the conscious development of insights into knowing-in-action. Reflection can then direct the teacher, but the process can take place as well during a professional development course, thanks to the requirement of clinical ex-

perience at school. Wallace concludes that structured teacher education should consist of both kinds of development of knowledge. First of all, trainee teachers need received knowledge such as the ability to speak the foreign language fluently as well as knowledge of vocabulary, grammar and familiarity with the issues connected with the teaching profession. Apart from the academic content, gaining experiential knowledge is a necessary component of teacher education programmes. Unique experiences are expected to be integrated into a programme by practice of the profession, including development of knowledge-in-action as well as knowledge-by-observation, which is acquired by taking advantage of participating in lessons carried out by experienced professionals.

The alternative model for teacher education proposed by Wallace, which establishes a compromise between the significance of experience and scientific knowledge, is the *reflective model* (see Figure 3). Apart from recognizing the importance of the element of experiential knowledge propagated by the craft model, it filters the observation through the trainee teachers' mind so that the experience is the subject of analysis and reflection not mere imitation. It also includes the element of scientific research. In such a model, encompassing both received and experiential knowledge, many options are relevant and available.

Wallace (1991) discusses the reflective model of professional education as the one which concentrates on the rapport between theory and practice. The main goal of the process is gaining *professional competence* and it is relevant for both pre-service and in-service educational experience. He divides it into the following stages:

Stage 1: The pre-training stage, i.e. the stage which the person who has decided to undertake professional training or development is at before beginning that process. The 'trainee' may be pre-service, or may already be engaged in the profession (in-service or self-development).

Stage 2: The stage of professional education or development.

Goal: What the professional aspires to, namely (increased) professional competence
(Wallace 1991: 48).

Stage one of the model stresses the importance of the trainee teachers' attitudes, beliefs and previous experience at the onset. Their behaviours, according to Wallace, are determined by the mental constructs developed before entering the course, including the issues which have been read or taught and those which stem from professional experience. They are also influenced by personality as well as social and cultural components. Stage

two of the model emphasizes the interrelationship between received and experiential knowledge. Received knowledge, as Wallace explains, includes “facts, data, theories, etc. which are either by necessity or by convention associated with the study of a particular profession” (1991: 52). Experiential knowledge is gained through practical experience. The essence of the reflective model is the mutual influence of both kinds of knowledge. The last stage of the model is professional competence, understood as a moving target towards which teachers journey, but which is never entirely achieved, as the teacher is engaged in a continuing *reflective cycle* of practice and reflection.

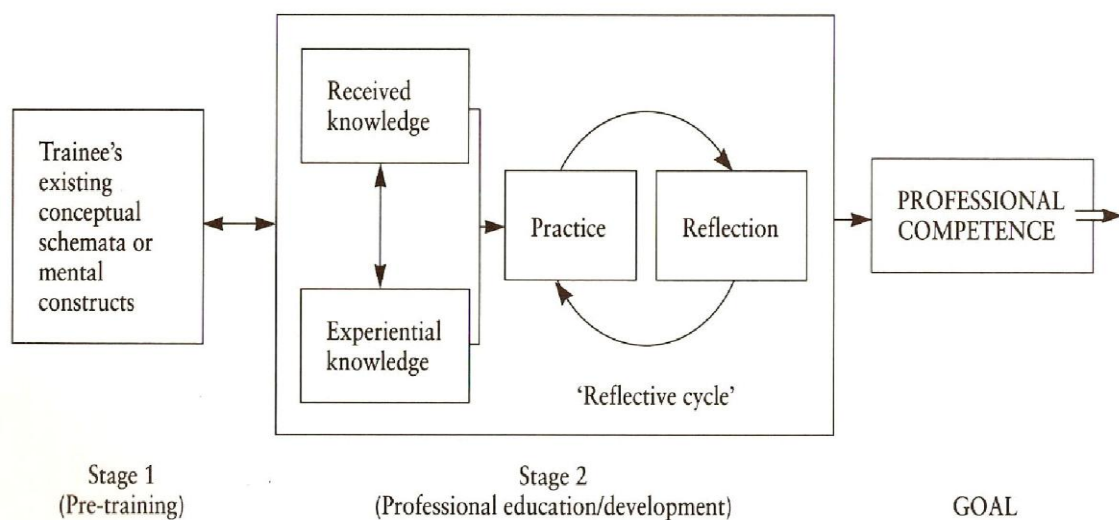


Figure 3. Reflective practice model of professional education/development (after Wallace 1991: 49).

Although Wallace (1991: 53) is aware of many shortcomings of the reflective model, such as the unique nature of experience, incapability to address the issues discussed without undermining the teacher’s authority and difficulties with structured articulation of reflection, the model significantly influenced the realm of foreign language teaching. Such directions in teacher education as teacher autonomy, less emphasis on prescription, critical reflection, a holistic approach to teaching as well as action research are perfectly in keeping with the model under discussion.

A teacher development model worked out by Tetenbaum and Mulkeen (1986) (see also Mulkeen and Tetenbaum 1987) on the basis of the examination of the characteristics of the twenty-first century is presented by Lange (1996: 254-257). In their articles from the

eighties the authors put forward the characteristics of the future twenty-first century society and drew implications for teacher education. According to them, the century is to be knowledge-based, with an intensified flow of information, rapid change, decentralized power of societal structures, focus on individuals and significant demographic alteration. Nine core features of the model were generated, which they called: *field-based*, *problem-centred*, *technology-driven*, *experimental sharing*, *developmental*, *competency-based*, *expertly-staffed*, *critical mass*, *open-ended* features. The first of them requires that pre-service teacher education takes place in schools, and the second that the programme is organized around real classroom problems which are to be solved. The third feature emphasizes the need of integrating technology into the programme of educating teachers, while the fourth one deals with the exchange of knowledge between various participants of the process of educating people. The next two features are connected with the teacher development instructional programme. The fifth one requires it to meet “the needs of an increasingly sophisticated developing professional” (Lange 1996: 256), while the sixth feature requires the programme to concentrate “on the resolution of curricular and instructional problems (...) [but also to be] oriented toward knowledge, skills, and attitudes that are appropriate to each experiential level identified, taught, practiced, and evaluated” (Lange 1996: 256). According to Mulkeen and Tetenbaum, the problem-solving nature of the development programme is possible due to the cooperation of teachers, academics, agencies, and consultants, which constitutes feature seven, while feature eight, called “critical mass”, is depicted by the authors as “[a] high concentration of professional staff within a school setting whose responsibility is to develop teachers through problem resolution using risk taking and experimentation” (Lange 1996: 256). The last, ninth feature, highlights the lifelong nature of the process as professional development never ends. The model is presented in Figure 4.

Mulkeen and Tetenbaum’s model highlights the continuous nature of teacher development as well as its replication in different contexts (centres) within the changing environment. It represents an integrated programme of development in various teaching centres, as in the twenty-first century teachers are expected to be prepared to teach in a highly sophisticated society in which retraining and change are common and in which innovation and collaborative problem-solving is an essential element of life. The environment offers a wide range of alternatives, so teachers are to be able to make informed and purposeful decisions.

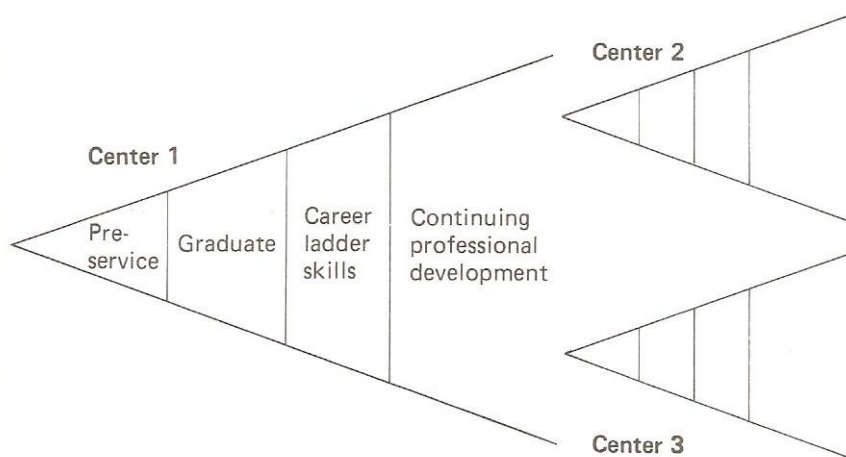


Figure 4. Model for an integrated teacher development programme (Mulkeen and Tetenbaum n.d., after Lange 2006: 257).

On the basis of the model worked out by Mulkeen and Tetenbaum, as well as the characteristic features of the twenty-first century society, together with its implications for teacher development, Lange (1996: 260) proposed a postbaccalaureate teacher development programme at the University of Minnesota representing a pre-service phase. The principles of a general model are operationalized here in order to enhance the effectiveness of educating competent foreign language teachers (see Figure 5).

The model encompasses the following elements: entrance requirements, educational foundations, clinical experiences, a research component as well as exit requirements, and it consists of professional development but also focuses on the significance of the research element in teacher development.

The entrance requirements' objectives are twofold, they not only allow to assess the development of teachers in the course of the programme, but also anticipate their outcome beyond the designed programme.

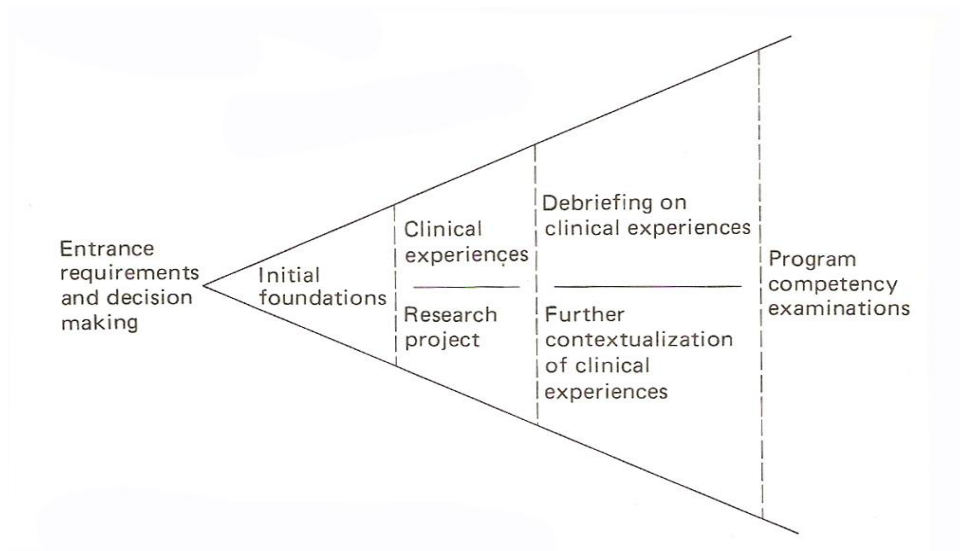


Figure 5. A school-based centre for postbaccalaureate teacher development programme (after Lange 1996: 260).

Lange enumerates a list of requirements the individuals have to meet in order to be accepted. They include ‘preprofessional skills’ such as competence in reading, writing and computation; ‘general aptitude’ connected with verbal ability; ‘a writing sample’ as the candidates are also asked to respond in writing about the reasons underlying their decision to become a teacher and ‘grade point average’ taking into account the previous school experiences’ outcomes. Moreover, Lange indicates the necessity of possessing a suitable degree, background experience with children or teenagers, a certificate confirming proficiency in the target language as well as cultural competence of the candidate. The second part of the programme, educational foundations, is the content base of the course and includes traditionally acknowledged subjects but also topics such as “multicultural education, exceptional children, drug awareness, personal wellness, and human interaction in schooling” (Lange 1996: 263). The ‘clinical experiences’ component includes three stages: awareness, practice and induction as presented in Table 1 below.

Table 1. Clinical experiences, second languages and cultures (after Lange 1996: 264).

<i>Level</i>	<i>Activity</i>	<i>Content</i>
1. Awareness	Observation	Classroom process Student–teacher interaction
2. Practice	Tutoring Leading small-group activities Microteaching: student, peer	Management: classroom, instructional, curricular Planning Curricular and instructional goals and student outcomes
3. Induction	Student teaching	Evaluation of learning achievement → proficiency Evaluation of instruction

While the awareness stage is observation only, the practice component means microteaching and during the induction phase teachers are immersed in a six-week teaching experience, being responsible both for curriculum design as well as instruction, and they are expected to evaluate their outcomes (see Figure 6).

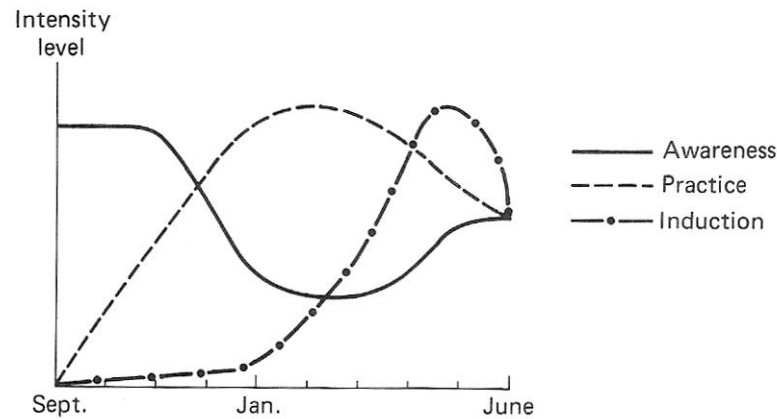


Figure 6. Relative intensity of the three levels in the total clinical experiences (after Lange 1996: 265).

The fourth part of the programme, the research element, is aimed at the examination of the relationship between theory and practice. Trainee teachers are expected to carry out research from its design to the evaluation phase in order to deepen their understanding of the processes taking place in the classroom. The last part, the exit examination, is designed to allow students for consolidation of the theoretical, practical and experiential base in order to solve a simulated problem. Lange's summary of the programme proves that the process of implementation of the model of teacher development is an arduous and complex one and that apart from numerous advantages of the programme deficiencies also emerge. Due to this fact the author emphasizes the need to pinpoint the weaknesses upon its completion in order to introduce modifications in the first stages of the programme to prepare it for the next group of trainee teachers.

2.2. Directions in contemporary teacher education

The field of language teacher education is currently in a state of flux. Many factors such as the process of globalization as well as the development of new technologies have caused a shift in EFL methodology and changed the conditions in which teaching takes place.

Lange (1996: 268) emphasizes the fact that the change is hindered by factors such as “lethargy, tradition, bureaucracy, and fear of change” and only those who are ready to take risks are able to transform the realm of the classroom. Kennedy (1988: 332, as cited in Bailey et al. 2001: 244) accentuates the significance of situational variables which influence the professional development of teachers and which can promote as well as hinder change and innovation (see Figure 7). The author believes that the most powerful impact is exerted by the cultural background as it influences both political as well as administrative structures and behaviour, which in turn are responsible for creating a certain educational system within the values and beliefs of the society and institution in which the learning process takes place.

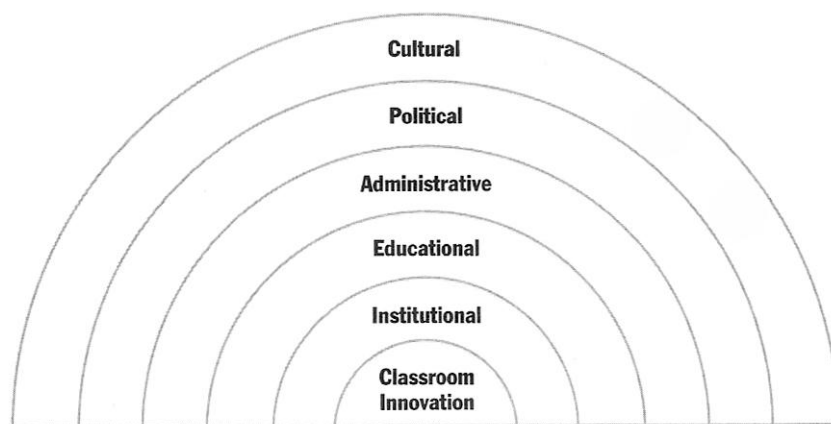


Figure 7. The hierarchy of inter-relating subsystems in which an innovation has to operate (after Kennedy 1988: 332).

Taking into consideration the impact of the contextual variables influencing the teaching process, a scheme of the main directions in contemporary teacher education can be created. The current changes taking place on the cultural and political level, development of technology, globalization, as well as the recognition of the value of the constructivist approach in education have caused significant changes which have to be taken into account

by teacher educators. The most significant directions in educating teachers are: the movement away from training to education, pedagogy for autonomy, an inquiry-based approach to learning and less emphasis on prescription, as well as critical reflection on teaching, the holistic approach, the recognition of the sociocultural influences on the teaching process, integration of technology and involving teachers in gathering and analysing data about teaching. The scheme proposed by the present author is presented in Figure 8. Its components will be discussed in the subsequent sections.

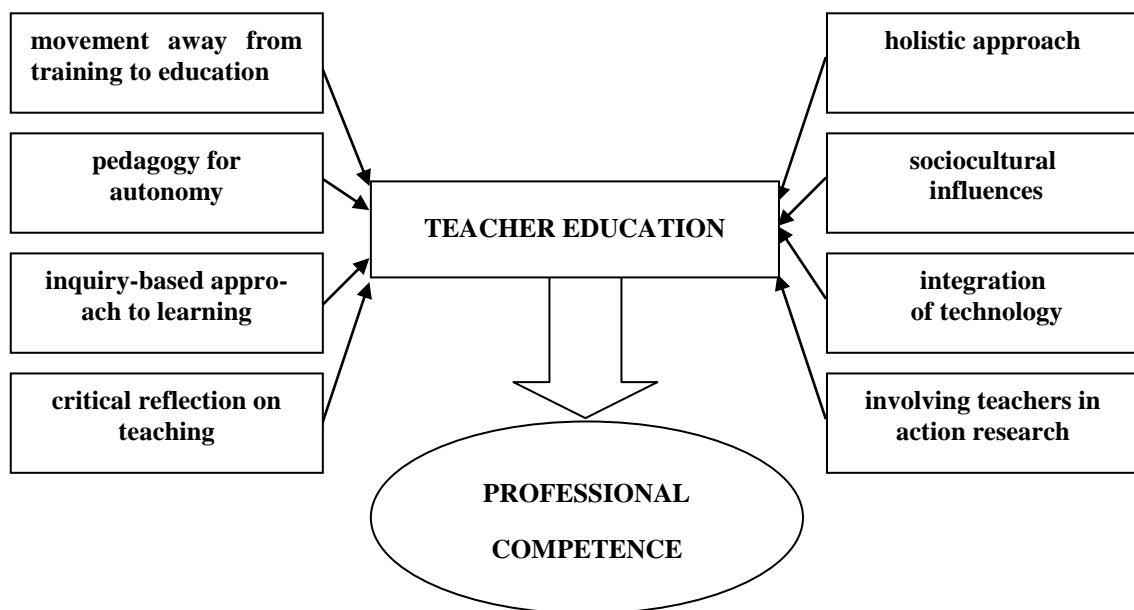


Figure 8. Directions in contemporary teacher education (by E.K.).

2.2.1. Movement away from *training to education*

In the rapidly changing environment of recent times Richards and Nunan (1996: xi) observe a movement from *teacher training*, characterized by regarding teacher preparation programmes as familiarizing teachers with techniques and skills to be applied in the classroom, towards *teacher education*, in which teachers are involved in the development of their own theories of teaching, conscious decision making as well as self-awareness and self-evaluation strategies. Wenzel (2001: 10) argues that preparing language teachers for their job cannot mirror training characteristic for technicians, who are expected to demonstrate a mastery of various techniques in order to be regarded as professionals. The notion of educa-

tion of language teachers is a more complex issue and, according to the author, “it implies that understanding of the nature of a given phenomenon or issue of teaching should precede the technical skill of performing it in the classroom”. Sadtono (1991: iii) states: “[I]anguage teaching is both an art as well as science”, and argues that only the science part such as techniques, ways of assessment and methodology can be taught, while the art of teaching is “elusive”, too complicated to teach and dependent on personality factors which are resistant to change.

Traditional teacher education programmes have consisted of the linguistics and language learning theory components as well as the practical one which gave trainee teachers the opportunity to practise teaching. In contemporary understanding, however, supplying teachers with knowledge about the language and language learning is not enough. Wenzel outlines the main spheres of language teacher education, which constitute the main areas of EFL teacher competence, in the following way:

1. Knowledge of the language and its general background, together with its cultural, political and social context.
2. Understanding of the intrinsic features of the teaching profession, the teacher’s talent and the major issues of the relations between the teacher and the learners, i.e. the pedagogical issues of the art of teaching.
3. Methodological knowledge (Wenzel 2001: 10f.).

The first sphere concerns the language itself, its history, descriptive grammar, literature and linguistics. Wenzel (2001: 10ff.) believes that within this sphere teachers can self-develop which is more promising than just possessing technical knowledge of methods and tasks in the classroom. Sphere number two differentiates language teaching from other professions, which require mainly knowledge of the second language. Issues such as talent or the ability to build relationships with students cannot be taught, people are born with them. The third sphere encompasses methodological issues involved in teaching foreign languages. The quest for suitable teaching materials and effective techniques should be ancillary to an “organizing principle”, which is understood by the teacher as an aim to predict and deal with problems which retard the effective acquisition of language.

Richards (1998: 15) defines six domains of content forming the core knowledge base of a teacher: theories of teaching, teaching skills, communication skills and language

proficiency, subject matter knowledge, pedagogical reasoning skills, decision making and contextual knowledge, and he argues that formulating objectives within the spheres is the first step towards creating contemporary programmes for EFL teachers. In an outline of the necessary ingredients of teacher development he emphasizes the ability of critical reflection on theoretical assumptions underlying the teaching process as well as on one's own teaching, and the capability to introduce and monitor change. Moreover, he stresses the importance of technical skills and of their adaptation to a particular context. Additionally, he believes that an advanced level of proficiency in the target language as well as effective communication skills are necessary. Another important element of the programme should be the knowledge of the subject matter, including linguistics. In Richard's opinion, teachers and future teachers should also develop the ability of dealing with problems of a pedagogical nature and of making accurate decisions. The last objective is the capability to teach in different contexts. The multitude of objectives presented by the author strongly supports the view that the field of second language teaching is a very complex one and requires expertise in many areas of knowledge.

The recent trend of educating teachers is in line with the reflective model of teacher education defined by Wallace. Within this understanding, teacher education can be equated to ongoing teacher development, which according to Lange (1996: 250), is "a term used in the literature to describe a process of continual intellectual, experiential, and attitudinal growth of teachers" and it suggests "that teachers continue to evolve in the use, adaptation, and application of their art and craft". The definition stresses departure from routine behaviours as well as the lifelong nature of the experience of teaching. The theoretical concepts and research results should be reflected upon to eliminate practices based on intuition only, which are to be replaced with the body of practice derived from the principles of effective teaching.

Tedick and Walker (1994: 301) identify three stages of transformation in second language teacher education. The first of them is "approaching change [...] in the context of reform in teacher education generally", which is followed by a second stage, namely, an analysis of the specific problems in the field. The third stage consists of planning to introduce the changes into the teachers' practice. It seems reasonable to update this process with two more stages. Stage four would be the implementation of planning while stage five would be gathering data for reflection on performance followed by a detailed analysis and introducing changes to the plan. The present author would like to emphasize the cyclical

nature of the processes taking place in the changing social and economic environment; hence the quest for better ways of educating teachers continues and cannot be brought to a halt.

In order to understand the shift from teacher training to teacher education it is also important to define the different approaches to the notion of professionalism. Ur (2002: 388), in a valuable attempt to impose order in the understanding of the concept, draws a distinction between the following concepts: lay, amateur, technician and academic, relating them to the idea of a professional English teacher. According to her a professional is “someone whose work involves performing a certain function with some degree of expertise” (Ur 2002: 388), and stresses the importance of acquiring appropriate skills as well as knowledge and sophisticated judgement by thorough study and hands-on experience. When drawing the distinction between the notion of *lay* and *professional*, Ur emphasizes the ability of the latter to build professional communities which use a specific metalanguage, develop their skills and knowledge by organizing courses and conferences, exchanging ideas and publishing innovative materials. An amateur can be defined as someone who does things to have fun while a professional is connected with commitment, competence and lifelong learning, including critical reflection, study, observation, research and engagement in topical job-related debates. Ur stresses the responsibility of the teacher for bringing about good learning in their lessons and the hazard of experimenting with innovations. The distinction between the professional and the technician is explained in terms of a distinction between automatic actions and the ones based on critical reflection. Professional teachers, as Ur explains, are able to consciously design innovative activities and to explain their underlying objectives. Moreover, unlike native speakers, who are technicians rather, professional English teachers are able to deal with class management. The last differentiation is made between a professional and an academic and has its origins in the obligation to bring about change. According to Ur (2002: 391), “research and thinking by the academic may not always apply or be relevant to professional practice” and requiring it from them means negation of the scientist’s liberty and pleasure of “discovery for its own sake”. It is the job of a professional to develop new techniques and innovations which produce immediate change. The two approaches are different; however they can provide mutual benefits. In her summary, Ur expresses regret that there is too little professionalism in teaching English; the movement, however, from the lay, amateur, technician and academic orientation towards a

more professional one can be observed in recent years, and informed, well-prepared teacher education programmes can significantly influence the pace of the change.

Pettis (2002: 394f.) underlines the lifelong and ongoing character of the teachers' professional development on the way to gaining teaching competence in three significant areas. Firstly, teachers have to constantly update their knowledge and develop skills in order to work out a substantial amount of various activities and techniques to be implemented in their classrooms. Secondly, Pettis highlights the different needs of expert and novice teachers resulting in dissimilar activities and need for content of the professional education experience regarded as valuable for them. This area emphasizes the dynamic nature of the teachers' growth. Thirdly, professionalism requires commitment and designing a personal plan of development, so that using various opportunities in the pursuit of excellence is highly advisable.

Bailey et al. (2001: 6f.) enumerate a number of reasons for pursuing professional development. The first reason is connected with the desire to gain new knowledge and professional skills to add diversity, originality and creativity to the lessons taught by the teacher or future teacher. Trainee teachers have to participate in professional development opportunities because of changes taking place which concern both the rapidly evolving discipline of language teaching as well as the changing institutional conditions such as new governmental regulations, for example, or the changes resulting from the rapid technological advances which require new skills and abilities from teachers. The next reason is the possibility to increase income and gain prestige due to better preparation for the job and "empowerment", which according to Bailey et al. means that "[b]y increasing our knowledge base, we increase our power over our own lives" (2001: 7). Another reason for pursuing professional development given by the authors is to get rid of negative feelings and frustration about teaching and to combat burnout.

Freeman (1989: 35) emphasizes the role of awareness in educating teachers. According to the author, it is a superordinate constituent of the model of teaching which exerts a fundamental influence on the other three constituents: attitude, skills and knowledge – see Figure 9. Contrary to the transmission understanding of education which addressed two components only, namely, skills and knowledge, the contemporary world requires the teachers to reflect on their experience and make informed, conscious choices, which constitute the dynamic addition to the static representation provided in the drawing.

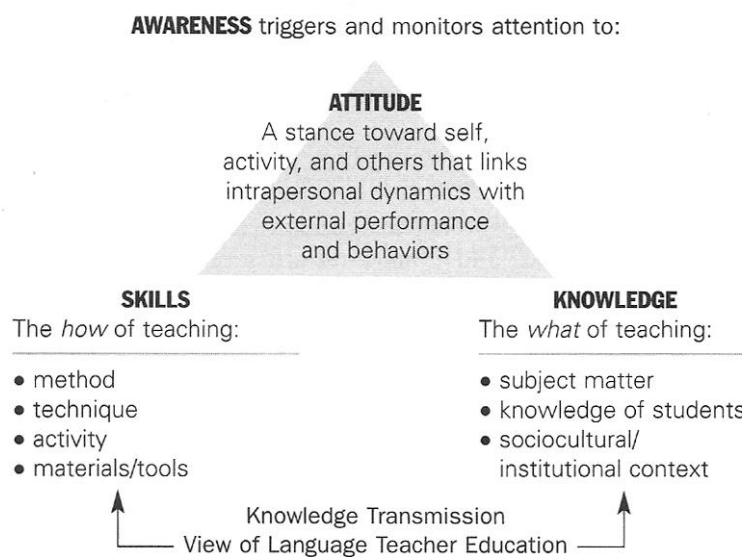


Figure 9. Descriptive model of teaching: The constituents (after Freeman 1989: 36).

2.2.2. Pedagogy for autonomy

The notion of teacher autonomy stems from the concept of individualized instruction dating from the 1970s. Altman (1971: 12f.) defines this kind of instruction as a focus “upon the student’s desire and ability to learn uniquely” and emphasizes the importance of the students’ ability to work at their own pace, of testing them when they are prepared, individual work with those who have problems, and the students’ awareness of the significance of a particular task in the learning process. Since that time, the concept has been developed and is currently recognized under the term autonomy, which is applied not only to students but also to their teachers.

Teacher autonomy has recently acquired a prominence in the discussion on second language education partly as a consequence of the incorporation of the idea as the objective in many national curricula in Europe. Evidence for this comes from the fact that the term *teacher autonomy* is used more and more often in professional literature and is increasingly at the centre of focus at conferences. One of the main issues connected with autonomy is that we cannot expect trainee teachers to be autonomous if they are not given the opportunity to behave in an autonomous way during a professional teacher education course. Due to the changes of the roles in the EFL classroom, Smith (2003b: 2) calls for the retraining

of teachers and engaging them in *pedagogy for autonomy*, which, he believes, is currently one of the major concerns connected with teacher education.

A very important contribution to the discussion on autonomy in general has been made, among others, by Benson, who focuses on the various meanings assigned to the term. According to him, “[m]onolithic definitions of autonomy and independence have proved elusive, and it is perhaps more productive to speak of different *versions* of the concepts which correspond to different perspectives and circumstances” (1997: 13). The plethora of definitions which appeared through history has been organized by the author into three main categories, namely, technical, psychological and political versions of autonomy. The first, technical version reflects positivist approaches to language learning. In the case of teacher education it can be defined as learning the profession outside the framework of an educational institution which is free from the teacher educators’ intervention and may be enhanced by technological advances. Smith talks about *misconceptions* of the autonomy connected with the technological version as, according to him, learning which takes place without any influence on the part of a teacher is not possible (2003b: 2).

With the advent of constructivist ideas, psychological version of autonomy gained popularity. According to Benson (1997: 19), a typical psychological version of autonomy firstly defines it as “as a capacity – a construct of attitudes and abilities – which allows learners to take more responsibility for their own learning”. The change towards autonomy should be a transformation which takes place within an individual person and concerns behaviours as well as attitudes and personality features in a given social context.

The third, political version, understanding autonomy from the political point of view, means the belief that the predominant political and social ideologies exert an influence on the knowledge construction. Benson defines it as control over both the process as well as content of learning, which means the achievement of “structural conditions that will allow learners to control both their own individual learning and the institutional context within which it takes place” (1997: 19).

Professional literature on autonomy adopts a blended approach to the idea which includes different elements of the aforementioned versions, believing that autonomy can be manifested in many different ways. For example, Little (2003: 81) regards autonomy as a capacity “for detachment, critical reflection, decision-making and independent action” connected with taking control over the learning process and recognises it in “a wide variety of

behaviours” which can be developed but also constrained in many ways and contexts, also in the classroom.

Although the importance of autonomy is widely accepted, there remains a lot of uncertainty about the implementation of the concept in teacher education. Doubts have been expressed in recent years about the appropriateness of *teaching* students “how to be autonomous without at the same time denying their autonomy” (Benson and Voller, 1997: 9). However, Little argues that all learners “are by definition inexpert in relation to their learning targets” so they need counselling and advice (2003: 84). Smith (2003b: 1) expresses the opinion that the enhancement of the trainee teacher’s autonomy concerning various areas of expertise such as pedagogy, attitude and content has “an intrinsic value within teacher education programs” and such guidance does not discredit teacher education as a self-directed endeavour. Smith believes that teachers and their students can learn autonomy together and “together become more empowered in the course of pedagogy for autonomy combined with reflective teaching” (2001, as quoted in Smith 2003b: 6).

Regardless of the confusion connected with the implementation of pedagogy for autonomy in teacher education, as well as the constraints of various nature, the concept is becoming one of the most essential components of teacher education programmes, allowing for a more responsible, independent and creative approach and helping to overcome the focus on prescription.

2.2.3. Inquiry-based approach to learning

During the last few decades, the teacher education field has devoted a lot of attention to the movement from prescriptive practices towards an inquiry based and discovery-oriented approach (Richards and Nunan 1996: xii). Within the tradition of the prescriptive approach, teacher educators are experts who offer suggestions on the best way to teach which are to be followed by trainee teachers. Various deficiencies of the approach to teacher preparation are indicated by different authors. Gebhard (1996: 156f.) presents the prescriptive approach, which he defines as *direct supervision*, as one of six models of supervision in teacher education. The author depicts three main limitations connected with this model. Firstly, supervisors may define good teaching in different ways, and research shows that the effectiveness of certain teacher practices depends on various factors where context is one of

the main variables. The second problem connected with direct supervision, indicated by Gebhard, is the fact that some trainee teachers, especially those who are experienced, may feel uneasy, defensive and inferior when being told how to teach by a teacher educator, which can negatively influence their self-esteem. In many cases they already have their own ideas about good and effective teaching; moreover, there is no best teaching method appropriate for any context as, according to Gebhard (1996: 157), “[t]he search for effective teaching goes on”, so engaging teachers in inquiry is inevitable. Thirdly, the prescriptive approach makes the teacher educator responsible for the effectiveness of the trainee teachers’ future lessons whilst lessening at the same time the likelihood of their creativity and independence as it is more comfortable to comply with their supervisor.

Gebhard (1996) proposes five alternatives to direct supervision, offering them as choices for prospective teachers, namely, alternative, collaborative, nondirective, creative and self-help-explorative supervision. *Alternative supervision* is the term introduced by Freeman in 1982. Within this model, trainee teachers are provided with a variety of options to choose from, which reduces their anxiety while preserving the necessity of making decisions. Another alternative is *collaborative supervision*, with the teacher educator working together with teachers and trying to work out a sharing relationship. As the author explains, the model is based on Cogan’s clinical supervision, which regards the teaching process as a problem-solving endeavour in which both the teacher and supervisor work together as a team. The next model presented by Gebhard, *nondirective supervision*, deals with educators who are able to listen to teachers and demonstrate understanding while trying to restate what the teacher has said. It has its origins in Carl Roger’s ideas, developed by Curran (1978, as cited in Gebhard 1996: 160) and the notion of understanding response, and concentrates on establishing trusting relationship between the participants of the learning process. Another solution outlined by Gebhard, which goes beyond the limits of working within one model, is *creative supervision*, as it promotes creativity and independence by adopting behaviours from different models and other sources such as business management or use of metaphors as well as shifting control from the supervisor to other sources, e.g. special consultants or teacher centres. The last model presented by Gebhard is the *self-help-explorative supervision*, which is a direct extension of the previous one. The objective of this model is to engage both teacher educator and trainee teacher in seeing teaching from the other point of view, as visiting teacher educators want to learn more about their own teaching and to generate the same desire in the teacher-to-be. Following Fanselow (1996: 184), “[w]hen

we observe others to gain self-knowledge and self-insight and when we generate our own alternatives based on what we see others do, we construct our own knowledge”. Although direct supervision and the prescriptive approach to educating teachers have been recognized as the most common ones, alternative ways are worth considering because they enhance teachers’ autonomy and reflection.

One of the main outcomes of the shift from teacher training to teacher education and development is the movement from top-down to bottom-up approaches, which emphasize the significance of the teacher’s experiences in developing theories of effective teaching. Sadtono (1991: vi) highlights the fact that it is rather teachers than theories that “make a difference, that teachers are engaged in a complex process of planning, decision making, hypothesis testing, experimentation, and reflection” which are all individual and context dependent, and that is why this approach makes the profession deserve to be called *art*.

It is worth mentioning that although the prescriptive approach still seems to dominate in teacher education programmes, changes are being introduced gradually and new problem-based approaches are replacing the traditional modes of teaching. In view of recent developments, teacher educators are expected to provide their students with a basis for reflection concerning their teaching rather than prescribe certain practices.

2.2.4. Critical reflection on teaching

The significance of reflective teaching has been acknowledged by many theorists and practitioners and corresponds well with the constructivist understanding of education described in chapter one. Trainee teachers are expected to employ critical reflection in order to reconceptualize the objectives, content and processes involved in their teaching in a particular context. Mere observation, and being shown or told how to teach is not enough as trainee teachers should be enabled to learn by doing and then be engaged in autonomous reflection on their performance. According to Yates and Muchisky (2003: 138), the advocacy of the reflective approach is especially valuable when teacher educators are ready to share their own experiences with their students.

Two significant personalities contributed to the development of the concept of reflective teaching: John Dewey and Donald Schön. John Dewey (1926: 217) defined reflection, or thinking, as “the intentional endeavour to discover specific connections between

something which we do and the consequences which result, so that the two become continuous". He distinguished reflective experience from the trial and error method, and enumerated it as having five stages. According to Dewey (1926: 224), firstly a state of confusion occurs as a result of the inability to determine the full character of the "incomplete situation". The second stage is, what he called, a "conjectural anticipation", and encompasses the act of trying to interpret particular elements of the situation in view of their consequences; which is followed by stage three, which constitutes a detailed analysis of "all attainable consideration which will define and clarify the problem in hand". The fourth stage incorporates taking into account a wider range of facts in order to elaborate a tentative hypothesis, which is then applied in stage five in a particular context and tested. It is steps three and four which make reflective experience different from the trial and error situation.

Zeichner and Liston (1996) summarize Schön's contribution to the development of the notion of a reflective practitioner, stating that reflection should occur not only before and after a certain action but also when the event is taking place. On the one hand, *reflection-on-action* takes place in the planning stage as well as when the teacher is analysing the events which took place during the lesson afterwards. On the other hand, *reflection-in-action* occurs simultaneously during the teaching. Moreover, the authors pinpoint that "[a]ccording to Schön, there are actions, understandings, and judgements that we know how to carry out spontaneously; we do not have to think about them prior to or during their performance", therefore reflective teaching is to a great extent an attempt to make more conscious some of this knowledge in order to "criticize, examine, and improve" our understandings (1996: 14). One of the most important skills emphasized by Schön, was the ability to learn by doing, accomplished by reflection-on-action as well as reflection-in-action. Thus, learning belongs to the learner ultimately and the learners' knowledge is based on their unique experiences.

Various authors have tried to summarise different attempts to define reflective teaching (Bailey et al. 2001: 36f.; Bartlett 1996: 202f.). On the one hand, there are authors who regard it as a solitary undertaking (e.g. Richards and Lockhart 1994). Cruickshank and Applegate (1981: 554, as quoted in Bartlett 1996: 202), for example, believe reflective teaching involves the teacher's reasoning processes concerning the events in the classroom and considering other options leading to the accomplishment of the set objectives and they regard it as a manner of providing students with "an opportunity to consider the teaching event thoughtfully, analytically and objectively". Within this understanding, according to

Bartlett, teaching is narrowed down to a *craft* or *apprenticeship* which is determined by people and events within the confines of the classroom, and it is limited to “the psychological processes of thinking” so that the teacher’s growth takes place through the development of appropriate teaching techniques (1996: 202).

On the other hand, there are broader definitions which discuss reflection within the social and political context which may enhance or limit it. Zeichner and Liston (1996: 6, as quoted in Bailey et al. 2001: 36) define it as “a recognition, examination, and rumination over the implications of one’s beliefs, experiences, attitudes, knowledge, and values as well as the opportunities and constraints provided by the social conditions in which the teacher works”. According to them, a reflective teaching programme can be applied when working with students who:

are willing and able to reflect on the origins, purposes, and consequences of their actions, as well as the material and ideological constraints and encouragements embedded in the classroom, school, and societal contexts in which they live. These goals are directed toward enabling teachers to develop the pedagogical habits and skills necessary for self-directed growth and toward preparing them, individually and collectively, to participate as full partners in their making of educational policies (Zeichner and Liston 1985: 4 as quoted in Bartlett 1996: 203).

Also Kemmis (1986, as quoted in Bartlett 1996: 204) argues that reflective teaching “is not just an individual, psychological process”. He emphasizes the social nature of the idea and its potential to modify the relations between interacting people. Bartlett (1996: 204f.) highlights the double meaning of the concept of reflection. On the one hand, it “involves the relationship between an individual’s thought and action” and produces subjective understandings in teachers’ mind; on the other hand, it is a conscious exploration of the relationship between the teachers’ actions and “the purposes of education in society”. In both cases reflective teaching is a means of improving classroom practice.

According to Zeichner and Liston (1996: xviii), there are five distinct traditions concerning reflective teaching. Within the *academic tradition*, reflection on the content of the lesson and the manner in which it is taught is emphasised, while the tradition of *social efficiency* deals with the productivity of knowledge transmission using approaches based on research. The *developmentalist strand*, brings to the fore reflection about students, their “thinking and understandings, their cultural and linguistic backgrounds, their interests and their readiness for particular tasks” (1996: xviii). Those who concentrate on the issue of democracy, social justice, equal rights and opportunities, adopt the *social constructionist*

approach to reflective teaching. The last orientation mentioned by Zeichner and Liston is *generic tradition*, which asserts the value of thinking about the teaching process.

Zeichner and Liston (1996: 11, as quoted in Bailey et al. 2001: 39) outline also the main characteristics of a reflective teacher. Such a teacher:

- Examines, frames, and attempts to solve the dilemmas of classroom practice;
- Is aware of and questions the assumptions and values he or she brings to teaching;
- Is attentive to the institutional and cultural contexts in which he or she teaches;
- Takes part in curriculum development and is involved in school change efforts;
- And takes responsibility for his or her own professional development (Zeichner and Liston 1996: 11).

Freeman (1989: 27) argues that most foreign language teacher education is based on an underlying misconception that it is sufficient to transmit knowledge of applied linguistics, methodology, or language acquisition to prepare trainee teachers to be effective practitioners, while the core issue in teacher education, which is often overlooked, is learning to teach. It is of the utmost importance to recognise trainee teachers as individuals, who contrast their educational experience with previously held beliefs, assumptions and attitudes which constitutes the basis for critical reflection about the teaching process. Teacher educators need to be aware that their actions and behaviours can enhance or hamper their students' progress in acquiring the necessary skills, indispensable for effective teaching. Yates and Muchisky (2003: 139) outline the main questions reflective teachers should address. The main issue concerns their views on what it means to know a foreign language and how to correct and assess students. They also should have knowledge about the differences between learning the first and second language as well as about the similarities and differences between learning foreign languages and other subjects.

Trainee teachers gather data about teaching in various ways. Gebhard and Oprandy (1999: 28) believe that opportunities to acquire professional skills can be created through a multiple-activities approach to teacher education, including real classroom experience, observing lessons, carrying out investigative projects on chosen topics and engagement in discussions about teaching. The authors talk about an exploratory approach to teacher edu-

cation and emphasize the significance of awareness-raising processes. R. Ellis (1996) differentiates teacher preparation practices as those which are *experiential* and those which *raise awareness*, noticing that these two components are not mutually exclusive; moreover, they can be integrated into one activity. According to R. Ellis (1996: 27), “[t]he assumption that underlies the use of awareness-raising practices, however, is that the practice of actual teaching can be improved by making teachers aware of the options open to them and the principles by which they can evaluate the alternatives”. Nevertheless, the author complains that unfortunately there is no evidence that a better-informed trainee teacher is bound to become a more effective practitioner.

The trainee teachers’ ways of thinking about teaching filtered through the experience of professional training are expected to exert an influence on their practice. As Little (2000) emphasizes, teachers “must be able to apply to their teaching [...] reflective and self-managing processes”. Ur (2002: 388ff.), when trying to define the notion of professionalism of English teachers, argues that they are interested in gaining new knowledge and want to experiment with novel ideas, which is in line with Wallace’s understanding of reflective teaching described in 2.1. According to Bailey et al. (2001) an interesting experience of incorporating the study of a different foreign language into the teacher education programme was described by Birch in 1992. Richards (1998: 23) reports that Birch’s case study required teachers to start learning a new language and to keep a diary including reflections concerning the experience. The participants were allowed to focus on any aspect they considered to be important for their professional development. As a result, the experience exerted an influence on the participants’ teaching. Moreover, the case study emphasized its significance for trainee teachers’ engagement in informed reflection on many issues connected with their professional development.

Another issue connected with reflective teaching is the teachers’ ability to adjust their teaching to a particular context. As Gebhard (1996: 157) notices, “[m]any years of research have failed to identify specific teaching behaviors which are unambiguously linked to learning outcomes”, so there is no best way to teach English. Trainee teachers should be prepared to “analyze the situation, be aware of the range of options available to be used in particular circumstances and be able to make accurate decisions about which of them to choose”.

A traditional lecture-based EFL teacher education programme, devoid of reflection, inquiry, curiosity, initiative and negotiation of meanings, seems to be giving way to the new approach which integrates various options.

2.2.5. Holistic approach to teacher education

Duckworth (1986, as cited in Bartlett 1996: 204) calls for redefinition of the term *teacher*. The author emphasizes the need to engage students entirely with their minds, self, interests and interactions with others. Bartlett himself regards teaching as “pedagogy when teachers engage learners in events inside and *outside* the classroom. Furthermore, teaching as pedagogy becomes a quest, a research endeavour which can be improved best through addressing both everyday experiences and the societal events that influence them” (1996: 204).

Richards (1996) outlines two approaches connected with the study of teaching and believes that both theories as well as principles for teacher education programmes can be derived from them. The first, analytical approach, i.e. a *micro approach*, examines teaching on the basis of observable behaviours and concentrates on what teachers *do* in classrooms. Such behaviours, according to Richards, can be effectively taught, but their aggregation cannot be equated to good teaching. Teaching is a much more complex process and a more holistic, i.e. *macro*, approach is needed, which examines “the total context of classroom teaching and learning in an attempt to understand how the interactions between and among teacher, learners, and classroom tasks affect learning” (1996: 9). As McIntyre (1980: 295) notices “the components of effective teaching cannot be spelt out in operational terms, but are crucially dependent on the teacher’s qualities”. While the microperspective mirrors the training approach to teacher education, in which the process is divided into separate skills such as using strategies for correcting speaking activities or ways of introducing difficult vocabulary, trainee teachers need to develop additional qualities which are not easily operationalized within this perspective. Elliott (1980: 323) emphasizes the importance of the growth of teacher’s self-awareness and control in the classroom and the ability and willingness to overcome constraints imposed on their freedom, which may be of vital importance for the effective planning, organization and management of the lessons as well as effective delivery of instruction. Richards (1996: 15) suggests that the change of perspective influences the role of trainee teachers as well as teacher educators. As a result, the craft model

of teacher education is rejected because theory is expected to be used to “guide and illuminate the meaning of observation and practical experience”. It seems, therefore, reasonable to conclude that both micro- and macrodimensions of the teaching process should be addressed in teacher education programmes.

Reynolds and Salters (1995) emphasize the significance of a competence-based approach to teacher education. The authors characterize a holistic model of competence as opposed to two other models which have dominated research recently. The first of these two models is based on behaviourism, which is a limited approach concentrating on the activities in the workplace. Within this understanding competence is divided into elements and “[t]hese are incorporated into an itemised checklist, which is used for training and assessment” (1995: 2). The second, broader approach to competence, is the process model, which captures the ability to “transfer learning to novel situations”, in which flexibility is of vital importance. Teachers focus on their role in the classroom rather than on task completion. Functional analysis is carried out in order to define a list of competencies needed to perform a role. Both of the models are limited and that is why the third, holistic competence is proposed.

The growing body of knowledge on topics such as cultural competence also begs for exploration and implementation to be included into teacher education programmes. Tedick and Walker (1994: 302ff.) outline five problems which plague second language teacher education in the United States. Although their ideas were articulated some years ago, they are still relevant and can be adapted to many different contexts and countries. The authors call for restructuring and integration of teacher education due to the feeling of failure connected with the preparation of language teachers for their work. The first problem depicted by Tedick and Walker is connected with the negligence of the value of the continuing L1 development in the second language classroom, and they call for the implementation of the “sense of the wholeness of language and culture in teacher education contexts”. The second issue which attracts their attention is “the fragmentation and isolation of language arts fields themselves”. They stress a lack of communication across fields, between teacher educators and teachers, a lack of coordination concerning programmes and curricula, and “separate cultures” of different institutions preparing teachers for the job. Additionally, according to the authors, teacher education programmes comprise four main areas: “required language courses, courses in the content area (e.g. literature), courses in pedagogy (including general educational foundations coursework as well as foreign-language-specific

methods), and in-school experience (usually at the end of the course work)". Now a broader holistic approach is necessary, adjusted to the current requirements of the changing world, and teachers need to be acquainted with a number of insights proposed by fields such as sociology, psychology, psycholinguistics and many others. Another, third problem pinpointed by the authors, is connected with the historical impact of linguistics on teacher education. Within the field of science, language is perceived as an object which is: "*acted upon*, an entity to be scrutinized, analyzed, and broken down into its smallest components" (1994: 305). Such an understanding of the necessary components of teacher education denies the social nature of learning a language. Being devoid of context, language cannot enable authentic communication in the real life of the students. Tedick and Walker emphasize the importance of teaching with language being apart from teaching about language, and the necessity for the teacher to possess other qualities than just knowing the language in order to teach it. A movement away from regarding language as object towards acknowledging its communicative nature and the fact of its being embedded within a certain context is needed. In such a framework, language is understood as a subject which exists in a particular social context. Similarly, Lange (1996) believes that in the contemporary context the main discipline to be taught to trainee teachers is education rather than linguistics.

Among other important voices in the discussion concerning the main components of teacher education programmes it is important to mention Richards (1998) who puts target language proficiency among the six domains of content forming the core knowledge base of the teacher. Many scientists, however, report on insufficient target language competence of teachers (Sešek 2007) and argue that this is too frequently marginalized. Although it is not the most significant aspect of the foreign language teacher expertise, Sešek (2007: 422) believes that "the teacher's target language competence should be broad enough to enable the teacher to function in a variety of teaching contexts, and automated to such an extent that it does not cause unnecessary stress to the teacher or prevent them from pursuing a certain teaching aim". The author calls for an integration of sufficient target language training with other aspects of teacher's professional development.

The fourth obstacle reported by Tedick and Walker (1994: 306) is "a paralyzing focus on methodology" and methods courses focused on prescription rather than critical reflection, which concentrate on *how*, and where questions such as "*who*, *what* and *why*" are omitted; whilst, according to them, language development should be regarded as "an integrated, generative process in which the learner is an active agent". The fifth problem is "the

continued failure to reflect in practice the connection between language and culture” (1994: 308). Tedick and Walker argue that a more critical approach to culture rather than just acquiring facts is needed. This issue is going to be discussed in 2.2.6.

Calls for the reconceptualization of teacher education in a manner which marginalizes language on the one hand (Yates and Muchisky 2003; Freeman 1989), and for imposing more rigorous requirements connected with knowledge about English vocabulary and grammar (Pettis 2002; Sešek 2007) on the other hand, prove that a balance should be maintained between the two options while adopting a more holistic approach to educating teachers, which would encompass many different areas necessary to teach the language effectively.

2.2.6. The sociocultural influences on teaching

It is also very important to remember that the decisions about the content of the teacher education programme are made within the sociocultural context. Hargreaves (2003: 59) understands teaching as a “counterpoint” for the knowledge society, which is to “foster the values of community, democracy, humanitarianism, and cosmopolitan identity”, and he notices the new roles of the teacher whom he regards as a powerful means of change. According to him teachers:

- Promote social and emotional learning, commitment and character;
- Learn to relate differently to others, replacing strings of interactions with enduring bonds and relationships;
- Develop cosmopolitan identity;
- Commit to continuous professional and personal development;
- Work and learn in collaborative groups;
- Forge relationships with parents and communities;
- Build emotional understanding;
- Preserve continuity and security; and

- Establish basic trust in people (Hargreaves 2003: 59).

Due to the reported revolution going on in teacher education, reconceptualization concerns various aspects, including the sociocultural processes which are particularly important in the context of globalization, as well as the social constructivist framework described in chapter one. Tedick and Walker (1994: 303) believe that teacher educators are expected to reflect on the type of knowledge their students should be equipped with in order to function in the bilingual and multicultural world, and be professional and effective practitioners. The authors call for examining second language learning “from a wider, more holistic perspective”. Discussing the main problems which plague the teachers’ profession, which were depicted in 2.2.5, they stress the significance of relating the second language acquisition to the culture of a particular country.

Byram and Risager (1999: 58) define the cultural dimension of foreign language teaching and learning which requires from the learner to be “a mediator between cultures”. The fact of such mediation makes communication possible and effective. Three inter-related components of this process are described by the authors. The first is “that aspect of communicative competence which puts a learner in touch with the cultural world of a particular world of native speakers”; the second one is the ability to reflect on one’s own culture in a relatively objective way, seeing its relationships with different cultures, which facilitates communication. The third element makes a foreign language teacher responsible for mediation between the learners and other languages and cultures. The teacher’s role is to “help learners to understand others and otherness as a basis for the acquisition of cultural and communicative competence” (1999: 58).

2.2.7. Integration of technology

The views concerning the necessary components of teacher education programmes were also influenced by the changes connected with advances in technology. In the era of Information and Communications Technology (henceforth ICT) and Computer Assisted Language Learning (henceforth CALL), pre-service teacher education programmes are to equip trainee teachers with the necessary skills to use technology in the process of their professional development.

The rapid development of technology has caused many new terms to enter our language. The most popular is the acronym CALL. However, many authors question its appropriateness. Kern (2006: 185) believes we should “refer broadly to information and communication technologies rather than specifically to computers”. Among other terms which are currently used, H. Brown (2007a: 200) argues that technology-mediated language learning (TMLL) seems to be the most appropriate one, because it mirrors the fact of the ongoing integration of technology with theories of teaching and learning. Nonetheless, many authors adhere to the term CALL as the most widely accepted one, giving credence to Chapelle’s (2005: 743) definition of the term as a “broad range of activities associated with technology and language learning”. According to the author, instead of discussing which particular term to use, it is more important to “conceptualize and investigate technology-based pedagogy” so that it can influence the practice of foreign language teaching.

The advent of the computer technology brought promises of great breakthroughs in language teaching. It should be remembered, however, that technology is not going to replace the teacher and guarantee success in teaching a foreign language. It should rather be treated as a supportive tool which can make learning and teaching more attractive and which provides a plethora of various opportunities for self-study as well as for communicating with others. One of the main objectives of the contemporary foreign language learner is still to be a communicatively proficient speaker of the target language.

As Cameron (2005: 71) explicitly states, the word *communication* “is among the keywords of the global age” and the term is used by different authors in different ways. On the one hand, it is connected with the ability to use new technologies; on the other hand, mass communication and media are stressed, both of which are important for language teachers due to their various applications in the teaching process. New technologies demand new literacies from teachers and as Krajka (2009: 199) remarks “due to the fact that the obligatory training in computer-assisted pedagogy has been introduced only recently, there seems to be a need to reflect on designing and implementing effective and appropriate training programmes, methods and techniques”.

Chapelle (2006: vii) emphasizes the lack of a plan concerning the implementation of the issues connected with technology, as there is no consensus about what should be taught and how. The problem is even more complex if we take into account the teacher educator’s incomplete and shaky knowledge of CALL, which is a direct result of the very dynamic nature of advances in technology as well as the enormous range of feasible practical appli-

cations of technology in the classroom and the growing body of research. The pace of growth of the practical applications of computer-assisted language learning makes it almost impossible to keep up with the field. H. Brown (2007a: 199) warns that teachers and teacher educators should neither get discouraged by a plethora of options of technology use available, nor be deceived that computers will magically improve the students' efficiency. Davis (1997: 255) notices that the development of information technology, both in teacher's work as well as within organizations, occurs in phases, and it is frequently started by a few enthusiasts, while in the middle phase, a coordinator tries to standardize the tools and redesigns a curriculum. Only the last stage of development involves the introduction of technology within an organization.

In one of the latest publications concerning the place of CALL in teacher education, Hubbard and Levy (2006: ix) outline the current issues connected with the topic:

- 1) the need for both technical and pedagogical training in CALL, ideally integrated with one another;
- 2) the recognition of the limits of formal teaching because the technology changes so rapidly;
- 3) the need to connect CALL education to authentic teaching settings, especially ones where software, hardware, and technical support differ from the ideal;
- 4) the idea of using CALL to learn about CALL – experiencing educational applications of technology firsthand as a student to learn how to use technology as a teacher;
- 5) the value of having CALL permeate the language teacher education curriculum rather than appear solely in a standard course (Hubbard and Levy 2006: ix).

The need for the integration of technical as well as pedagogical aspects of CALL is a prerequisite of success of any teacher education programme as only the instructor who shows practical applications of technology within the specific subject area is able to ingrain the desire to use it in the future. Moreover, as H. Brown (2007a: 200) explicitly states, “technology is relatively useless if the science behind it is not fully amalgamated into language pedagogy”. The ability of teachers to use information technology consists of various competences, but only their integration may bring the desired changes.

Chapelle (2006: vii) argues that the issues connected with computer-assisted language learning reflect those in other fields of teacher education. He further argues that as a

strand of applied linguistics, CALL has to compete to have a place in the language teacher education curriculum. The three main mentioned necessary abilities of teachers to be developed are “to choose, use, and in some cases refuse technology for their students”, and, according to Chapelle, all of them require professional expertise.

There are various types of technological aids which are available to language teachers; however, there are significant differences in the access to technology depending on the particular school, region or country one considers. Traditionally used devices such as a tape recorder, a CD player, a video, a DVD or an overhead projector are being gradually superseded by computers which can perform similar functions.

Drawing on the works of Egbert (2005) and Beatty (2003), H. Brown (2007a: 200) summarizes the main principles concerning the use of electronic technology. The main issue raised by the authors is the necessity to avoid a technocentric approach, which is the situation of overestimating the potential of technology by teachers who design their instruction to fit in with it. Technology is, rather, only a tool and is expected to enhance and support teachers in gaining their objectives. Another principle is connected with the appropriateness of the technological innovations teachers want to use to aid their students’ abilities and interests, as well as the costs of a particular device. In the guidelines it is also emphasized that there is a need to create an atmosphere in the classroom which is conducive to computer-enhanced learning. Moreover, thanks to advances in technology, it is becoming easier to adjust instruction to learners of different abilities and styles. The potential of information technology for learning is also reflected in its effective use. Egbert believes that “*effective* means that students learn language better or faster using the technology than they would have using the tools that would ordinarily be available” (as quoted in H. Brown 2007a: 201). Technology is also expected to be used efficiently, which means that it is supposed to save time. The last principle raised by H. Brown is for the teacher to be prepared to have an alternative plan for the lesson in the case the technology fails. It is very important for the trainee teachers to be aware that both an overestimation of the potential technology brings to our everyday practice, as well as an underestimation of technology, can have a detrimental effect on the teaching process. On the one hand, technology is not a magic remedy for all the problems which occur in the classroom; on the other hand, it has become an important part of the life of contemporary people and cannot be neglected. Hence, it is important to keep a balance, and teachers’ responsibility is to identify those

applications of information technology which they find valuable and attractive in a particular context.

Due to the recent advances in educational applications of technology, an enormous and rapidly growing base of resources is available to teachers and teacher educators. The resources can be used in various ways and any creative and innovative teacher is able to find their new applications.

2.2.8. Involving teachers in action research

In the traditional understanding within the applied science model of teacher education, the academics are to equip practitioners with the necessary knowledge to teach (Wallace 1991: 8f.). Yates and Muchisky (2003: 140) express the opinion that it is teacher educators' job to explain how to apply the research findings in the classroom. In recent years, however, the importance of conducting research in classroom settings is stressed, and a growing number of practitioners are looking into the field for advice. Lightbown (2000: 431) emphasizes the growing body of SLA research focusing on pedagogical issues which can enhance effective language instruction. The author believes, however, that it is important for teachers as well as researchers to question their intuitions about the teaching process. When the researcher's claims are contradictory to the experience of practitioners, and, what is more, the research is carried out in unnatural settings, teachers are likely to be alienated and researchers dismissed "as ivory tower oddities". Due to this fact, Lightbown calls for action research by individual teachers, and researchers entering into dialogue with them. Involving teachers in collecting and analysing data about teaching, however, requires them to acquire new skills. Apart from planning their lessons, they are expected to monitor them, draw conclusions and implement possible changes which are going to improve their teaching.

Nunan (1996: 62) is convinced that one of the main goals of in-service teacher education is to equip teachers with all the necessary tools which might help them explore their own classrooms. Due to the fact that pre-service teacher education programmes include a practical component, the idea is also relevant for future teachers. According to Nunan, it is important to involve teachers in curriculum research and design; however, such involvement requires teachers to have the ability to understand their practice through the lens of theoretical assumptions, to realize which dilemmas can be solved by action research as well

as to collect data and examine them. Kwo (1996: 299) believes that for teacher education to be effective and influence the teacher’s practice, it is necessary to analyse the trainee teachers’ classrooms, listening to their voices and supporting them in the implementation of innovations. Nunan (1996: 63) suggests that “[o]ne way of encouraging teachers to develop research skills is to get them to adopt an *action research* orientation in the classroom”.

Kemmis and McTaggart (1982, as cited in Nunan 1996: 63) understand action research as the attitude of a practitioner who is able to reflect critically on ideas, experiments with them and evaluates their effects. Bailey et al. (2001: 134) define action research as the act of “changing some aspect of our own professional practice (in response to some issue, problem, or puzzle), collecting relevant data about the changed practice, and interpreting and analyzing the data”. They emphasize the cyclical nature of the process, which consists of a series of investigations in which teaching behaviour and its consequences are examined (see Figure 10).

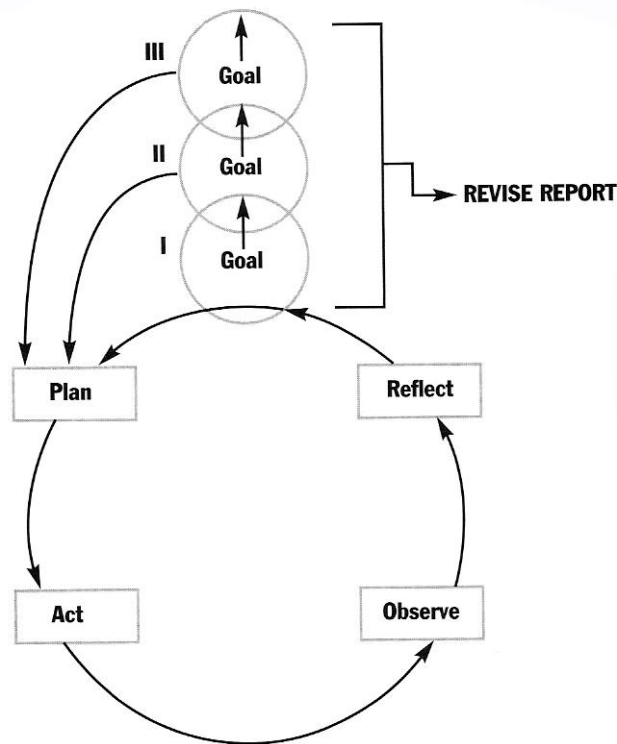


Figure 10. Cycles of action research (Bailey et al. 2001: 136).

H. Brown (2007b: 17) accurately calls such innovative practitioners and their classrooms the *laboratories of research*. Action research is a small-scale research project undertaken in order to examine one group of students or one lesson only and that is why it may

not be generalisable to other contexts but seems to be “closer to reality” (Taylor 2002: 399).

Action research started to be recognized as a valuable tool in education in the 1940s, and was popularized in the 1960s and 1970s. Stenhouse (1975, as cited in Bailey et al. 2001: 135) believes that apart from being a tool to solve various problems and enhance good teaching, it has a potential to influence the theoretical foundations which are accessible for practitioners. Similarly, Elliott (1980: 308) understands action research as not only a research process, but a necessary component in the process of teacher education.

Bailey et al. (2001: 134) argue that action research deserves the label of *research* due to the fact that it involves all the necessary components as required to be called such. The first of them is posing a question or stating a problem; the second is collecting data in order to answer or solve it; while the last one is choosing a type of analysis and interpretation of the results. A distinctive feature, as the authors explain, between action research and traditional forms of research, is the fact that the first one is carried out by the participants of the learning situation who are “best placed to solve problems, improve practice, and enhance understanding” (2001: 135).

Wallace (1991: 56) believes that action research is a convenient solution for those teachers who do not have much professional expertise in doing scientific research and who are interested in such a form of self-development. According to him, it can be very attractive due to the fact that the results can be immediately applied in a given context and that they do not have to be generalisable to other situations, so the methods do not have to be so rigorous. Wallace regards action research as the *extension* of everyday reflective practice. Another important contribution to the understanding of the role of action research in teacher education was made by Lightbown (2000: 454), who regards action research as a necessity in contemporary education as “pedagogical innovations must be implemented and adapted according to local conditions”.

Action research can be a very powerful means of teachers’ self-development, exerting an influence on many spheres of the profession; however, conducting research in isolation is incomplete, and therefore a common effort of scientists, teacher educators and teachers can give the best results. Especially relevant in the discussion seems to be the infusion of research carried out by teachers in their classrooms into the debate on effective language teaching as a supplement for the work of scientists.

2.3. EFL teacher education in Poland

After the analysis of the main directions connected with teacher education described in the contemporary literature, their influence on the situation in Poland is going to be discussed in the present section. Education is recognized as one of the main components contributing to the development of societies. Tisher and Wideen (1990: 1) stress the importance of education as “the engine for economic growth, but also the opportunity for individuals to achieve full access to social and economic participation” as well as the fact of their dependence on the skills, knowledge and intelligence of teachers. Hence, the quality of teacher education exerts an influence on the quality of life in a particular society, and therefore it is so important to prepare competent professionals for the job.

In Poland, English instruction has been intensified enormously since 1989 and this fact has entailed the need for the development of EFL teacher education programmes. Admittedly, much EFL teacher preparation today seems to be still nested within traditional literature and language studies; however, to study the particular phenomenon a lot of research is encouraged. Due to the growing interest in the topic of teacher education, scientific conferences are organized, which are then followed by publications in thematic volumes (e.g. Pawlak et al. 2009). The works are expected to exert an influence on teachers’ preparation for their professional career.

2.3.1. Reforms in EFL teacher education after 1989

The transformation of the political system in Poland influenced many areas of life, including education. The new challenges, which teachers were to face in a new democratic context, required deep reforms in the system of educating them. Komorowska (2007), in her overview of the 50 years of one of the leading magazines on teaching languages in our country: *Języki obce w szkole* [Foreign languages at school], divides the period after 1989 into two time slots: 1990-1999 and 2000-2007. In her analysis of the most important topics and articles prevailing at that time she tries to outline the leading trends in teaching foreign languages which initiated changes in the approach to educating the future as well as present teachers.

As the author explains, the first period, between 1990 and 1999, was the time of transformation and a more democratic character of the relationships between students, their parents and teachers, which initiated changes in the educational institutions as well. One of the most important changes concerned the structure of the school system in Poland which was started in 1999. Instead of eight classes in primary school and four in a secondary one, students are, since that date, to learn in a six-year primary school, a three-year lower secondary school and a three-year higher secondary school. A change was also introduced at the tertiary level of education as the BA and MA system was established instead of the obligatory five-year programme of studies. The main topics prevailing in the magazine at that time concerned the change of status of different foreign languages in our country and the creation of teacher training colleges, which were to educate other-than-Russian foreign language teachers, as their number was insufficient. According to the author, it was estimated that 20 000 teachers of English were needed in the country at that time compared with 1 200 employed then (2007: 180). Another topic raised in this period of time was the lack of qualifications of active foreign language teachers and the ways of educating them as well as the critical examination of the communicative approach to teaching, the role of computers and intercultural competence.

The period between 2000 and 2007 depicted by Komorowska (2007: 246ff.) was the period of complete implementation of the reform of education in Poland. The new curricula were worked out and the matura exams were unified in the whole country, which allowed the eliminating of entrance exams at universities. Moreover, a huge increase of the number of private schools at the tertiary level was observed. The main topics which were in the centre of attention of the authors at that time was the school reform and its consequences for foreign language teaching, the differentiation of the language needs of students, individualisation and autonomisation of the teaching process as well as the role of choice of materials and methods of work and the new status of Poland in Europe. Fluency and communicative effectiveness became more important than before; moreover, the average level of language proficiency increased and international programmes such as *Comenius* and *eTwinning* became very popular.

Also, according to Siek-Piskozub et al. (2008: 59), the change of political system in Poland resulted in granting more independence both to teachers as well as students and a growing demand for teachers of foreign languages, especially English. After the collapse of Communism in the Soviet Union and the Eastern Block, Russian as a compulsory foreign

language at school was abandoned and there was a shortage of trained English teachers available to fill the obligatory slot in the school curricula. Efforts at the level of the country were made in order to restructure language teacher education, which resulted in a deep reform of the whole system such as establishing language teacher training colleges or imposing new regulations.

Requirements referring to the qualifications of EFL teachers in Poland are regulated by the *Ministry of Education Order* [Rozporządzenie Ministra Edukacji Narodowej] of 12th March 2009. The main areas of interest which the institutions educating teachers have to focus on are: content knowledge preparing the trainee teachers to teach a particular subject; instruction preparing for the didactic and tutelary tasks; practical component at schools; education towards an effective use of Information and Communications Technology for teaching purposes, as well as acquisition of a foreign language (in the case of future EFL teachers – this concerns a language other than English). The standards of teacher education require trainee teachers to gain didactic, educational, social, creative, praxeological, communicative and ICT as well as linguistic competences.

The attachment accompanying the order concerns the obligatory language certificates that foreign language teachers have to possess. According to the legal act, the qualifications to teach English as a foreign language in Polish kindergartens and schools at a primary and secondary level can be obtained by graduating from an English philology or applied linguistics at the MA level. However, the increased demand for English language teachers resulted in declining standards of their education programmes and, hence, a range of other solutions was adopted. The opportunity to teach English was granted to those who possess a BA in English philology or applied linguistics or to teachers of other subjects who graduated from any other field of knowledge and wanted to teach the English language provided they possessed a language certificate as well as those who graduated from the EFL teachers' colleges. For those who want to teach in kindergartens and primary schools it is enough to gain qualifications to teach there, i.e. a language certificate and to complete postgraduate studies designed according to a required programme. In all the above cases the pedagogical preparation programme including psychology, pedagogy and EFL methodology of not less than 270 hours and not less than 150 hours of practical classes at school is obligatory.

In spite of the changes, the system of foreign language teacher education in Poland has been the subject of constant criticism. Zawadzka (2004: 56) blames it for inconsistent

requirements, an inappropriate structure and the variable number of hours devoted to various subjects as well as the quality of the practical component at schools.

Apart from the changes in the system of teacher education at the tertiary level, one of the most important elements of the reform was the introduction of a promotion scheme, in order to help active teachers in the difficult process of self-development. The aim of the reform was to improve the quality of their education, inter alia, by the development of professional qualifications. The four stages: contract teacher (*nauczyciel kontraktowy*), appointed teacher (*nauczyciel mianowany*), certified teacher (*nauczyciel dyplomowany*) and professor of education (*profesor oświaty*) encourage active teachers to take part in workshops, to study, to read, to cooperate and to be creative. During the final exam the teachers can demonstrate their achievements in the presence of the examination board.

Kubacki (2009) analyses the promotion scheme for foreign language teachers from the perspective of the expertise of the Ministry of Education. The author describes the rules of the four-stage promotion procedure and the requirements which have to be fulfilled in order to be promoted together with the drawbacks of the system. According to the author, rather than measuring the real quality of the teachers' work, the system promotes the ability of self-presentation by the candidate. Moreover, there are a lot of inappropriacies concerning the members of the examination board, who are not always specialists and lack professional skills in the particular area. Such a system of promoting teachers together with a poor financial gratification is, according to Kubacki, not effective enough and requires re-thinking and redesigning to be a real incentive for teachers to develop.

Criticism concerning the teachers' promotion scheme in Poland was also expressed by Bugiera (2009). Being a teacher trainer in a voivodeship teacher training centre as well as an expert in the teacher promotion scheme, she summarizes the main problems which have occurred since the reform was introduced. The author expresses many negative remarks about the scheme. One of them is that excessive requirements imposed on teachers result mainly in the preserving of appearances. Due to this fact, the genuine development of teachers as well as the improvement of the quality of education does not really take place. Similarly to Kubacki (2009), the author expresses criticism about the fact that just after ten years of professional experience teachers reach the peak of the career ladder, so during the consecutive twenty years or more they have no incentive to develop their skills further. Moreover, the system is not selective so in the near future over 50 per cent of teachers will have completed all the steps of the promotion scheme. Moreover, success in Polish schools

is too much dependent on exam results and limits teachers' creativity and initiative. Additionally, there are no regulations which would require the mentors of young EFL teachers to be language instructors with experience, which is the prerequisite of successful mentoring. According to the author, a discussion should be initiated on the coherence between the requirements towards teachers and the needs of the contemporary Polish school.

As it can be seen, many areas connected with educating teachers in Poland need to be investigated in order to adapt teacher education programmes to the changing conditions of work. Therefore, research in the field is important in order to find the best solutions for developing such programmes and to make them more effective. In the following section the main research directions in teacher education in Poland are going to be presented.

2.3.2. Research directions in EFL teacher education

The present section constitutes an overview of research on EFL teacher education in Poland published recently. The main areas of interest of Polish researchers, scientists and experts reflect the directions in the contemporary EFL teacher education depicted in section 2.2., such as movement from teacher training to teacher education, pedagogy for autonomy, an inquiry-based approach to learning, encouraging critical reflection, the holistic approach, sociocultural influences, the integration of technology and involving teachers in action research.

The movement from teacher training to teacher education has been in the focus of attention of many authors. Siek-Piskozub et al. (2008: 59) explain the fact that both theory and research have not influenced Polish classrooms significantly yet due to the fact that "teachers are not familiar with the latest research findings and research-based recommendations, because new ideas are not always successfully disseminated and are often viewed as inapplicable to classroom practice".

The reasons underlying the teachers' inability to transfer the acquired knowledge and skills into their practice were analysed by Kębłowska (2006). The researcher noticed that the majority of the observed classes were conducted in the grammar-translation vein and, in spite of the trainee teachers' favourable attitude towards learning methodology; they considered it to be too theoretical. This is one of the possible reasons for their reluctance to transfer the knowledge into their lessons. Therefore, the author concludes that teacher edu-

cators are expected to make their courses more practical, allowing trainee teachers to have hands-on experience, and encouraging them to pursue professional development in the future.

Another area of interest connected with the movement towards teacher education is the teacher's ability to implement language learning strategies in their classrooms. Mystkowska-Wiertelak (2009) carried out research on 78 teachers from Polish schools concerning their knowledge about and attitudes towards the strategies. With the exception of three teachers, all participants taught English and, what is more, the vast majority of them were young teachers who had just started their professional careers. The investigation revealed a very limited use of strategies in the language classroom despite a favourable attitude of the participants towards them. The author concludes that the teachers' knowledge about strategies is insufficient and also calls for an evaluation of teacher education programmes and in-service training aiming towards more practical solutions.

The need for the development of the professional competence of teachers is emphasized by Wysocka (1998: 11), who underlines its dynamic and constantly changing nature. The author carried out research among 351 teachers working at different levels of the system of education, which proved that less than one third of them possessed the full formal qualifications to teach English. Moreover, three main areas of incompetence of teachers were identified. The primary ones were connected with the didactic process, the secondary ones with unsatisfied expectations, while the last group constituted the lack of knowledge and skills which derived from the incomplete qualifications to teach. The researcher found out that both students as well as teachers expected ready solutions from their mentors, that a lot of teachers expressed a negative attitude towards the job, they were incompetent, the didactic process was dominated by the preparation for exams and that there were gaps in teacher education programmes. Wysocka believes that a good way of overcoming the difficulties is developing teachers' own didactic style. According to the author, the notion lies within the concept of professional competence but concentrates on the subject matter, didactic, decision-making and social skills of the teacher or teacher-to-be.

In the publications devoted to the reform in teaching foreign languages Potocka (2003: 189ff.) calls for a diversified, eclectic approach to teacher education adjusted to the context in which the process is taking place. The author notices that trainee teachers construct their knowledge by the integration of theoretical foundations, scientific research and opinions of their peers together with their own reflection on practice. Due to the new un-

derstanding of teacher development, an individual construction of knowledge by the teacher is expected to be emphasised together with a shift from the content knowledge to a whole-person growth as well as focus on the process of learning to teach.

The future foreign language teachers are, according to Zawadzka (2004: 58), deprived of the perspective of the newest pedagogical thought. She stresses that this has happened as a result of an overemphasis on professionalism and specialization of language teachers in Poland, which limits teacher education to narrowly-understood linguistic and didactic specializations. In 2000 the author carried out research among the students of German which revealed that the respondents needed more independence in the process of gaining knowledge and skills; they wanted to have more choice when choosing the topics to study and to have more practical teaching hours.

Another topic which has been discussed by different authors is teacher autonomy. Pawlak (2009) proposes an optimal model of classroom interaction in the Polish educational context. His suggestions are based on the research findings which proved that it is the teacher who plays a crucial role in shaping classroom interaction, creating an “acquisition-rich or acquisition-poor” environment. According to the author, interaction in the classroom is not able to ideally reflect the discourse in natural settings; henceforth, a foreign language lesson should be different, especially when the access to the language outside the classroom is limited. Therefore, a compromise is needed to be worked out between form focused instruction and a more autonomous one: with the development of communicative skills. Moreover, the author emphasizes that pair work and group work should be well-planned to be effective and teachers should remember that both whole class and individual work can bring similar results. Another issue worth considering, according to the author, is the value of negative feedback, which, contrary to the common belief, in some situations can contribute to a better understanding of an issue under investigation. The author’s remarks seem to be particularly important in Polish schools, where group work, communicative activities and elimination of negative feedback are often believed to be the only ways to learn effectively. Therefore, a movement towards educating teachers who are able to make informed, conscious, autonomous decisions when working in a particular context, is necessary. Such a reflective approach instead of providing teachers with ready solutions can significantly contribute to the increased effectiveness of language instruction.

Many authors are interested in the role of reflection in the development of the professional qualifications of teachers. Wysocka (2003) reports on the inadequate level of pro-

professional qualifications and self-development of teachers in Polish schools resulting in the lack of creativity, consciousness and self-reflection. Reflective thinking was also analysed by Witkowska (2009), who investigated techniques of practising reflective thinking which were applied during the teaching practice in the English Language Teacher Training College. The students were asked to write a self-evaluation of their own teaching which was then analysed by the researcher. The findings proved that students were reluctant to reflect and needed to be inspired to do this. With the help of the teacher educator, however, they were able to reflect effectively. The author repeats after Arends (1994: 497), that not only experience but also reflection and analysis is necessary.

The role of self-monitoring and self-evaluation of teachers as the issues which contribute to the better quality of language education in general were investigated by Sobkowiak (2009). The research carried out among 238 Polish teachers revealed that almost all of them evaluate their own work, being aware of its beneficial influence on the quality of their teaching. Moreover, the study proved that the better qualified the teachers, the more reflective they are. In the majority of cases, self-evaluation takes place just after the lesson in the form of the teachers' own reflections, and almost half of them talk about their work with other teachers.

Other researchers have also concentrated on the importance of critical reflection in the teaching process. Myczko (2009) underlines the growing expectations towards teachers, which means that apart from teaching a certain language, they are now expected to broaden students' horizons and teach them critical thinking. Therefore, it is vital for teachers to be able to place their teaching within a certain theoretical background, which significantly raises their awareness concerning the teaching process. Reflection on practice together with expanding theoretical knowledge is a significant factor which contributes to a more effective introduction of innovations as well as the ability to cope with difficulties.

The importance of teachers' experience as learners is stressed by Michońska-Stadnik (2009). She observes that in many cases trainee and novice teachers try to imitate their previous language instructors when they begin their professional career, which according to the author, may hinder their development. Therefore, it is of vital importance to analyse with trainee teachers their school experiences as learners. Similarly, a study by Musiał (2003: as cited in Siek-Piskozub et al. 2008: 85) proved that numerous preconceptions about foreign language teaching and learning processes exert a strong influence on the teachers' interpretation of school events. The author emphasizes that in the process of

teacher education an emphasis on the “trainees’ discovery of implicit, and often mutually exclusive, beliefs concerning teaching and the teacher’s and learner’s roles” is necessary.

A study among English philology students by Wiścicka (2009) was carried out in order to identify the relationships between their beliefs, assumptions and knowledge as well as their behaviour during the teaching practice. The author found out that trainee teachers already have strong views on the teaching and learning process, therefore the knowledge gained during the course preparing them for the job is filtered through the specific lens. Moreover, it was noticed that they focus too much on the organizational issues at the expense of effective teaching, and what is especially worrying, they are not reflective enough about the process of teaching and learning. On the basis of the findings, the author proposes a model of reflective teacher education including: learnt knowledge, knowledge gained from experience, language awareness of the teacher and teacher autonomy.

Derenowski (2009) notices that teacher education in Poland is often criticized as being too distant from reality. In the study of 45 third-year students of English in Konin and Kalisz, the author found out that a majority of them regarded the job as a satisfactory one, giving opportunities for a dynamic career development, but that it was also underpaid and too time-consuming. What is interesting, despite the changed expectations concerning teachers’ roles in the modern system of education, for the majority of respondents, the roles of a controller and assessor were still most frequently recognized, which, according to the author, can be explained by the reluctance of university teachers to apply the new methods of teaching in their own practice. Therefore, changes in the system of educating language teachers are expected to concern the broader philosophy of education rather than mere surface changes.

Numerous authors emphasize the need for looking at teacher education from a broader, holistic perspective. Sikorska (2009) calls for rethinking teacher education programmes and developing innovative projects concerning methodological issues. The author regards the implementation of a correlation between subjects in the curriculum as necessary to gain a consistent vision of educational reality. Targońska (2009) denies that linguistic knowledge and competence automatically make a good and effective teacher, believing that theoretical knowledge should be treated just as a starting point in modelling competence. She enumerates psychological and pedagogical knowledge, general knowledge about the world, as well as psycholinguistics and language teaching methodology as indispensable attributes of a contemporary language teacher. The competences of foreign language teach-

ers such as communicative, psychological and pedagogical ones, as well as creativity, knowledge of methodology, cultural and technological issues are regarded by the author as a necessity. These abilities together with appropriate personality factors make a good teacher.

The implementation of creative training for foreign language teachers in the programme of vocational teacher studies in Zielona Góra was reported by Jastrzębska (2009). The programme made use of the psychodidactics of creativity methods to support teacher development in skills of creative thinking and acting. Jastrzębska believes that the implementation of such elements in teacher education programmes is going to contribute to a better quality of teaching.

The growing body of knowledge on social issues has encouraged researchers to concentrate on this area of interest. Kolera (2009) stresses the diminishing importance of school as the only source of knowledge and therefore the significance of developing teachers' social skills. According to the author, teacher education programmes should take into account the personality and social competence of the trainee teacher, because EFL is not only the subject matter to be taught, but a means of communication with the students. Similarly, Janoszczyk (2009) believes that apart from pedagogic skills teachers should be equipped with social skills as well, such as the ability to play different roles in the classroom, using different approaches to teaching individual students, and allowing students to choose the aims, materials or methods of work. However, the teacher should also be able to acknowledge that some students are unable to work in an autonomous way.

Another issue is raised by Miłułka (2009), who emphasizes the role of a foreign language teacher as an intercultural mediator and the necessity of developing teachers' intercultural communicative competence due to the increasing role of multiculturalism in the Polish society. The author believes that multicultural training should become an indispensable part of any foreign language teacher education programme.

Integration of technology in the teaching process is becoming more and more popular among educators. Krajka (2009) calls for redesigning teacher education programmes due to the changes in the understanding of the ICT training and, as a result of the conclusions drawn from the first ICT teacher education experiences in Poland. The author discusses the evolution of CALL/ICT teacher education in our country. The Web 2.0. movement, reported by him, means that instead of using ready-made webpages and ICT tools, which were used before, personalization and co-creation of a virtual environment is taking

place. Due to this fact, teachers and future teachers are expected not only to be ready to use the resources prepared by someone else, but also to play an active role in the Internet community. Krajka enumerates the basic groups of tools which should be in the focus of attention of foreign language teacher educators. The first of them is connected with text and includes the ability to use blogs, wikis, word processors and corpuses, to name just a few. The second group of tools consists of search engines of different kinds which may help the teachers find and develop their own materials and enable self-study practices. The third group includes multimedia tools such as podcasts, vodcasts, maps and recording tools, while the fourth one, cooperation tools, consists of whiteboards, voicemail or virtual reality. The last group pinpointed by the author is an e-learning environment such as Moodle or Blackboard. Moreover, also virtual reality systems are becoming the tools for learning and not only cooperation. According to the author, the process of teacher education in ICT in Poland is undergoing a redefinition caused by the technological advances, which expand the opportunities for the use of a computer and the Internet in foreign language instruction. The new dimensions which are opening up for teachers allow for a more individual approach to teaching. However, as Gajek (2003, cited in Siek-Piskozub et al. 2008: 86) states, there is a need for the empirical verification of the teachers' competence in new technologies in order to supplement standards specified by the Ministry of Education, which are too general.

Wysocka (2009) calls for research related to various aspects of education such as introducing new language material, the development of language skills as well as testing and evaluation. The author believes that action research launched into teacher education programmes contributes to the trainee teachers' development and provides the opportunity for hands-on experience in a particular school context allowing for self-observation and self-evaluation procedures to be adopted, which is going to prepare and encourage students to realize their own research ideas in the future. Expanding the role of the teacher to that of teacher-researcher is also propagated by Piegzik (2009)

The aim of the present section was not to provide an extensive analysis of the research on teacher education taking place in Poland but to highlight the significant issues pinpointed by the researchers and practitioners who have decided to concentrate on the topic. Many authors emphasize the need for further research concerning the main areas of development depicted in the chapter.

2.4. Conclusion

The work toward substantive and lasting change in teacher education is a long term process and the changes are not immediate but come gradually. The quality of teacher education is of paramount importance for society as a whole, therefore a joint effort of individual people as well as institutions responsible for education are necessary in order to improve the situation. Questioning traditional ways of teaching and the implementation of innovations may be frustrating and not acceptable for many practitioners doing the job, hence it is important to work with trainee teachers and engage them in dialogue about teaching in order to challenge their assumptions and previous experiences.

Chapter 3: Motivation and attitudes towards the online environment

Introduction

Due to the reported change in the approach to education in general and the growing emphasis on autonomy, reflection and an inquiry-based approach to teaching, the area which has attracted much attention of theorists and researchers over the past years is connected with the motivational and attitudinal dispositions of individuals. They have become a prominent issue both in the field of psychology and education and a number of studies have been conducted to get an insight into their influence on human achievement and learning. It is now acknowledged that motivation and attitudes are very important predictors of learning success and it seems rational to assume that learning is most probable to occur when students *want* to learn. The concept is, however, subjective and therefore open to disagreement as it attempts to explain the reasons underlying human's behaviour and thinking, which is composed of so many diverse and overlapping factors that no simple and unequivocal answers can be provided. Apart from students' individual differences also the context in which the learning process takes place is of vital importance. Moreover, different interpretations of the concept stem from the shifts connected with trends in psychology over the past 40 years. As Schunk et al. (2008: 3) explain, there are a lot of things we do not know about motivation and "[p]rofessionals disagree over what motivation is, what affects motivation, how motivational processes operate, what effects motivation has on learning and performance and how motivation can be improved". Nevertheless, research on motivation is of vital importance in the field of education, and as Winne and Marx (1989, as cited in Ushida

2005: 49) accurately state “[m]otivation (...) is both a condition for, and a result of, effective instruction”.

This chapter provides the springboard for the understanding of the role of attitudes and motivation in teacher education in the online environment. Firstly, it focuses on the main theoretical positions in the area such as the definition of motivation, as well as the leading theories connected with attitudinal and motivational issues. Secondly, due to the fact that theory and research on teacher education in the online environment is still missing, Gardner’s model of motivation in second language learning, as the best empirically tested and updated model of motivation in education, is going to be depicted. Followed by the outline of the main directions in current research on motivation in technology enhanced teaching and an attempt to adapt Gardner’s model to teacher education in the online environment.

3.1. Towards defining motivation

Williams and Burden (1997: 111f.) emphasize that literature on motivation is so voluminous and differentiated that it is impossible to encompass all the ideas presented in the contemporary psychological and language teaching writings published. They believe one should concentrate on the particular approaches only which are most “enlightening” and which can influence effectively the teachers’ everyday practice. Similarly, Galloway et al. (1998: 42, as quoted in Dörnyei 2001a: 3) believe that “[i]f motivation were a straightforward concept, it would be uninteresting. The challenge is to find ways of conceptualising it which help teachers to understand children’s progress and behaviour, thereby helping them to evaluate their classroom practice and teaching methods”.

Schunk et al. (2008: 4) derive the term *motivation* from the Latin verb *movere*, which means *to move*. They define motivation as “the process whereby goal-directed activity is instigated and sustained”. The idea of movement is clearly visible in the definition reflecting the dynamic nature of the concept, which is a process rather than a product and requires sustained physical and mental activity and effort in the course of accomplishing a certain objective.

William and Burden propose a cognitive definition of motivation which is in line with the constructivist perspective described in chapter one. They claim that it is:

- a state of cognitive and emotional arousal,
- which leads to a conscious decision to act, and
- which gives rise to a period of sustained intellectual and/or physical effort
- in order to attain a previously set goal (or goals) (Williams and Burden 1997: 120).

The above definition stresses the most important elements connected with motivation and the authors present them as a mixture of various influences. Before individuals decide to act, they are triggered by internal or external causes which lead to a state of *arousal*, the main ingredient of which is curiosity as a driving force of all human behaviour. Moreover, the importance of persistence in sustaining the effort which is necessary to achieve the purpose is emphasized.

Gardner (1985: 10), who is interested in EFL instruction, defines motivation to learn as “the extent to which the individual works or strives to learn the language because of a desire to do so and the satisfaction experienced in this activity”. Three main components are clearly visible in the definition: focus on effort, desire and satisfaction. Tremblay and Gardner (1995: 506) notice that effort itself cannot fully describe motivation as individuals may attempt to satisfy someone else e.g. parents or teachers, without any motivation towards learning the second language. Moreover, the authors emphasize that desire and satisfaction “do not in themselves reflect true motivation (...) [and] must co-exist with effort”. They also (1995: 505f.) adopt a wider perspective on motivation, citing Heckhausen (1991: 9), who states that the issues concerning motivation are represented by “[t]he observed goal-directedness of the behavior, the inception and completion of a coherent behavioral unit, its resumption after an interruption, the transition to a new behavioral sequence, the conflict between various behavioral goals and its resolution”. Masgoret and Gardner (2003: 173) define a motivated individual as someone who “expends effort, is persistent and attentive to the task at hand, has goals, desires, and aspirations, enjoys the activity, experiences reinforcement from success and disappointment from failure, makes attributions concerning success and/or failure, is aroused, and makes use of strategies to aid in achieving goals”.

Another researcher working in the field of foreign language instruction, Dörnyei (2006: xi), points out that attitudes and motivation to learn have traditionally been examined together and also emphasizes the social loading of the language to be taught. In one of

his articles he writes that “Gardner’s and Lambert’s [...] discovery that success in L2 learning is a function of the learner’s attitudes towards the linguistic-cultural community of the target language” has added a social dimension to the research on motivation to learn a second language (Dörnyei 1994: 519). In the same vein it can be stated that the issues connected with new technologies are supposed to be strongly related to different social attitudes prevailing in the given community and due to the fact both motivational and attitudinal factors need to be studied in their interrelationship and the definition of motivation is supposed to encompass attitudes as well. Therefore, for the definition of motivation to be complete, one is expected to include the aspect of attitudes which constitute the motivational background and only when taken together can they explain the educational phenomena more effectively.

Ajzen (1988: 4) understands the term *attitude* as “a disposition to respond favourably or unfavourably to an object, person, institution, or event”, adding that the characteristic feature of attitude is its “evaluative (pro-con, pleasant-unpleasant) nature”. As the direct observation of attitude is impossible, it has to be deduced from measurable responses. These responses, according to the author, can be classified into three categories which go back at least to Plato: cognition, affect and connotation. Within each category the responses can be both verbal and nonverbal. The response category connected with cognition is concerned with beliefs and perceptual reactions about the certain attitude object, while in the case of affect it is about feelings and physiological reactions toward it, and connotation infers attitudes analysing behavioural intentions and overt behaviours. A summary of various responses used to infer attitudes is presented in Table 2.

Table 2. Responses used to infer attitudes (Ajzen 1988: 5, after Rosenberg and Hovland 1960).

Response mode	Response category		
	Cognition	Affect	Conotation
Verbal	Expressions of beliefs about attitude object	Expressions of feelings toward attitude object	Expressions of behavioural intentions
Non-verbal	Perceptual reactions to attitude object	Physiological reactions to attitude object	Overt behaviors with respect to attitude object

Similarly, Fazio (1986: 204), after Kothandapani (1971) and Ostrom (1969), defines attitude as a composition of three elements which are interconnected: “an affective component involving feelings about and evaluation of the attitude object, a cognitive component involving beliefs about the object, and a behavioral intentions component”. The author is especially interested in the way attitudes influence people’s behaviour and presents a model of “the attitude-to-behavior” process.

Moreover, Fazio (1986: 205f.) comments that from the historical perspective the approaches to the study of the relationships between attitudes and behaviour progressed from the belief that there is one-to-one correspondence between them through the most radical approach of Allan Wicker of 1969, who even suggested that there is no relationship between attitudes and behaviour, so that the concept of attitudes can be abandoned, to the new perspective, which focused on the factors moderating the extent of the relationship between attitudes and behaviour.

An important observation stemming from the fact that motivation is an eclectic construct including motivational and attitudinal issues is that, as Williams and Burden (1997: 111) state, “the word ‘motivation’ is only meaningful in relation to a particular action”. Similarly to Dörnyei (2006) they add a social dimension to motivation. In relation to the research on the role of information and communications technology in education the present author believes that the element of social background cannot be underestimated as it can be hypothesized that it can bring about an explanation of a considerable amount of variance in student motivation and achievement.

Therefore, the notion of motivation is not easy to define and Dörnyei (2001a: 7) emphasizes the elusive nature of the term, claiming that “researchers disagree strongly on virtually everything concerning the concept, and there are also some serious doubts whether ‘motivation’ is more than a rather obsolete umbrella term for a wide range of variables that have little to do with each other”. Because of the multifaceted character of the notion of motivation, not only factors influencing motivation are important but also their interrelationship.

Dörnyei explains the main issues of debate connected with the topic describing them as *challenges* which plague researchers:

- 1) *consciousness vs unconsciousness* (i.e. distinguishing conscious vs unconscious influences on human behaviour);

- 2) *cognition vs affect* (i.e. explaining in a unified framework both the cognitive and the affective/emotional influences on human behaviour);
- 3) *reduction vs comprehensiveness* (i.e. mapping the vast array of potential influences on human behaviour onto smaller, theoretically driven constructs);
- 4) *parallel multiplicity* (i.e. accounting for the interplay of multiple parallel influences on human behaviour);
- 5) *context* (i.e. explaining the interrelationship of the individual organism, the individual's immediate environment and the broader sociocultural context);
- 6) *time* (i.e. accounting for the diachronic nature of motivation – that is, conceptualising a motivation construct with a prominent temporal axis) (Dörnyei 2001a: 7f.).

The first challenge is connected with the control and awareness of individuals concerning the motives of their behaviour. The author emphasizes that contrary to the opinions of many contemporary motivation theorists, who believe that behaviour can be explained by the factors of which people are aware, non-conscious pressures play a vital role as well. Sorrentino (1996: 619) discusses two trends connected with the role of consciousness in a theory of motivation and action. Drawing on the works of theorists interested in the topic, he distinguishes between those who “postulate that all motivated behaviour stems from people’s decisions about what they want to be or would like to become. (...) Motivation, then, stems from conscious decision making, and non-conscious motives or cognitions have little relevance”. Another group of theorists believe “that non-conscious memories and unintended thought play major roles in determining much of human behaviour”. The author explains that there are also those who fall somewhere in between. Although this problem is being addressed in different ways by different authors, it is evident that certain behaviour is not only the result of conscious decisions, but it can take place without being mindful of the actual reasons underlying it. Apparently, rational, conscious decisions are responsible for a great deal of our behaviours, but without the non-conscious components, which are difficult or even impossible to measure, the explanations of human performance may not be complete.

Another salient challenge is the opposition of cognitive and affective factors. Contemporary authors attempt to create a unified approach accounting both for affect and cognition, though traditionally they have been treated as independent concepts. An example of a blended approach is Weiner’s attribution theory, which will be discussed in 3.2.1. The

challenge of reduction versus comprehensiveness is another aspect of motivation which further complicates the field. Because the motivational influences come in such abundance many authors concentrate on the reductionist models which select only the essential factors to reduce the amount of potential determinants; this may, however, be insufficient to deal with the complex real-world problems. The next challenge, of parallel multiplicity, described by the author, is connected with the fact that people perform a certain number of actions at the same time, so “a central issue in analysing student motivation (and motivation in general) is to account for the interplay of the learner’s ‘*simultaneous focus*’ on a number of different but interacting goals and activities” (Dörnyei 2001a: 13). The challenge of context tries to break up with the “*individualistic perspective*” which was adopted traditionally, as every person acts within a certain physical and psychological context which both influence their behaviour. The last challenge is connected with the dynamic nature of motivation, which evolves gradually and has a tendency to fluctuate.

These challenges are the issues which help understand the notion of motivation and its main elements. Due to the fact that the idea of motivation is so complex, there were no attempts to encompass all of the challenges in one definition. However, recently, there is an inclination towards a more integrated and well-balanced concept which is reflected in the more eclectic theories of motivation developed by scientists. The issues are going to be discussed in the next section.

3.2. The leading motivation theories in psychology

As Weiner (1986: 281) observes, the scientific study of motivation started around 1920. The first theories were based on the works of Sigmund Freud (1856-1939) and Clark Leonard Hull (1884-1952), who stressed the importance of the reduction of the internal tension which occurs due to the unfulfilled needs of an individual and “their fundamental motivational principle [...] that any deviation from equilibrium produces a motivational force to return to the prior state of internal balance” (Weiner 1986: 281).

Dörnyei (2001a: 2) argues that in spite of the long tradition of research in the field of motivation, there are neither motivation models nor “solid, theoretically sound educational recommendations” which are still relevant and which can guarantee success in teaching. According to the author, “contemporary motivational psychology is characterised by a

confusing plethora of competing theories, with little consensus and much disagreement among researchers” (Dörnyei 2001a: 2).

Weiner (1986: 281ff.) proposes twelve principles for a theory of motivation to be relevant and suggests that contemporary theories may benefit a lot from these. According to the author, such a theory “must be based on a concept other than homeostasis”, which means that not all human behaviour is aimed at the reduction of a state of disequilibrium. Another principle concerns the need that the theory embraces more than hedonism, explained by the author as the fact “that organisms strive to increase pleasure and decrease pain”. Similarly to the previous principle, the pleasure-pain opposition cannot account for all human behaviour. Moreover, according to Weiner, a theory of motivation must include the whole range of cognitive processes as “a mechanistic approach to human motivation is not tenable” (1986: 284) and without the full range of mental structures and processes that have an impact on behaviour we are not able to address complex, real-world situations. A theory of motivation must be also concerned with conscious experience, as, in the opinion of the author: “many (but not all) significant thoughts and feelings are conscious and are known by the actor” (1986: 285). The theory must also include the self, because much of human behaviour is driven by the need to boost self-esteem, and must encompass the whole range of emotions because, as the author pinpoints, “motivation cannot be understood without a detailed analysis of emotion” (1986: 286). Another principle is that a theory of motivation must have an optimal degree of “breadth and precision” and it is expected to be neither too general like the psychoanalytic theory, nor too precise like the drive theory, as only then will it be able to deal with the complexity of the concept. Such a theory must also be built on reliable empirical research and on general laws, in spite of individual differences. Moreover, it must incorporate historical causal relationships and regard motivation as a dynamic process. Weiner believes also that a theory of motivation must account for both rational as well as irrational actions as much behaviour is not determined by conscious decisions. The author cites Immanuel Kant (1724-1804), who “contended that reason guides moral behavior, whereas passions determine all other aspects of life” (1986: 290) and concludes that “an adequate theory must include diverse cognitions and emotions and must clarify the relationships among the basic motivational components of reason, passion, and action” (1986: 291). The last principle concerns the necessity for the theory to account for the two sources of motivation which are predominant in our culture, namely, “achievement striving and social bonding”. According to the author, only encompassing all the areas

depicted above may lead to the creation of an exhaustive theory explaining the motives of human behaviour.

H. Brown (2007b: 168f.) summarizes the various theoretical positions which have influenced the understanding of the notion of motivation in the context of educating people. In behavioural terms, motivation is connected with the expectation to be rewarded and individuals are driven by the desire for positive reinforcement from their environment, e.g. parents and teachers. According to the second, cognitive approach, individuals and their needs are in the focus of attention. Ausubel (1968: 368-379, as cited in H. Brown 2007b: 169), distinguishes six needs connected with the concept of motivation, namely, the need for exploration, manipulation, activity, stimulation, knowledge and for ego enhancement. The identification of a range of various human needs has dominated theory and research concerning motivation for many years. From the third, constructivist perspective, as Williams and Burden (1997: 120) accentuate, the understanding of motivation focuses on the assumption that every individual person is motivated in a different way. The authors pinpoint that “[p]eople will make their own sense of the various external influences that surround them in ways that are personal to them, and they will act on their internal disposition and use their personal attributes in unique ways”. Moreover, it should be remembered that the motivation of an individual person is influenced by social and contextual forces, and, as a result, the authors propose their definition of motivation within the social constructivist perspective.

The leading motivation theories in psychology, according to Dörnyei (2001a: 19f.), are based on two research traditions which try to investigate the reasons underlying human behaviour: motivational psychology, which concentrates on the “motives” which originate from the mental processes of the individual person, and social psychology.

Dörnyei and Skehan (2003: 615f.) discuss four main directions in current research on motivation. The first of them is the group of expectancy-value theories, the second embraces goal theories, the third is self-determination theory, while the last direction is connected with social psychological theories of action. Although all of them contribute to a better understanding of the complex issue of motivation, none is free from constraints and limitations. These directions are going to be explored in the following sections.

3.2.1. The expectancy-value theories of motivation

As Dörnyei and Skehan (2003: 613) explain, in the group of expectancy-value theories, which emphasize two factors having a direct influence on individual's motivation: expectancy of success and the value attached to a task completion, there are a number of sub-theories. The most influential one was developed by Eccles and Wigfield (1995).

Schunk et al. (2008: 44) define expectancy as "people's beliefs and judgements about their capabilities to perform a task successfully"; therefore in the case when they expect they are going to succeed, the probability of engagement is higher. Values are defined by the authors as "beliefs students have about the reasons they might engage in a task". Both components are essential, and as Dörnyei (2001b: 57) states: "we learn best when we expect success", but positive values are necessary for an individual to start, engage, continue and complete the task successfully. The author believes that one of the most important roles of the teacher is to arrange classroom conditions in a way which enhances the students' anticipation of achievement by providing sufficient preparation, helping them and encouraging peer assistance, modelling success, as well as making its criteria clear and eliminating potential obstacles.

Achievement motivation theory worked out by Atkinson (1974) is an attempt to merge people's needs, expectancies and values into one framework. Schunk et al. (2008: 46) comment that he "proposed that behaviour was a multiplicative function of these three components, which he labelled motives, probability for success, and incentive value". Although motives are relatively stable individual differences, they can be learned. There are two essential achievement motives. On the one hand, individuals seek success, and on the other hand, they fear failure. Dörnyei (2001b: 10) emphasizes that "[a]chievement motivation is determined by conflicting approach and avoidance tendencies", and therefore the expectancy of success, the value of completing a task and the need for success constitute positive influences, while the fear of failure, a probability of failure and the incentive to avoid it are the negative influences. Atkinson (1964: 214) believes that the motive for success reflects individual's "capacity to experience pride in accomplishment". Schunk et al. (2008: 46) predict that a high motivation for success results in engagement, persistence and the completion of the task, while "the motive to avoid failure represent[s] individual's capacity to experience shame and humiliation when they fail" which leads to avoidance strategies.

According to Bandura (1999: 1) and his self-efficacy theory “[p]eople strive to exercise control over events that affect their lives” and due to the fact of influencing some areas of life they are capable of accomplishing the desired goals, while forestalling the unwanted ones. Moreover, according to the author, “a strong sense of efficacy in socially valued pursuits is conducive to human attainment and well-being” and it has an impact not only on the current life of an individual person but can have an influence on the life of future generations as well. Dörnyei (2001b: 10) emphasizes that self-efficacy theory refers to individuals’ judgement about their ability to complete certain tasks, which, in turn, influences their choices concerning the activities to be selected as well as the amount of effort put into them and persistence allowing for the completion of a given task. Individuals who have a low sense of self-efficacy, are likely to recognize complicated tasks as “personal threats” dwelling on their deficits and obstacles, discouraging them from focusing on and performing the task efficiently. A strong sense of self-efficacy allows students to approach difficulties with self-confidence and to focus on the task rather than the self, which positively influences the effort in the case of failure (Dörnyei 2001b: 87). Bandura (1999: 2) concludes that self-efficacy theory “provides explicit guidelines on how to develop and enhance human efficacy” both in the case of an individual as well as at the collective level.

Covington (1992) regards the attribution theory developed by Weiner as central to the issue of achievement motivation treating it as a radical reinterpretation of Atkinson’s model. Weiner (1986: 292) builds his theory of motivation on two separate aims. The first of them is “to delineate the specific linkages between the structure of attributional thinking and qualitatively distinct emotional reactions”; the second is to discover the interrelationship between cognition, emotion and human behaviour. The main assumption of the theory is that in search of an understanding of their behaviours, people want to discover their reasons and therefore ask the question *why*. The “taxonomy of causes” as the basis for comparison, their similarities and differences, are according to Weiner, the main issues connected with the theory under discussion. As Dörnyei (2001b: 10) clarifies, the way people explain their successes and failures in the past influences their motivation and readiness to initiate a certain action in the future. Moreover, as the author emphasizes, two essential factors were identified as motivating in the classroom, namely, ability and effort. Failure, attributed by learners to their own inability, is believed to have a more detrimental effect on future achievement. The best motivational situation, according to Ushioda (1996: 13, as

quoted in Dörnyei 2001b: 119) occurs when “students attribute positive outcomes to personal ability, and negative outcomes to temporary shortcomings that can be remedied”.

The self-worth theory expanded by Covington (1992: 72), is based on the assumption that “motivation – is the by-product of cognitive (rational) processes, and that emotions such as shame and pride depend on the meaning (cognitions) that individuals attach to their successes and failures”. The author believes that three values are crucial in the quest for data analysis to cope with oneself as well as with the environment in order to survive: rationality, consistency of action, and accurate self-knowledge which “enables individuals to credit their talents fairly as well as to recognize their shortcomings so they can avoid those tasks that exceed their present skills, yet when possible seize the moment and take advantage of unexpected opportunities that fall within the scope of their abilities”. Covington (1992: 79) summarizes the essence of the self-worth theory in the following formula “[t]o be *able* is to be *worthy*, but to do poorly is evidence of inability and is reason to despair”. Dörnyei (2001b: 88) emphasizes that self-worth theory is founded on the essential need of an individual to keep a sense of personal value. Situations in which self-worth is threatened are not rare in the contemporary classroom where negative feedback, fierce competition and the feeling of failure are common. In such situations many students withdraw and avoid performing certain tasks because of the fear of losing face.

3.2.2. The goal theories of motivation

The second direction in the contemporary motivation research concentrates on the fact that action is triggered by a sense of purpose. Two main theories belong to the group: goal setting theory and goal orientation theory.

According to the goal setting theory, human activity is provoked by the existence of purpose. As Oxford and Shearin (1994: 19) emphasize, it “proposes that performance is closely related to an individual’s accepted goals”. Dörnyei (2001b: 82) is sure that the fact of setting a goal has a significant influence on the increase of productivity. As the author states, Locke and Latham (1990), two organizational psychologists, built a coherent theory which has been used in business in order to enhance employees’ performance as well as motivation to work. Many researchers regret that the theory has been neglected in foreign language education (e.g. Dörnyei 2001b: 82; Oxford and Shearin 1994: 19) in spite of the

fact that it is a relatively easy process which can be learned without difficulty by breaking down activities into smaller steps, assigning deadlines and monitoring progress (Dörnyei 2001b: 83). Oxford and Shearin (1994: 19) summarize the main assumptions of the theory pointing to the direct relationship between goal setting and performance, which means that goals focus individual's attention, strengthen effort, influence persistence and enhance the development of appropriate strategies which lead to a task's completion. Moreover, the authors indicate that tough and precise goals result in superior performance intensity than the lack of goals or the ones which are too easy or unclear. They also emphasize the importance of students' prerequisite capability for such a performance and the indispensability of feedback as well as the positive influence of rewards. What is interesting is the fact that the goals imposed on an individual but accepted by him or her, have the same results as the objective set by them themselves. The last assumption is that the only individual difference variable which has an influence on goal-setting behaviour is the students' ability.

Goal orientation theory (Ames 1992: 262) differentiates between two kinds of goals: mastery and performance ones. On the one hand, mastery goals are connected with the value of learning itself and the conviction that effort leads to achievement or a sense of mastery. As the author pinpoints, "[w]ith a mastery goal, individuals are oriented toward developing new skills, trying to understand their work, improving their level of competence, or achieving a sense of mastery based on self-referenced standards". Dörnyei (2001b: 11) summarizes a goal as "focusing on learning the content". Performance goals (Ames 1992: 262f.), on the other hand, focus on the individual's capability and sense of self-worth, which is reflected in being better than others or having better grades. Learning is regarded as a means to achieve certain goals. Ames refers to research which proves the relationship between mastery goals and a significant amount of variables related to motivation which are conducive to successful performance as well as the important link between the goals and conviction that effort leads to achievement. Adoption of mastery goals results in pride and satisfaction in the case of success, and guilt in the case of insufficient effort. In the case of performance goals, individuals avoid challenging activities, their failure results in a negative attitude accompanied by the belief that one is deficient in ability, and such a student uses short-term learning strategies, for example learning by heart. The author concludes that in the light of the recent research, mastery goal orientation is superior because it enhances long-term and good quality engagement in the learning process.

3.2.3. The self-determination theory

The self-determination theory was first developed by Edward L. Deci and Richard M. Ryan and then refined and elaborated upon by scholars from many different countries. The two main motivational components of the self-determination theory are intrinsic and extrinsic motivation. Dörnyei defines intrinsic motivation as “behaviour performed for its own sake in order to experience pleasure and satisfaction such as the joy of doing a particular activity or satisfying one’s curiosity” (2001b: 11), while extrinsic motivation as “performing a behaviour as a means to an end, that is, to receive some extrinsic reward (e.g. good grades) or to avoid punishment” (2001b: 11). Ryan and Deci (2000: 65) present the self-determination theory making the “critical distinction between behaviors that are volitional and accompanied by the experience of freedom and autonomy – those that emanate from one’s sense of self – and those that are accompanied by the experience of pressure and control”. According to the authors, the prototype of self-determined behaviours are behaviours which are motivated intrinsically and which occur out of interest, while extrinsically motivated behaviours can represent self-determination to a different extent as they are performed in order to achieve some instrumental goals. There are, however, ways to make the extrinsically motivated behaviours more self-determined through internalization and integration. Ryan and Deci (2000: 60) define internalization as “the process of taking in a value or regulation”, and integration as “the process by which individuals more fully transform the regulation into their own so that it will emanate from their sense of self”. This is especially important in view of the fact that most activities performed by people are not intrinsically motivated. The main concern of the authors was the way in which teachers and parents can make students take on responsibility and a sense of value connected with extrinsic goals (2000: 56).

Moreover, Deci and Ryan (1985: 38) regard self-determination as “a quality of human functioning that involves the experience of choice (...) [and] it is integral to intrinsically motivated behaviour and is also an evidence in some extrinsically motivated behaviours”. It is not only a matter of ability, but a need as well. Self-determination, which means “psychological flexibility and the experience of choice” is necessary for intrinsically driven behaviour but also significant when one wants to understand the development of extrinsic motivation together with the capability of adjustment to society (1985: 40).

Vallerand (2000: 312) believes that there is a lot in common between Deci and Ryan's self-determination theory and his own position depicted in the hierarchical model of intrinsic and extrinsic motivation. The author emphasizes, however, that it is not enough to differentiate between intrinsic and extrinsic motivation and treat the two concepts as dichotomous, but "[r]ather we must consider these constructs on a continuum in which different types of intrinsic and extrinsic motivation range from a high to a low level of self-determination" (Vallerand 2000: 312).

3.2.4. The social psychological theories of action

Wentzel (1999: 76) points out that children who are doing well in social situations, who "work to maintain and establish interpersonal relationships, strive to develop social identities and a sense of belongingness, observe and model standards for performance displayed by others, and are rewarded for behaving in ways that are valued by teachers and peers" are frequently successful in learning. Social motivation theory recognizes the fact that social issues are important for understanding students' motivation and that the influence of parents, teachers and peers on academic outcomes is of vital importance as they have an impact on the choices concerning the aims students try to achieve. These social cognitions make students adopt and internalize the goals which are appreciated by their environment (1999: 91). Schunk et al. (2008: 297f.) summarize the main issues connected with sociocultural influences on motivation and emphasize that although many of the factors function outside school, they influence student behaviour in an organizational context as well. The authors describe peer influence, such as modelling, as fairly strong because of the fact that peers are similar in many respects, and they influence each other because they need approval from their colleagues at school. Moreover, they exert influence through peer networks, with which they associate. Another environmental area which has an influence on students' motivation is family background, such as the type of parenting style, family involvement in schooling, stimulating atmosphere, the mother's responsiveness to the needs of children and the father's engagement in children's learning. The last two factors form part of community involvement in education and the cultural differences between students. Although, according to Wentzel (1999: 91), the theory of social motivation is not free from deficiencies, and investigation concerning other social aspects such as gender, race as well

as cultural issues is needed, it constitutes the first step to incorporate the impact of social contexts on motivating students.

As Ajzen (1988: 132) illustrates, the theory of planned behaviour is the extension of the previous theory of reasoned action. Maio et al. (2010: 68) pinpoint that according to the former theory, people's behaviour is driven by intentions, which depend on attitudes and subjective norms. The attitude toward a particular behaviour is a result of the expectations concerning the probability that a certain behaviour will have a desired outcome as well as the value of the consequences for an individual. Subjective norms concern individual's opinions about the significance others attach to a particular behaviour, and it is derived from two components: the expectations of the environment about how the individual should act and the readiness to comply with them. Dörnyei (2001b: 11) refers to subjective norms as to "perceived social pressures". The theory was then revised to include self-efficacy factors and the proposal that "a behavioural prediction is influenced by whether people believe that they can perform the relevant behaviour" (Maio et al. 2010: 68f.). Ajzen (1988: 133f.) summarizes the theory stating that the intentions of an individual to perform certain behaviours can be predicted with a high accuracy from their attitudes toward the particular behaviour, subjective norms, and perceived behavioural control (see Figure 11).

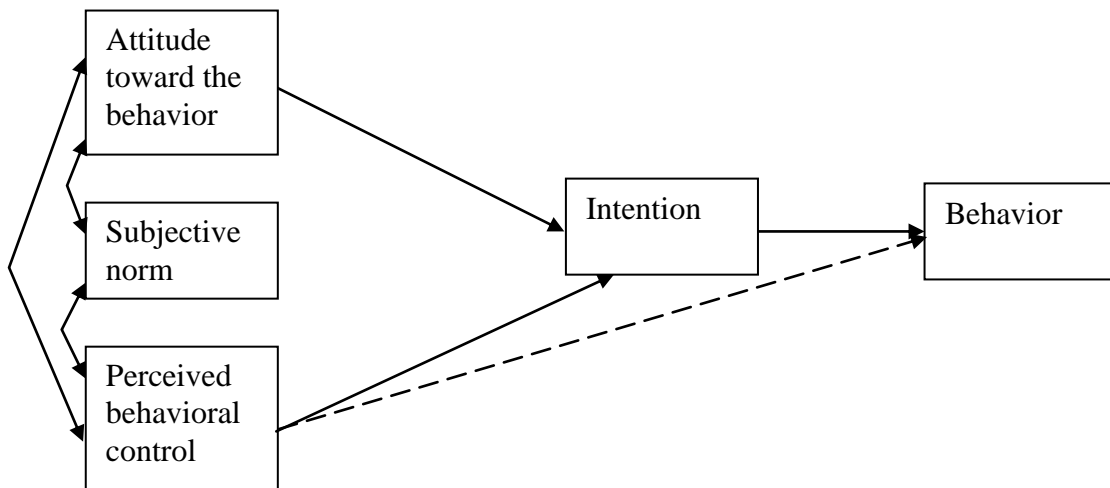


Figure 11. The theory of planned behaviour (after Ajzen 1988: 133).

Perceived behavioural control has a twofold influence on behaviour; on the one hand, it influences individual's intentions whether to get engaged in a particular behaviour, on the other hand, it has a direct impact on behaviour. Both theories i.e. the theory of rea-

soned action as well as the theory of planned behaviour, are most frequently used to test the relations between attitudes and behaviour.

3.2.5. The limitations of motivational theories

Dörnyei (2001b: 9) attempts to justify the existence of so many alternative theories explaining that the main factor responsible for this diversity seems to be the fact that motivation is “an umbrella-term” which consists of so many variables that it is impossible to encompass all of them. Due to this fact, scientists try to reduce the huge amount of factors which determine human behaviour and to identify the most important ones. As a result, different scholars recognize different factors which they believe are the most influential ones, and hence so many theories are developed. Each of them is, however, a convincing endeavour explaining the motives of human behaviour. As Dörnyei concludes: “all the different theories make a lot of sense; the only problem with them is that they largely ignore each other and very often do not even try to achieve a synthesis” (2001b: 12). Therefore, it can be concluded that different scientists have approached the concept in a different way, taking into consideration different factors which they found especially important for the understanding of the complex issue. No single motivational factor, however, is able to capture the complexity of the phenomenon.

The basic challenges which, according to Dörnyei and Skehan (2003: 616), the theories did not succeed in addressing adequately, are the following:

accounting for unconscious motives (since the emphasis has traditionally been on conscious, rational ones); integrating emotional influences into the primarily cognitive paradigms; addressing the interplay of multiple parallel influences on human behaviour (rather than treating one type of action and the underlying motives in isolation); explaining the complex interrelationship of the individual organism, the individual’s immediate environment, and the broader sociocultural context; and accounting for the diachronic nature of motivation, that is, portraying motivational processes as they happen in time (Dörnyei and Skehan 2003: 616).

In spite of many attempts to work out an overall theory, a comprehensive overview which would encompass all the critical factors is still missing. It seems to be true to say that because of the multifaceted nature of the issue of motivation, the researcher should concentrate on the specific context in which the study is taking place as in some contexts certain

factors are more important than in others. Hence, knowledge of the different theories of motivation and adopting a flexible and dynamic perspective could bring the best results. Eclectic approaches, encompassing the elements from different theories and representing multiple approaches, would explain the problem from many different perspectives, such as the learner-specific factors, the teacher's influence, learners' expectations, goals, learning materials and the social context to name just a few.

In the next section the model of motivation which is now the most frequently used in the field of language learning is going to be presented. It is believed that the model can be effectively adapted to the context of online teacher education. Therefore, in the final part of the chapter – see section 3.5. – an attempt by the present author to adapt the motivation and attitudes model to the particular context of e-learning is going to be made.

3.3. A model of motivation in education

Taking into account the variety of theories focusing on different factors influencing the issue of motivation which were depicted in section 3.2., it can be concluded that there exist a lot of determinants of motivation which may have an influence on the learning outcomes of students. Such a diversity makes the research on motivation a very complex issue and it requires a great deal of knowledge and skills on the part of the scientist as well as the ability to choose the determinants which are relevant in the particular context to explain the concept effectively. A well established and scientifically researched model in the field of education was worked out by Gardner (2001), and although it is relevant in the context of foreign language teaching, it can be adapted for the purposes of the present dissertation and serve as a starting point for the model applicable to online EFL teacher education.

3.3.1. Gardner's motivation model

In an attempt to work out a complete model reflecting the relationships between individual differences and achievement in language learning, since the 1960s Gardner and his associates have been working on a model of motivation, which has been updated and empirically tested many times. Although their model is not free from criticism, it constitutes one of the

most elaborate attempts to understand the issue. The model was produced to explain the influences within the field of second language acquisition; however, it is so well developed and tested that it can be applicable to other areas of research such as the examination of the relationship between motivation and success in learning subjects other than a second language. Gardner himself encourages scientists to adapt the model to their needs and contexts. Therefore, after the overview of the main parts of Gardner's socioeducational model, it is going to be adapted to teacher education in the online environment and evaluated later on in an empirical study reported in consecutive chapters.

In spite of the fact that so many individual variables account for the students' achievement in learning, most authors regard attitudes and motivation as the most significant prerequisites of success in educating people (Gilbert, S.D. 2001: 205). On the one hand, as Gardner (2001: 1) emphasizes, when he started his research on motivation together with Lambert in 1956 "it was generally agreed that learning another language involved intelligence and verbal ability" and neither motivation nor attitudes were considered important factors influencing success in learning. On the other hand, Gardner warns that some voices go too far and seem to regard affective variables as the only ones which account for achievement in learning a second language. In his research he concentrates on motivation as he believes that many other variables rely on it too. He also acknowledges that the concept of motivation should be analysed from three perspectives: those of the student, the teacher, and the researcher, and it is useful to notice that they may not be the same.

The starting point of the socioeducational model was Gardner's hypothesis that students who have positive attitudes towards the target language and its community will be able to learn the language more successfully (Gardner et al. 1997: 345). Gardner et al. (1997: 344) designed a model to present the influence of individual variables such as language attitudes, motivation, anxiety, self-confidence, language aptitude, learning strategies and field independence on students' achievement. Additionally, this model encompasses sociocultural influences, which can have a significant influence on students' motivation to learn. As Dörnyei (2001a: 46ff.) notices "the mastery of a L2 is not merely an educational issue (...) but it is also a deeply social event". The revised model from 2001 is presented in Figure 12 below.

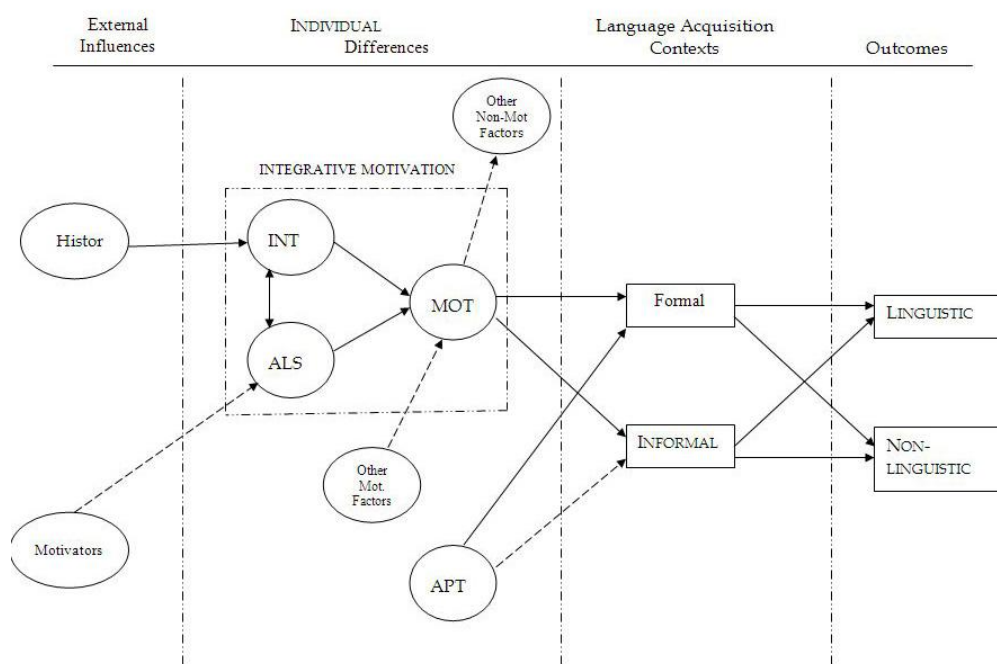


Figure 12. Socioeducational model (Gardner 2001: 5).

The representation of the socioeducational model (Gardner 2001: 4ff.) is comprised of four sections: external influences, individual differences, language acquisition contexts, and outcomes. In the model *Histor* stands for History, *INT* for Integrativeness, *ALS* for Attitude Towards the Learning Situation, *APT* for Aptitude and *MOT* for Motivation.

The author indicates that external influences can be divided into two classes: history and motivators. The first of them, history, is understood as a “complex of social and personal variables that the individual brings with him or her that can influence second language acquisition” (Gardner 2001: 4) and includes the influences of personal family background or the sociocultural environment on the learner. Gardner emphasizes the significance of these factors, as learning a foreign language “involves making something foreign a part of one’s self”. The second class, motivators, which have a direct influence on attitudes toward the learning situation, are connected with the notion of *motivating*. Also Dörnyei (2001a: 116ff.) regards teacher skills in motivating students as the most important factors influencing teacher effectiveness, and is convinced that motivation is the process which starts with creating a motivating environment, followed by generating the motivation in students, maintaining it and encouraging their positive self-evaluation.

Apart from external influences, Gardner includes individual differences in his model – indicating the direct influence of history on integrativeness and motivators on attitudes toward the learning situation. In the model from 1993 (Gardner and MacIntyre) there are six classes of individual difference variables: intelligence, language aptitude, strategies, language attitudes, motivation and language anxiety. In the present, revised model from 2001, Gardner focuses on motivation and language aptitude as the most significant determinants of achievement, with integrativeness and attitudes towards the learning situation having a direct influence on motivation. ALS includes the attitudes toward the teacher, the course, other students, materials and activities. The variable motivation is defined by Gardner as the driving force which makes people act in any situation and in which three elements: effort, desire and positive affect coexist.

In the model, the three classes of variables, namely, integrativeness, ALS and motivation, constitute *integrative motivation* which “is hypothesized to be a complex of attitudinal, goal-directed, and motivational attributes” (Gardner 2001: 9). There are three components of motivation, namely, motivational intensity, desire to learn the language, as well as attitudes towards learning the language. Dörnyei (2001a: 49) refers to such an understanding of the concept of motivation as to a “central mental ‘engine’ or ‘energy-centre’ that subsumes effort, want/will (cognition) and task-enjoyment (affect)”.

The main components of the integrative motive are represented in Figure 13. It is described by Dörnyei (2001a: 49f.) as “the most elaborate and researched aspect of Gardner’s motivation theory”. Gardner himself (1985: 82) defines it as a “motivation to learn a second language because of positive feelings toward the community that speaks that language”.

The integrative motive is composed of three elements. Firstly, there is integrativeness, which is defined by Gardner (1997: 345) as “the individual’s willingness and interest in having social interaction with members of the L2 group” and is measured by attitudes toward the language group, the interest in foreign languages and an extrinsic motivation toward learning the language; the second element is connected with attitudes toward the learning situation and measured by the attitudes toward the teacher and toward the course; and the last element is motivation which Gardner defines as “the individual’s attitudes, desires, and effort to learn the L2” (Gardner 1997: 345), with this element being measured by examining the desire to learn the language, motivational intensity and attitudes toward learning the language.

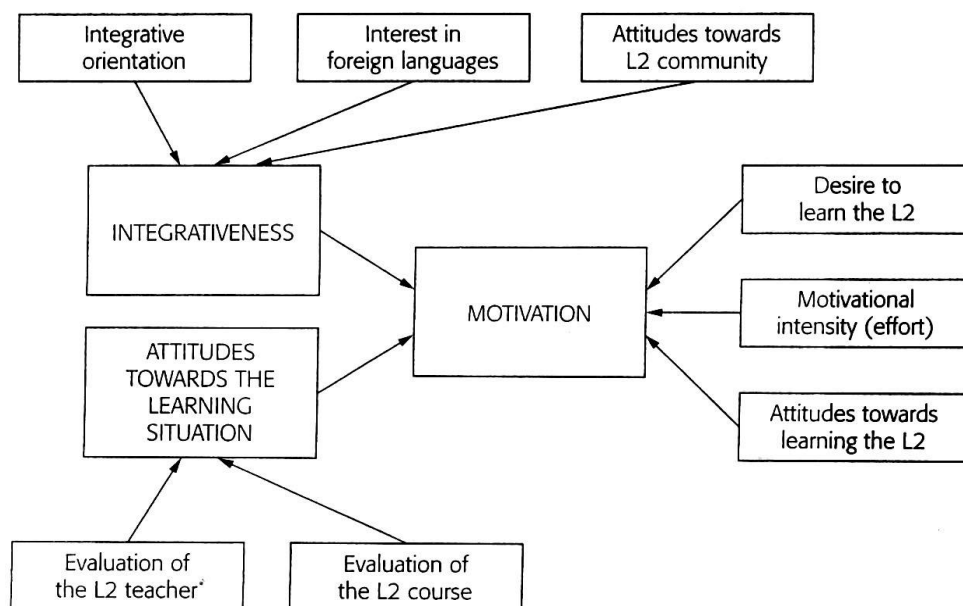


Figure 13. Gardner's conceptualisation of the integrative motive (after Dörnyei 2001a: 50).

As Gardner et al. (1997: 346) underline, many studies have proved that all these measures influence achievement; however, research shows that motivation is correlated much higher with achievement than integrativeness and attitudes toward the learning situation, which play a secondary and supportive, although a very important role.

Gardner does not claim, however, that motivation depends solely on integrativeness and ALS. This is represented by the presence of *other motivational factors* in the model in Figure 12. Moreover, motivation can be driven by *non-motivational factors* as well, such as language learning strategies, for example.

Although integrativeness and ALS support motivation, it is motivation which directly accounts for achievement and which, together with language aptitude, has effects both in the formal and informal contexts. Moreover, as the socioeducational model presents, both formal learning situations, e.g. in the classroom, and informal ones, such as watching television in the L2, influence both the linguistic as well as the non-linguistic outcomes.

Ushida (2005: 51) summarizes that the main idea represented in the model is that “individual-difference variables (e.g., cognitive variables and affective variables), influenced by antecedent factors (i.e., biological factors such as age and experiential factors such as previous language training experience), interact with both formal and informal language acquisition contexts and influence both linguistic and nonlinguistic outcomes”. She

continues by stating that the model recognizes the influence of the students' degree of success, which is expressed in linguistic outcomes, on their feelings, referred to as non-linguistic outcomes. The outcomes, in turn, are going to have an impact on individual-difference variables together with language attitudes and motivation.

A very popular instrument allowing for operationalizing of Gardner's motivation theory is the "Attitude/Motivation Test Battery" (henceforth AMTB). As Dörnyei (2001a: 52) states, it is "a multicomponent motivation test (...) which has been shown to have very good psychometric properties, including construct and predictive validity". As Gardner (2001: 10) further states, it accompanies the socioeducational model as an "associated set of measures of these individual difference variables". The main components of the MTB are presented in Table 3.

Table 3. Attributes measured by the Attitude/Motivation Test Battery (Gardner 2001: 10f.).

<p>Integrativeness – an open interest in the other language group, and/or outgroups in general, a willingness to identify with the group. AMTB measures:</p> <ul style="list-style-type: none"> Attitudes toward French Canadians (10) Integrative Orientation (4) Interest in Foreign Languages (10)
<p>Attitudes toward the Learning Situation – evaluative reactions to the language learning context. AMTB measures:</p> <ul style="list-style-type: none"> Evaluation of the French Teacher (10) Evaluation of the French Course (10)
<p>Motivation – effort expended, desire to learn, and favourable attitudes toward learning the language. AMTB measures:</p> <ul style="list-style-type: none"> Motivational Intensity (10) Desire to Learn French (10) Attitudes toward Learning French (10)
<p>Language Anxiety – feelings of anxiety and concern in using the language in the classroom and other contexts.</p> <ul style="list-style-type: none"> French Class Anxiety (10) French Use Anxiety (10)
<p>Instrumental Orientation – an interest in learning the second language for pragmatic reasons.</p> <ul style="list-style-type: none"> Instrumental Orientation (4)

The table contains categories together with belonging scales and the number of items which make up each scale. Although the variable names are worked out for researching English-speaking Canadians studying French as the L2, Gardner believes “generalization to other settings is relatively straightforward” and after adaptation of the items in order to make them more meaningful for respondents the test can be used in other contexts (2001: 11). The author refers to many studies which used the AMTB and whose findings prove the relevance of the model (Clément, Smythe and Gardner 1978; Gardner and Smythe 1981; Desrochers and Gardner 1981; Glikman, Gardner and Smythe 1982; Tremblay, Goldberg and Gardner 1985; Gardner and Lysynchuk 1990; Gardner and MacIntyre 1991).

Gardner’s socioeducational model has been criticized by various authors (e.g. Crookes and Schmidt 1991, Oxford and Shearin 1994 and Dörnyei, in Dörnyei 1994: 515) because of “the feeling that the existing social psychological construct is not as applicable in some areas of the L2 learning process as in some others” as well as the conviction that “traditional motivational categories did not appear to have high enough explanatory and predictive value with regards to actual student behaviours” (Dörnyei 1994: 515). Oxford and Shearin (1994: 15) criticize Gardner’s theory for neglecting the importance of the source of motivation which, they believe, is valuable information for practitioners. Dörnyei (1994: 273) comments that Gardner’s model focuses on “general motivational components grounded in the social milieu rather than in the foreign language classroom”, believing that the data is not detailed enough to be generalisable for practical purposes. Another criticism voiced by the author is the negligence of recent trends in which educational psychological research in the field has been progressing, namely, issues connected with the cognitive aspects of the motivation to learn.

In response to the criticism expressed by some authors, Tremblay and Gardner revised their model in 1995. They (1995: 75) introduced new measures such as persistence, attention, goal specificity, and casual attributions and investigated the relationships between them as well as between them and measures of attitudes, motivation and achievement. The model was proposed particularly in response to Crookes and Schmidt’s (1991) criticism and recommendations to consider other than L2 approaches to education. Believing that “empirical investigation is essential to demonstrate the theoretical and pragmatic value” of the inclusion of particular elements in the model, Tremblay and Gardner (1995) carried out research concerning the relationships between motivational variables from the previous socioeducational model and measures of motivation worked out on the basis of the

psychological literature as well as measures of achievement. The research proved that high levels of motivational behaviour are influenced by goal setting, the value of the course as seen by the students, as well as the high level of self-efficacy. Tremblay and Gardner called for further investigation of the environments which lead to modification of these variables as well as casual attributions, language attitudes and motivational behaviour. The model is presented in Figure 14.

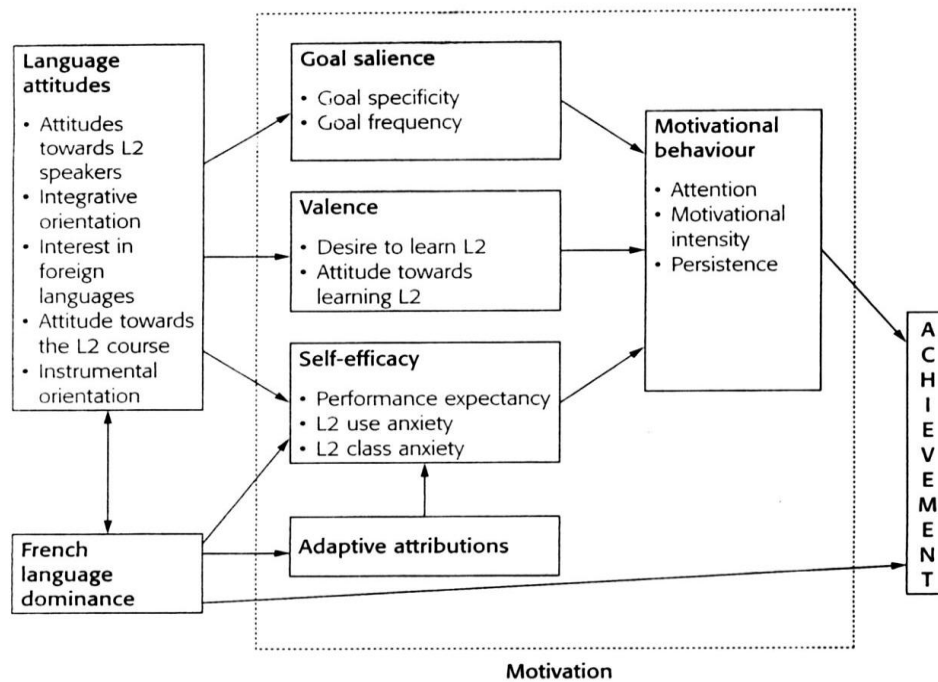


Figure 14. Tremblay and Gardner's (1995) model of L2 motivation (after Dörnyei 2001a: 54).

The model was accepted by other scientists, for example Dörnyei (2001a: 54) believed that the additional variables incorporated in it did not damage its integrity.

Another attempt undertaken in order to refute the allegations was a meta-analysis of the studies based on the socioeducational model conducted by Gardner and his associates. As Masgoret and Gardner (2003: 167) state, the investigation was a result of “comments and criticisms in the literature concerning the role of attitudes and motivation in second language learning” and the confusion which has arisen about the significance of the variables responsible for success in learning. Some voices, as the authors report, expressed the opinion that drawing any firm conclusions from Gardner’s research is impossible due to its inconsistency (e.g. Oller 1978, Au 1988, Crookes and Schmidt 1991). In order to estimate the immensity of contributions connected with the influence of attitudes and motivation on achievement in L2 acquisition, Masgoret and Gardner examined 75 independent samples

which involved 10,489 individuals. The analysis was based on studies by Gardner and his associates with the use of the Attitudes and Motivation Test Battery, related measures and the socioeducational model of second language acquisition. The results defended Gardner's theory and research, showing that the relationships between second language achievement and the measures of attitudes and motivation are consistently positive. Moreover, the correlation of motivation with achievement in the process of language acquisition is higher than for the other measures. The metaanalysis revealed also that the influence of the learning context, understood as the availability of the language in the community or its other socio-political presence on the relationship, tends to be weak. Similarly, according to the analysis, age does not have a significant moderating effect on the relationship, and regardless of the students' age, the results of the studies are relatively similar. The model worked out by Gardner and his associates has proved to stand the test of time.

3.4. Research on motivation and attitudes in technology enhanced teaching

In view of the rapid revolution in information technology, changes in the approach to learning and teaching are clearly visible. Warschauer (2002: 456) states that "both English and information technology are tools – to allow individuals to participate fully in society". Many national governments recognize the value of developing learner's expertise in communication in English as well as in information and communications technology. It has a significant influence on individuals' motivation and attitudes towards the use of ICT in education and foreign language education in particular.

Due to the fact that research in the area of online teacher education is still insufficient, it was decided that two other areas of research are prone to shed some light on the issue of the relationship between motivational and attitudinal variables and the postgraduate trainee teachers' achievement in an e-learning course. As the present study is based on the adaptation of Gardner's educational model used in foreign language teaching, the first research summary concentrates on the issue of technology enhanced EFL teaching and learning, as it is believed that the experience and research in the field may effectively explain the mechanisms underlying the online EFL teacher education as well. The second area concerns blended courses carried out both online and face to face.

3.4.1. Research on attitudes and motivation in CALL

Beatty (2003: 2f.) states that “CALL is a young branch of applied linguistics and is still establishing its directions”. Moreover, as a new area of study it encompasses multidisciplinary perspectives because authors interested in the topic include “those of artificial intelligence, cognitive science, psychology, computer science, curriculum studies and fields of applied linguistics”. Harrington and Levy (2001: 15) emphasize the fact that CALL research is deficient in theoretical foundation and lacks consistency. Various scientists propose to anchor research in the field within frameworks which already exist. Chapelle (1997: 39), for example, calls for a shift in CALL research “from general approaches such as those of psychology, computational linguistics, and educational technology to the specific questions and methods of researchers who investigate instructed SLA”.

Kern (2006: 200) makes an interesting remark that “[t]echnology-based language teaching is not a method but is integrated into various pedagogical approaches” and that “[t]here is a consensus in CALL research that it is not technology per se that affects the learning of language and culture but the particular uses of technology”. This belief highlights the importance of the pedagogy used and the teacher’s role, but also makes studies on motivation and attitudes and their relationship with the learning outcomes even more significant for educators. Similarly, Alm (2007: 14, as cited in Łyp-Bielecka 2008: 122) identifies computers as not motivating as such but rather as being helpful in creating a motivating environment. The author sees their strong impact on learning due to their interactive characteristics and variety of different activities available as well as their adaptability.

Although, according to Somekh and Davis (1997: 2f.), the majority of people would not associate computers with emotions and cultural issues, “the use of technology has a surprisingly emotional effect on many people, including teachers and learners”. The common feelings experienced by individuals when using technology range from excitement and engagement to anger, anxiety and even threat. As the authors notice, our self-esteem connected with computers is deeply rooted in our past experience and cultural background. Due to this fact, individuals regard themselves as technophiles or technophobes, and their feelings may have a strong influence on their motivation to use technology and its effectiveness. The authors are convinced that computer technology is a tool which has a direct impact on the quality of the teaching process. Moreover, they emphasize the fact that the effective computer technology implementation across the whole organization such as

school should not be made by a small group of decision-makers in the institution but rather by individuals.

The main directions of research in the area were examined by Beatty (2003: 188) who analysed 145 current publications connected with the topic. Among other studies dealing with e.g. promoting various aspects of CALL, its role, methods, testing or problem solving behaviours, 10% concerned teacher and learner attitudes towards CALL. According to the author, one significant change has occurred recently in the studies as researchers do not compare computer mediated instruction against traditional learning as often as they used to. Essentially the discipline is different from other areas of research within applied linguistics as it is the subject of constant and rapid change. This fact, according to Beatty (2003: 175), “deeply influences theory, practice and research” and in many cases a significant amount of research is outdated before it can reach the desired addressees.

According to Ushida (2005: 49) “it is plausible to speculate that students’ motivation plays an important role in successful CALL implementation and that, if used effectively, the CALL environment can enhance students’ motivation to learn a second language”. The present author is convinced that it is also true to say that it enhances the motivation to learn in general and can be applied to an explanation of the relationship between the motivating power of advances in technology and the learning outcomes in other areas of knowledge.

Influenced by Gardner and Lambert (1959), Gardner and Smythe (1981), Gardner (1985, 2000), Gardner and MacIntyre (1992, 1993), Gardner, Tremblay and Masgoret (1997) and Dörnyei (1994, 2001a, 2001c), Ushida (2005) carried out research concerning the influence of students’ motivation and attitudes on second language learning in the online environment. The results of the study indicated that, on the one hand, students’ anxiety connected with work in a new environment was relatively high, but, on the other hand, their motivation and attitudes were rather positive and invariable. Moreover, the students who were motivated worked regularly and effectively and, what is interesting, every teacher supervising the course created an individual atmosphere within the experience, which influenced both students’ attitudes and motivation towards the course. Ushida (2005: 49) reports on many other studies proving that students’ attitude and motivation are an important factor influencing success within CALL: e.g. Brandl 2002, Desmarais 2002, Doherty 2002, Gilbert 2001, Murday and Ushida 2002, Warschauer 1996a, 1996b.

Although the motivating influence of technology on foreign language learning has been emphasized by many authors, research concerning the topic is not well developed in Poland. In a thematic volume published after an annual conference of the Modern Language Association of Poland devoted to the topic of motivation, few articles concern the topic of CALL. Only one of the articles presents research findings on the relationship between technology and motivation. In a study among 35 first year philology students, Kurek (2008) tries to estimate the extent to which they use technology for self-study and emphasizes the motivating impact of electronic tools on learning a foreign language. Although all the students declared a well developed computer competence, the author of the study is worried that for many of them (47%) computer technology is mostly just a source of entertainment and, in spite of the fact that they declare the use of a computer for learning a language (71%), the results of the study show that their behaviour is not always conducive to learning, as the majority of time spent on searching the net is characterized by a passive attitude and is deprived of genuine reflection. Kurek advocates the idea that the use of computers in self-study is a powerful tool but only a small number of skilled students are able to use it effectively, while for the rest it is just a form of entertainment, not requiring much intellectual effort. It is vital, according to the author, to create situations at the tertiary level of education in which students are made aware of the various possibilities technology offers them.

Koralewska (2009) carried out research among foreign language school teachers in Poznań in order to find out their attitudes toward the use of technology in the classroom. The data collected by means of a questionnaire were supported by interviews with a few teachers. The results of this study indicate that in the teachers' opinion the use of technology has a very positive influence on their students. Yet, despite favourable reactions to the value of technology in their everyday practice, teachers are not satisfied with the integration of technology in their own classrooms and still the most popular technological device they use is a CD. Another interesting observation is that in spite of the fact that issues connected with CALL were not included in the curriculum of the teacher education programmes in the case of 61% of the surveyed teachers, the majority of respondents felt prepared to use technology during their lessons. It can be hypothesized that this is because of the strong motivation to use CALL and interest in self-study.

3.4.2. Research on blended learning

Due to the growth in distance learning many researchers have tried to examine the issues associated with the new way of educating people. The new forms of distance learning which are replacing the earlier ones, namely: correspondence courses, educational programmes as well as videoconferences, offer new possibilities for the learners and teachers. Warschauer (1998, as quoted in Kouritzin 2002: 621) emphasizes the fact that “[t]eaching courses online changes the forms of language used, the nature of learning, the learners, and the development of community”.

Hybrid (or blended) approaches including traditional and online activities are becoming more and more popular. Maciaszczyk (2009: 226) differentiates between blended courses in a form of a self-study, i.e. a kind of online workbook, and courses which additionally include communication tools such as e-mail, forums, chats, wikis and blogs. The author believes that the first kind of courses are going to prove effective when used for grammar and vocabulary practice, which otherwise may be considered boring if done during a lesson. It may be used for developing students’ receptive skills and broadening their knowledge about different aspects of culture. The second group of courses enables pair-work and groupwork in a project and is an opportunity for exchanging opinions between participants.

The U.S. Department of Education (Means et al. 2009) prepared a meta-analysis of online learning studies from 1996 to July 2008. The results of a careful analysis of 51 independent effects chosen from more than a thousand empirical studies showed that students in the online learning environment performed better than students learning in a traditional way through face-to-face instruction. Moreover, blended courses proved to be more effective than the purely online ones. However, the authors of the analysis explicitly state that it is not just the online environment which makes the courses more effective, but “[r]ather, it is the combination of elements in the treatment conditions, which are likely to include additional learning time and materials as well as additional opportunities for collaboration” (2009: 51). What is interesting, they found out that the sample size or type of design of the studies chosen for the analysis did not have a significant influence on the effect. Evidence showed that those learning environments which are able to make the instruction more individual are also more effective. Moreover, the usefulness of online courses proved to be independent of the content of the study as well as learner types. The research also revealed

that the mere fact of including media such as video or online quizzes does not result in students spending more time learning. Learning can be enhanced, however, by giving students more control of their interactions with media and triggering their reflection.

In the short outline of research on the topic presented below three main directions prevail: the first of them is connected with the increased role of negotiation and interaction between the learners in comparison with traditional courses; the second one with the issue of the organization of work; while the third one addresses the emotional effect, mainly anxiety connected with learning online, which influences the learning outcomes.

New technologies and online educational tools in particular, have resulted in an alteration of the understanding of the learning process as one which concentrates to a large extent on interaction and the negotiation of meaning. Various forms of computer-mediated communication (henceforth CMC), which are integral parts of entirely web-based and blended courses, are easily available, including e-mails, chats, forums and on-line discussions. Chism (1998, as cited in Sherry 2000: 19) enumerates many various uses of CMC such as: building group coherence among students, sharing information-processing ideas, online tutoring, refining communication skills and providing feedback to students. CMC encourages students to share knowledge and their experiences, which make learning an individual endeavour. Drawing on her own experience as an online educator Kouritzin (2002: 622) stresses the importance of keeping the group sizes small in online courses in order that the instructor is able to provide sufficient feedback and monitor students' performance effectively.

Exploring the potential of two Internet tools for asynchronous communication used in online instruction, i.e. wiki and forum, Górecka (2009) analyses the value of the hybrid construction of lesson scenarios and the qualitative changes in the teaching process initiated by them. The author believes that such an approach may positively affect the quality of reflection when students prepare for speaking tasks. E-learning platforms, according to the author, are too often used to place different kind of data only, while their potential as tools for negotiating meanings and group work is often neglected. The main advantage of hybrid courses is connected with their capability to perfect many skills which are not always sufficiently accentuated in the traditional learning. Such courses increase the coherence of the learning processes, and better prepare for argumentative speaking tasks as the participants have to formulate clearer messages and focus on a given topic more. Moreover, blended courses allow for better cooperation between students as well as between students and

online tutors. It is also believed that thanks to various possibilities of the negotiation of meaning the quality of understanding between the participants is improved. Moreover, contrary to traditional classes, more students can be engaged in interaction and their individual needs can be more fully addressed. Another very important benefit of hybrid courses indicated by the author is a development of abilities to use the Internet as a source of information and the better organization of work.

A study by Miyazoe and Anderson (2010) examined the effectiveness of three asynchronous online writing tools at the tertiary level of formal education, namely, forums, blogs and wikis. A blended learning EFL course in Japan revealed that students' perceptions about the course were positive and their favourite writing activities were wikis followed by blogs and forums. Moreover, students' progress in their capability to differentiate writing styles was reported, as well as qualitative changes in their writing abilities.

Another study, by Kamhi-Stein (2000), carried out among students enrolled in a teacher education course investigated their participation in whole-class and face-to-face discussions and on a web-based bulletin board (henceforth BB). The outcomes revealed that the BB discussions consisted mainly of interactions between students and were marked by collaboration and significant peer support. Moreover, students' attitudes towards BB discussions were positive as they appreciated it as a way of exchanging ideas. The author of the study states that web-based BB discussion is an effective means of integrating technology into teacher education courses as it encourages students to cooperate and in this way develop knowledge through hearing multiple voices and perspectives. Additionally, students appreciated the possibility to work at their own time and pace, they had more possibilities to reflect and produce new ideas, and the specific environment reduced the anxiety which often occurred in face-to-face interactions.

Paran et al. (2004) wanted to find out if students had access to computers and to the Internet in particular, trying to identify reasons for their limited use of CMC. In order to do this, questionnaires were administered to 63 TEFL students studying for an MA. From their report one can conclude that almost all of their respondents used a computer and the Internet on a regular basis and, what is more, they were skilled in word processing, emailing and use of the Internet rather than using computers for language learning or participation in online discussion groups. The study revealed that the limited use of CMC can be explained by time constraints rather than problems with access to computers. What is interesting, the participants of the study preferred interaction with the course materials and tutors rather

than with peers, not regarding them as an authoritative source of interaction and knowledge. The findings of the study clearly indicated the need to incorporate issues connected with the benefits of cooperation between students into teacher education programmes apart from training related to the technical aspects of the online course only. It seems that changing students' attitudes towards collaborative work both during traditional classes as well as when they learn online may have a beneficial effect on their course participation. Blended courses may have a positive influence on the more effective collaboration between students who can continue the tasks started during the lesson with the use of online tools.

The entirely online courses require more organizational skills and determination than blended ones. In their study Artino and Stephens (2009) explored differences between undergraduate and graduate students concerning their motivation and self-regulation in the online environment. 194 participants from a large public university in the United States were enrolled in online courses which were delivered entirely online. The results indicated that graduate students, although less experienced with learning online, used more critical thinking strategies and procrastinated less. Surprisingly for the authors, the undergraduate students reported superior task value beliefs and motivation to take part in online courses in the future. The analysis led the authors to make recommendations for educators in the online environment to take into account their students' previous experience as well as motivational beliefs and self-regulatory competence before making pedagogical decisions intended to positively influence learning.

Before their study on 163 students Romano et al. (2005: 299f.) expected that “[i]n a distance course, students tend to have more control over whether, when, and how they will study, and this increased freedom or opportunity for self-management may lead to study procrastination, which in turn would result in cramming for posttest examinations” while, according to the authors, students in blended courses are expected not to be so prone to procrastination. Contrary to their expectations, students enrolled in blended courses procrastinated more than those who had the opportunity to take part in entirely distance learning; however, the relationship between the type of the course, namely, paced study, last minute cramming, and achievement, were not consistent.

A positive attitude toward web-based learning was reported by Son (2007) who carried out research among students in an English language intensive course. The author advocates the idea that the web is a very useful tool for learning a language and can be a source of supplementary materials for self-study, which is proved by the students' engagement in

the activities prepared for them. The students enjoyed the tasks and expressed willingness to do them additionally at home. There was a group of students, however, who did not regard the experience as more interesting than traditional classes. Hence, the author of the study emphasizes the importance of a careful materials selection for the web based course. It is also important to notice that some participants complained about the lack of interaction but at the same time preferred to work individually on the assigned tasks.

Although research concerning foreign language anxiety in the classroom has a long and well established tradition, enquiries into the phenomenon within the context of distance learning is not well developed yet. It is commonly accepted that anxiety exerts a significant influence on the effectiveness of the learning process. In the case of distance learning, according to White (2003: 114, as quoted in Hurd 2007: 489), the main sources of anxiety can be “the more isolated study context, separation from peers and the teacher, and reduced or altered forms of social contact and interaction” and therefore blended courses may be a good solution to avoid the anxiety.

Hurd’s (2007) study shed more light on the problem of anxiety in distance learning which additionally supports the need for a face-to-face meeting with students from time to time. Although the majority of respondents in the study did not report any difference concerning the different modes of learning, and in the case of 27% of them anxiety was reduced, 21% felt more anxious in the online environment. Those factors which contribute to the feeling of comfort were identified by the author, namely: age, foreign language competence, the possibility to work individually instead of performing in public as well as the fact that students are able to choose the mode of learning themselves. The drawbacks of distance learning such as lack of immediate feedback, working in isolation, limited possibility of individual progress assessment in comparison with others as well as deprivation of the opportunity for speaking face-to-face were reported as well. Evidence shows that CMC’s anonymous and collaborative character reduces anxiety but that there are some students who do not feel comfortable with it.

3.5. Adapting Gardner’s socioeducational model to online EFL teacher education

Due to the fact that research on teacher education in the online environment is still rare, the present author believes that Gardner’s revised socioeducational model from 2001 can be

adapted for researching the motivation of EFL trainee teachers. The rationale behind the decision is that Gardner's model is the one which has been the best empirically tested and updated by the author after the criticisms reported in section 3.3.1. Moreover, this version attempts to answer the practical problems teachers have to deal with (Gardner 2001: 4). The present author believes that the approach may explain the phenomenon of the relationship between motivation, attitudes and achievement also in online teacher education.

The starting point of the proposed adapted model is an assumption that trainee teachers who have positive attitudes towards Information and Communications Technology in general and online education in particular will be more successful in e-learning. The model is worked out in order to identify the set of variables and the means which can help assess them so that the nature and influence of motivation on learning in the online environment in EFL teacher education can be evaluated. The present author assumes that, similarly to learning a foreign language (see Gardner 2001: 1), not only intelligence and aptitude are important in the online environment, but also the concepts including motivation, attitudes and anxiety may play a vital role.

Similarly to the context of learning foreign languages in the classroom for which Gardner's model was designed, the online course was supposed not only to be an educational experience but a social event as well. Hence, the significance of the social influences in the model.

The four components of the original model of Gardner (see Figure 12), namely: external influences, individual differences, learning contexts, and outcomes, seem to play a vital role in learning not only a foreign language but in any other educational endeavour. Therefore, they became the four areas of interest in the present model as well – Figure 15. In the model INT stands for integrativeness, ALS for attitudes towards the learning situation and MOT for motivation.

The first category, *External Influences*, comprised of *History* and *Motivators*, seems to be a very important factor in learning online. The learners' history, the set of social and personal variables such as past experiences with new technologies, or their family and cultural background, for example, can significantly influence the motivation to learn online, the value one attaches to it and the desire to learn in such a way.

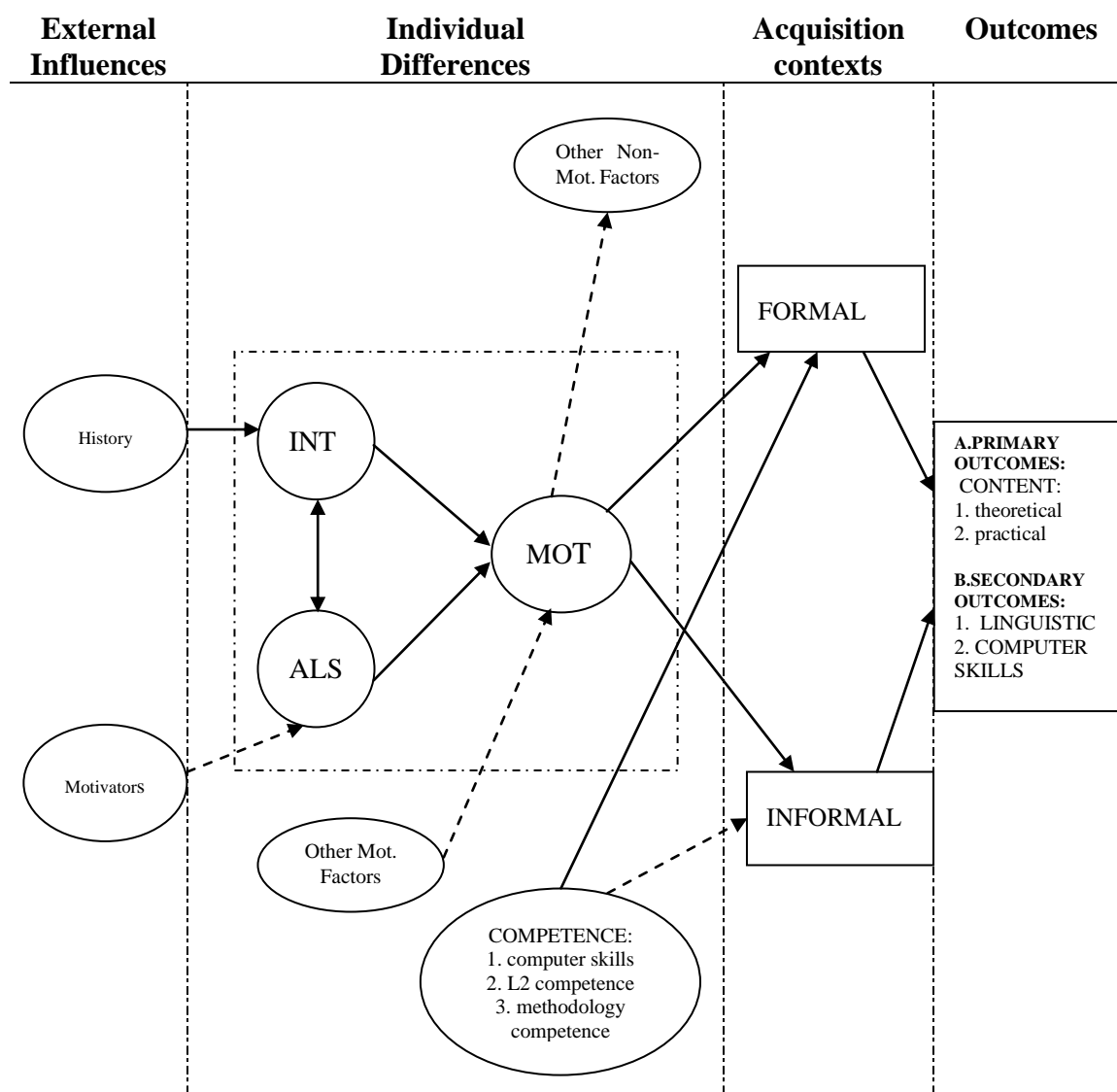


Figure 15. The model of motivation in online EFL teacher education delivered in L2 (adapted from Gardner by E.K.).

Similarly to Gardner (2001: 6), it can be assumed that this kind of external influence works through the concept of *Integrativeness*, which is represented in the model by an arrow joining the two concepts. *Motivators* reflect the influence of teachers on the learning process, and their role in creating motivating conditions of work, of generating and maintaining the trainee teachers' motivation as well as encouraging positive self-evaluation. The role of the tutor in the online environment cannot be neglected as it is the teacher who creates the atmosphere of the course and encourages trainee teachers to work by helping and advising them via communicators, especially in the case of blended courses taking place both online and in the classroom. In the present investigation the role of the online tutor was deliberately limited to organizational and supportive issues as cooperation between the

participants was promoted instead. *Motivators* have a direct effect on *Attitude towards the Learning Situation* (ALS).

The second category, *Individual Differences*, includes *Integrative Motivation*, *Aptitude* as well as other *Non-motivational* and *Motivational factors*. Integrative Motivation, to which Integrativeness, Attitudes toward the Learning Situation and Motivation belong, constitutes the main part of the concept.

In the original model, *Integrativeness* is defined as “a genuine interest in learning the second language in order to come closer psychologically to the other language community” (Gardner 2001: 7). In the case of ICT, the variable can also be of vital importance due to the fact of the progressing integration of technology with different areas of people’s life including work, entertainment, socializing, shopping and many others. As computer literacy is gradually becoming a prerequisite of a full participation in the life of society and lack of it may mean the isolation of an individual and limited involvement in different kinds of events, the need to develop such literacy may be compared to the situation of the foreigner living in a different country abroad and learning L2. An interest in learning to use ICT in order to identify with the part of the society which uses it on a regular basis may have a high motivating power.

The next variable, *Attitudes toward the Learning Situation*, concerns any aspect of the situation in which the learning process is taking place. In the case of online courses it can be the attitude towards the content of the course, the materials included, towards ICT in general, and learning in the online environment in particular.

Similarly to the original model, it can be assumed that integrativeness and attitudes toward the learning situation are two correlated variables which support motivation. Therefore, even high levels of the two variables not linked with motivation to learn are not supposed to be highly related to achievement.

Another variable connected with individual differences is motivation, the driving force of any action. In a similar fashion to the original model, motivation concerning the EFL teacher education online may be connected with three elements: effort, desire and positive affect towards learning. Firstly, we may assume that motivated students will expend effort in order to learn online by doing the tasks and reading the included materials in a consistent way. Secondly, the students wanting to complete the course are supposed to strive to achieve their goal. In Gardner’s model (2001: 8) all the three elements of motivation are indispensable and are not sufficient if not supported by each other. Thus, it can be

assumed that a similar situation may take place when learning online. The difference is, however, that trainee teachers participating in the course learn not only the foreign language, but also the management of e-learning courses for their future professional purposes as well as the methodology content which constitutes the primary aim of the experience. Following Gardner's definition of the integratively motivated individual (2001: 9) a definition for the present model can be derived concerning an individual who is integratively motivated to learn the methodology content online. Such an individual is motivated to learn with the help of an e-learning course, has a desire to identify with the part of the society for which ICT is an indispensable part of life and who evaluates positively the learning situation taking place online.

In the case of an online methodology course delivered in an L2, three kinds of competence measures seem to play an important role. The first of them concerns the participants' competence connected with the use of a computer, which allows them to access the course in the online environment. The second of them is the foreign language competence, which is undoubtedly of vital importance for the participant's performance in the course and achievement. Finally, the methodology competence, meaning the students' ability to acquire and then practically use the knowledge, is supposed to influence their performance. All these three kinds of competence are expected to influence both the formal and informal contexts of learning, although their impact on the informal contexts works only if the motivational variables cause the particular person to start the activity, hence their influence is represented by a broken line in the model.

Moreover, both the formal and informal acquisition contexts can be considered important in an online methodology course. The situation seems to be more complex than with L2 acquisition due to the three kinds of content which should be taken into account. The first is connected with the subject matter of the course itself, including content materials and tasks; the second concerning computer literacy skills; while the third one, which takes place while using L2 during the tasks completion is the linguistic one.

The formal context concerning the acquisition of computer skills refers to any situation in which computer instruction takes place. In the case of participation in an e-learning course, it may happen at the beginning, when the online tutor usually provides trainee teachers with instructions concerning the first steps to be taken in order to enter the course, and during the completion of the course through doing the assigned tasks which require the participants to use the computer programme created for such purposes. Informal computer

literacy acquisition contexts concern any other setting where the participants might learn to use a computer, for example, while searching the Internet, sending e-mails, e-banking, using text editors and even playing games, as such activities are useful when taking part in e-learning as well.

In the case of L2 acquisition, formal instruction takes place in the classroom, but in this case the issue does not concern the online course subject matter. The linguistic outcomes of a methodology course delivered in L2 cannot be neglected, however, as by the tasks completion students not only learn the content of the course, but also acquire the L2 metalanguage used in the context of learning and teaching foreign languages, which is an important step in their preparation for lifelong learning in the teaching profession.

Formal contexts concerning the acquisition of the content of the course, namely, methodology issues prepared for EFL trainee teachers, refer to instruction in a typical classroom both during their studies and practice at school as well as during the online course where the students are assessed after completing the assigned tasks, although they can learn in informal contexts as well by sharing opinions with other participants, reading professional literature or during the lessons they carry out when formal instruction on the part of their tutors does not take place.

Similarly to the original model, the drawing shows a direct influence of motivation and aptitude on the formal context of learning, which means that both factors will have an impact on an individual's success in learning in formal contexts. In the case of informal contexts of learning, motivation is believed to play a vital role as it determines the participant's willingness and ability to enter the learning situation, which is a prerequisite of the aptitude factor to start operating, thus its influence is indirect and is symbolized in the drawing by the broken arrow. Aptitude concerning computer skills, the English language as well as methodology determines the ability of a particular student to profit from the experience of participating in the course.

As in Gardner's model concerning learning languages, in the case of online EFL teacher education it can be assumed that the influence of both formal and informal contexts on the students' achievement in an e-learning course is direct. In the case of an online methodology course there may be two groups of outcomes. The primary one is connected with the methodology content of the course which may include both theoretical knowledge as well as the ability to use it in practice. The outcomes may concern theoretical knowledge about the issues raised during the experience, the quality of completion of both the theoretic-

cal and the practical tasks, as well as course organizational issues such as keeping deadlines and completing all the tasks. The ability of the participants to make use of the knowledge gained during the course for practical professional purposes is the main objective of the course. The secondary outcomes are expected to be achieved through the participation in the course. On the one hand, they concern computer skills and the ability to use the skills gained thanks to the course in the future teachers' job. On the other hand, they are connected with improving language skills and preparing trainee teachers to read professional literature in English.

Although the adaptation of Gardner's model for the purpose of the present dissertation may be not complete due to the different context of the study, the present author believes it can constitute a good starting point in the investigation of the relationship between motivational, attitudinal variables and achievement in teacher education in the online environment. It seems to be able to contribute to a better understanding of the issue and serve as the basis for further developments and empirical tests.

3.6. Conclusion

Motivation is regarded as one of the most important factors influencing students' performance and effectiveness in the learning process. The way motivation and attitudes guide behaviour has been the subject of many studies which have been carried out recently in different parts of the world and concerning different areas of interest.

The quick development of new technologies has had an impact on many areas of life and it is not a surprise that computer technology is gradually finding its place in education. There are learners and teachers for whom it is an exciting challenge, while for others it constitutes a threat and can significantly hinder performance. It remains to be studied why many teachers refrain from using ICT for educational purposes. The following chapters will report on a study undertaken to evaluate the adapted model of EFF teacher online education in order to find out if it can be successfully used to assess the motivational and attitudinal influences on the participant's achievement.

Chapter 4: Methodology for the study of EFL trainee teachers' attitudes, motivation and achievement in the online environment

Introduction

The first chapter of the present dissertation constitutes the theoretical background for the whole paper. The social constructivist approach significantly influences the perspective applied to discussing contemporary teacher education, depicted in chapter two, and motivational issues, illustrated in chapter three. Subsequent chapters will describe the empirical investigation of the attitudes and motivation of postgraduate EFL trainee teachers in the online environment. One of the main objectives of the investigation was turning the notion of motivation, which is an abstract one, into a tangible issue of empirical value. The present chapter provides the methodological rationale and the choices which were made in order to carry out the research.

In spite of the fact that research on motivation is reported to be very complicated and, as Dörnyei (2001a: 185f.) explains, there are three major issues which are especially challenging for the researcher (namely, the fact that motivation is not directly observable, multidimensional and inconstant), he believes that there are various methodological tools which help with enquiries and make them relevant.

The present study is embedded in the constructivist approach to inquiry and ethnographic techniques, which are increasingly popular as a means of gathering and analysing data. According to Nunan (1994: 52), one of the reasons for the growing interest in this kind of research stems from different understandings of such concepts as 'truth', 'reality' and 'evidence'. Wilson (1982, as cited in Nunan 1994: 53f.) associates ethnography with two sets of hypotheses concerning human behaviour. The first of them, the naturalistic-

ecological one, emphasizes the influence of context on the behaviour of particular people. Hence, research should take place in a natural context, rather than in laboratory conditions. The second principle, the qualitative-phenomenological hypothesis, challenges the existence of any objective reality independent of subjectivity both in the case of researchers as well as their subjects. Wilson believes that only incorporation of the subjective perceptions as well as belief systems of the participants and researchers may contribute to a more reliable interpretation of human behaviour for, as he posits, the “methods, procedures, and assumptions governing the physical sciences may not be appropriate for investigating human behaviour” (1982, as cited in Nunan 1994: 54). The present investigation reflects the characteristic features of ethnographic research presented by Nunan (1994: 56) as it was carried out in a specific context and aimed at limiting the disruption which might have been caused by the researcher in the online environment. A significant amount of time spent by the trainee teachers online consisted of their relatively autonomous behaviours and cooperation with other participants rather than with the online tutor. Additionally, instead of any pre-determination of hypotheses, research questions were formulated and the data gathered in the process were the subject of interpretive analysis.

Similarly, Chapelle and Duff (2003: 158) emphasize that, regardless of the research type, both qualitative and quantitative studies, which are embedded within particular research traditions, are significantly influenced by “research contexts, populations, procedures, analyses, and bases for interpretations”. Thus, the following study recognized the importance of the characteristics of the participants of the study such as their age, place of work, education and previous experience with information and communications technology, as well as their ability and willingness to use technology in their EFL classroom. Moreover, the present author included a detailed description of the online course *Enhancing Effective Teaching through the Project Method* (henceforth EETTPM), which constituted the background of the study, believing that not only technology itself, but the content of the course too, might have exerted an influence on the trainee teachers’ perceptions and motivation to participate in it.

The chapter is divided into the following sections. In section 4.1. a general research methodology of the present study is illustrated. The next section, 4.2., presents the research design of the investigation including its purpose, aims, characteristics of the participants, research instruments, as well as methods of data analysis. Section 4.2.5. is devoted to a detailed description of the online course for trainee teachers which was designed according

to the constructivist principles presented in chapter one, as well as the most recent trends in EFL teacher education depicted in chapter two.

4.1. Research methodology applied in the study

In order to introduce the methodological issues connected with research, it is good to start with a definition of the term. According to Nunan (1994: 3) the simplest one is that research “is a systematic process of inquiry consisting of three elements or components: (1) a question, problem, or hypothesis, (2) data, (3) analysis and interpretation of data”. Any primary investigation, which the one presented in the dissertation belongs to, concerns a sort of data. Any research project is expected to provide detailed characteristics of the data as well as the methods of their collection, analysis and interpretation. As Dörnyei (2001a: 183f.) states “[r]esearch is nothing but trying to *find answers* to questions – an activity everybody does regularly, both in their personal and professional life”. However, the author emphasizes that scientific research is systematic and concentrates on the reduction of subjectivity and other factors which can exert an influence on the results to a minimum. He differentiates between *secondary research*, which is a form of inquiry focusing on issues discussed by other researchers, and *primary research*, meaning carrying out one’s own investigation through collecting data and drawing conclusions. The author defines the research design of a study as “a detailed plan that includes guidelines for all the research-related activities of the researcher” (2001a: 191). This includes such elements as the activities to be undertaken, the participants, the schedule as well as the reasons underlying the investigation.

Dörnyei (2001a: 192) proposes three main areas of interest concerning the design of the research study which require thoughtful decisions on the part of the investigator. The first of them is concerned with the distinction between qualitative and quantitative research, the second focuses on longitudinal and cross-sectional types of research, while the third concerns selecting the dependent/criterion variable.

4.1.1. The quantitative and qualitative research paradigms

Although traditionally a binary distinction between a quantitative and qualitative type of research has been made by various authors, Nunan (1994: 3) believes that the distinction is “simplistic and naïve”. He continues that according to the traditional understanding, “quantitative research is obtrusive and controlled, objective, generalisable, outcome oriented, and assumes the existence of ‘facts’ which are somehow external to and independent of the observer or researcher”. Nunan explains the assumptions underlying the qualitative research within the tradition, stating that it “assumes that all knowledge is relative, that there is a subjective element to all knowledge and research, and that holistic, ungeneralisable studies are justifiable”. Another distinction is made by Hoepfl (1997: 1) who emphasizes that “[w]here quantitative researchers seek causal determination, prediction, and generalization of findings; qualitative researchers seek instead illumination, understanding, and extrapolation to similar situations”.

In the tradition of motivational research quantitative research principles were used and researchers precisely defined the elements of the study beforehand. The main tool of collecting data were questionnaires including rating scales, and no open-ended questions were used. Dörnyei (2001a: 192f.) sees some advantages of this approach which is embedded in the positivist theory. It is precise; moreover, it allows to obtain reliable and replicable results and, what is the most important, the results are believed to be generalisable to larger populations. The author stresses the limitations of the approach as well, stating that individuals cannot be effectively studied by averaging the responses of the population and that “quantitative methods are generally less sensitive to uncovering the motivational dynamics involved than qualitative methods”.

Strauss and Corbin (1998: 10f.) define qualitative research as “any kind of research that produces findings not arrived at by statistical procedures or other means of quantification”. Bogdan and Biklen (1992: 153) enrich the definition of qualitative data analysis stating that it is “working with the data, organizing them, breaking them into manageable units, synthesizing them, searching for patterns, discovering what is important and what is to be learned, and deciding what you will tell others”. Dörnyei (2001a: 193) points out that the qualitative approach is interested in the participant of the study instead of “the researcher’s interpretations and priorities”. The main objective of this type of investigation is the identification of systematic patterns in the phenomena which are at the focus of attention. The

other important feature of the qualitative approach is, according to Dörnyei, the fact that the interpretation of results is grounded in “a rich and sensitive description of events and participant perspectives” (2001a: 193). The main techniques of collecting data for this kind of analysis are observations, interviews and authentic documents of communicative behaviour. Johnson (1995: 1) notices that qualitative methods of analysing research data have gained increasing acceptance recently and “are powerful tools for understanding the social, psychological and environmental factors that support learning and teaching”.

Similarly to Nunan (1994), Newman and Benz (1998: xi ff.) completely reject the dichotomy between qualitative and quantitative research, believing that “the two philosophies are neither mutually exclusive (i.e., one need not totally commit to either one or the other) nor interchangeable (i.e., one cannot merge methodologies with no concern for underlying assumptions)”. These authors present qualitative and quantitative research strategies as “interactive places on a methodological and philosophical continuum based on the philosophy of science”. Both methods are of significant value at different stages of the research process and provide a supportive feedback to complement each other. According to them (1998: xii): “[h]igher-quality research should result from this more thoughtful approach to research methods, an approach that encourages researchers to look beyond narrow dichotomized ‘either-or’ biases toward qualitative and quantitative methods”. They explain that the qualitative analysis can make the researcher adapt the types of research questions which were asked in the quantitative analysis and that conversely the results of the quantitative analysis can influence the qualitative part of the study. Hence, employment of various methods of research can significantly enhance its quality.

Chaudron (1998: 15) notices that even qualitative approaches to research use quantitative methods, such as counting events or finding their correlations, so the resulting generalizations have similar limitations to those obtained in the quantitative studies. Similarly, the quantitative approach suffers from the same limitations as the qualitative one. The author explains that “the theoretical underpinnings of a quantitative approach can bias observations in some possibly unrecognized way, due to a failure to recognize some qualitative relationship or category for analysis” (1998: 16) by the researcher.

Studies conducted with the use of both qualitative and quantitative methods typically yield rich sources of data and are believed to bring out the best of each of the approaches. Thanks to the application of a combination of both, it may be easier to overcome the limitations inherent to them when used in isolation. Whilst, as Dörnyei (2001a: 240)

states, the strength of a quantitative study lies in finding the general trends in the population under investigation, the qualitative study can provide more insight into the actual reflection of these trends in an individual's life, into the pattern emerging due to the interplay between motivation, time and personal priorities, and into other, not detected, factors affecting students' motivation.

Creswell (1994, as cited in Dörnyei 2001a: 242f.) proposes three models for mixing designs. The first of them is a *two-phase design* consisting of two separate stages carried out according to qualitative and quantitative methods respectively. The second solution is a *dominant – less dominant design* in which the researcher draws “on a single paradigm with one small component of the overall study drawn from the alternative paradigm”. In this case an interview study can serve as a starting point in the questionnaire design. The last model offered by Creswell is a *mixed-methodology design* which is a combination of the two research paradigms or the different methodological steps. The present investigation belongs to the second model as the majority of the measurement components are based on the quantitative tradition; however, some of the qualitative measurements are also brought to the quantitative methods of analysis.

4.1.2. Distinction between longitudinal and cross-sectional investigation

The second area of interest concerning methodological considerations outlined by Dörnyei (2001a: 192), following the distinction between qualitative and quantitative approaches to research, is the one between longitudinal and cross-sectional investigation. While longitudinal studies concentrate on the observation of the participants over extended periods of time, cross-sectional ones research their “thoughts, behaviours or emotional stances at one particular point of time”. The present research study reflects the second approach, measuring the trainee teachers' motivational and attitudinal variables at a certain point of time, after completing the online course, as they had not had enough contact with online instruction to be able to form opinions about it before they started learning in this way.

4.1.3. Selecting the dependent variable

The third design issue is selecting the criterion/dependent variable. Much research in applied linguistics was conducted in order to find the best way to enhance successful learning. However, Dörnyei (2001a: 197) advises to treat the relationships between motivation and achievement with caution as direct cause and effect links cannot be assumed. The author advises to include a kind of behavioural measure in the study design as a dependent variable to make the inferences more meaningful. Such measures may include course attendance, enrolment in the next course, volunteering answers, extent of task engagement, direct measures of motivated behaviour (e.g. the quality of task completion) or extracurricular use of the issues learnt during the course. Moreover, achievement is influenced also by other factors such as the abilities of learners, learning opportunities and the quality of the learning tasks. This implies the possible significance of the context in which the learning process takes place. Hence, the present investigation includes many contextual measures in order to provide the information concerning the background to the study, which can significantly influence the understanding of its outcomes.

4.1.4. Means of analysing data

Dörnyei (2006: 32) states that in the case of any project that draws on survey data the first step is “to reduce the number of variables assessed by the instrument by identifying broad dimensions underlying the data and then by computing multi-item scales that correspond to these dimensions”. The author stresses the importance of three sources of information in the analysis: the theoretical framework underlying the design of the questionnaire, factor analysis and reliability analysis.

The first source has been described in detail in the first three chapters. Due to the fact that the main part of the research study was based on a well established theoretical construct developed by Gardner and his associates, it was expected that the research findings were going to reproduce the theory-based framework. Gardner’s Attitudes and Motivation Battery Test (see section 3.3.1.) is one of the best known and most frequently used quantitative tools in motivational research. Dörnyei (2001a: 189) regards it as the closest to the one which can be applied universally. An assumption is made, however, that it cannot

be used in a mechanical way due to the significant social dependability of the measurement tool. Gardner himself encourages researchers to use his standardised battery in various contexts, with necessary adjustments stemming from the fact that research projects are embedded in different social situations.

The second source, factor analysis, aims at uncovering the underlying structure of large data sets and at discovering patterns among variables. The main applications of this kind of analysis are twofold: to reduce the number of variables as well as to detect any structures concerning the relationships between them. In order to do this, a number of variables submitted for the analysis are reduced to factors, which are values containing the majority of information found in the original variables. These factors are expected to correspond to the original theoretical background. As Zakrzewska (1994: 26f.) explains, factor analysis is more attractive for research concerning the issues connected with psychology than the principal component analysis, which is more appropriate for mathematicians. A great majority of research in psychology deals with variables, for which it is difficult to find and take into account all sources of variance and to explain them to 100%. Therefore, as the author suggests, the principal component analysis is not acceptable for psychologists.

One of the most significant issues in factor analysis is the numerical force of the test as it has to be large enough in order to reduce the standard error of correlation to proportions which are insignificant. However, Zakrzewska (1994: 56f.) notices that from the point of view of factor analysis, the homogeneity of the group is more important than the number of participants of the investigation. She summarizes the different approaches of various authors to the issue as being based on their experience with factor analysis. For example, Nunally (1978) believes that the number of subjects should ten times exceed the number of variables, while Cattell (1978) believes the best proportion to be between 5 to 1 and 3 to 1. A similar opinion is expressed by Gorusch (1974), while for Guilford (1956) it is enough when the number of subjects is twice the number of the variables used for the analysis. On the basis of the empirical study by Barrett and Kline (1981), Zakrzewska concludes that in the case of factor analysis the proportion adequate to give relevant results will be 3 to 1, which was the case in the present investigation as the number of subjects was 40 and number of variables 13.

There are two kinds of factor analysis: the exploratory one (henceforth EFA), which is an inductivist procedure, and the confirmatory one (henceforth CFA), which is a hypotheticist analysis. While the first of these does not assume *á priori* the association of the

indicators with particular factors and uses factor loadings to intuit the factor structure of the obtained data, the second of them selects the indicator variables on the basis of prior theory and the statistical analysis is used to check if they load as predicted on a certain number of expected factors. In this case, a researcher assumes that each factor is connected with a certain subset of indicator variables. The analysis used for the purpose of the present dissertation was an exploratory one, due to the fact that, as Zakrzewska (1994: 47) states, CFA needs to be based on either a coherent theory or previous research. As it was outlined in the previous chapter, the model for this investigation was based on the one used in an L2 context due to the insufficient research on attitudes and motivation in the online environment. Hence, the structure of the relationships is still to be discovered and cannot be worked out from previous research.

Dörnyei (2006: 73) emphasizes the fact that although factor analysis enables grouping the items into multi-item scales measuring the same target attribute, it offers barely mathematical solution reflecting the items provided to the analysis which depend on the design of the questionnaire and, due to this fact, tells little about the importance of the resulting clusters. As a consequence, another analysis is required in order to test the motivational factor's meaningful and significant relation to various criterion measurements. One of the methods of determining the relationship is to compute the correlations between motivational factors and criterion measures. The results may confirm the validity of factors in general as well as highlight the unique importance of one of the factors.

The third source of data, emphasised by Dörnyei, is a reliability analysis used regardless of the method of identification of the clusters of items, to be summed up as those related to the same theoretical dimension. Each scale is to be analysed in order to check if it measures the same target area and therefore each item on a scale is expected to correlate with the other items as well as with the total scale score. The psychometric prerequisite for any such scientific survey instrument is called internal consistency.

A common measure of internal consistency or reliability of a test in the social sciences is the Kuder-Richardson method, in which Cronbach's alpha coefficient is used. As Sztemberg-Lewandowska (2008: 15) presents, it can be calculated according to the following formula:

$$\alpha = \left(\frac{k}{k-1} \right) * \left[1 - \frac{\sum (V_i)}{V} \right]$$

Where k is the number of components, V is the variance of the observed total scores and V_i is the variance of component i for the current sample of persons ($i= 1,2,\dots, k$). The value of the coefficient ranges from $(-\infty$ to $1]$. Sztemberg-Lewandowska (2008: 15) cites after Hair et al. (1998: 118) that for a reliable scale it starts between 0.6 and 0.7, and it is important to notice that Cronbach's alpha depends on the number of positions on the scale, and when k increases α increases as well. Hence, in the case of scales with a higher number of positions, one should be more careful with interpretation. If all the items are perfectly reliable and they measure the same score, the coefficient is equal to 1. Although the values can be also negative, only positive ones make sense and higher values of alpha are more desirable.

The analysis of some of the qualitative data in the present investigation was carried out according to the method proposed by Strauss and Corbin (1998: 57 ff.) who demonstrate microanalysis as the tool to be used in qualitative data analysis. The authors suggest that preliminary categories are expected to be generated first, and the relationships among them should be worked out. According to Bogdan and Biklen (1992: 166), categories are generated by particular research questions. Strauss and Corbin continue that microscopic examination includes the analysis of the data gathered by the researcher in the form of the participants' recollections of actual events recorded as texts or videos. The second element is the interpretation of those events by the observer, as not only what the respondents say is important, but also how they say it. The third element is the interplay between the measurements and the researcher taking place during the process of gathering and analysing data. The authors emphasize that the interplay is not entirely objective due to the active role of the researcher in working with the data and reacting to them. According to them, "qualitative analysis is a radically different way of thinking about data" (1998: 59), which means that the researcher lets the data speak, and adopts a more flexible and less controlled attitude to the study.

Hoepfl (1997) organizes Strauss and Corbin's (1990) ideas concerning the coding process into four steps of data processing in qualitative research. The two authors (1998: 3) develop the concept as "[t]he analytic process through which data are fractured, conceptualized, and integrated to form a theory". Hoepfl points out that the first analytic step is to identify concepts in the collected data by opening up the text in order to find out ideas and meanings contained there, which Strauss and Corbin call *open coding*. During that stage the data are broken down into separate parts, examined closely and compared in order to find

similarities and differences. Those concepts which are similar in nature are grouped into categories. Bogdan and Biklen (1992: 166) emphasize that in the course of reading through the data “certain words, phrases, patterns of behavior, subjects’ ways of thinking, and events repeat and stand out” allowing for development of a certain coding system which helps to organize the data into categories. The categories constitute the basic framework for analysis and may be modified during the next stages of the analysis. The second stage of the process requires from the researcher an *audit trial* to be devised, which is a kind of scheme prepared in order to identify the data chunks and allowing for categorizing the speakers within a certain context. The author states that research reports in qualitative studies are characterized by the existence of a “voice” in the text, therefore research themes are illustrated by participants’ quotes. *Axial coding*, depicted by Strauss and Corbin (1998), and identified by Hoepfl (1997) as the third stage, involves re-examination of the worked out categories, which, after being identified in open coding in the first step, are now compared and mingled in new ways in order to gain new understanding of the phenomena under investigation. The microanalysis depicted above is a combination of both open and axial coding. The last step is the translation of the model prepared in the previous stage into a report which may be read by others. All the four steps may take place simultaneously but can also be repeated in the process.

Strauss and Corbin (1998: 268) enumerate four issues important for a good research study. The first judgement concerns the validity, reliability and credibility of the data. In the case of the present study, a lot of effort was made in order to increase the consistency and replicability of the process of collecting and analysing the data. Calculating internal consistency reliability coefficients of the instruments allowed for elimination of the variable which did not meet the required standards. The second judgement, about the theory to be tested, was, in the case of the present study, rooted in a well researched and approved concept developed by Gardner, while the third one, concerning “the adequacy of the research process through which the theory is generated, elaborated or tested”, can be made on the basis of the fact that the point of departure for the design of the present investigation were the studies conducted by Gardner et al. (1997) and Dörnyei (2006), who are recognized as the most competent and experienced researchers in the field of motivation. The fourth issue concerns the empirical grounding of the research, which is going to be described in detail in chapter five. The quality of qualitative research, however, depends to a large extent on the characteristics of the researcher. Strauss and Corbin (1998: 272) believe

it is the “analytic ability, theoretical sensitivity, and sufficient writing ability to convey the findings” which make the researcher’s work effective.

Although none of the methods for researching motivation can be categorically stated to be the best one and each has its own advantages and disadvantages, complementing the traditional quantitative methods of analysing data with novel qualitative methods is believed to have a very beneficial effect on the researcher’s ability to effectively explain the motivational and attitudinal aspects which could help make use of the motivation issues in teaching. In the next section the design of the investigation is going to be outlined.

4.2. Research design of the study

The main objective of the present investigation was to research postgraduate trainee teachers’ attitudes and motivation towards information and communications technology with a particular emphasis on the online instruction environment. In order to do this, various research techniques have been used, most of which were at the same time an integral part of the Enhancing Effective Teaching through the Project Method e-learning online methodology course prepared for them. For the most part, quantitative data were used in the analysis. However, as the issue of motivation is difficult to measure, it was supported by qualitative elements, in the belief that the combination of the two approaches was going to be particularly fruitful for the succeeding analysis. As for the majority of the participants, it was the first e-learning course they took part in, it was decided that the study would be limited to the measurement of their attitudes and motivation only once, at the end of the course, to avoid confusion; since not everybody was aware of what an e-learning course actually was before they started learning.

The investigation designed by the present author reflects the need for a holistic approach in contemporary teacher education, engaging trainee teachers to make full use of their abilities and their interactions with others both inside and outside the course. Thus, the macro approach examining the total context, rather than focusing on teaching particular skills, was used in the design of the course and the research itself.

The aim of the present author was not to generalize the results of the study over the whole population of postgraduate EFL trainee teachers in Poland, but rather to investigate the situation concerning a particular group of them in Poznań. In the investigation, the

whole population of EFL postgraduate trainee teachers in the city was taken into account within a certain time period. The pilot study was carried out among postgraduate EFL trainee teachers at Adam Mickiewicz University in Poznań, while the study proper at Wyższa Szkoła Języków Obcych in the same city.

Hopefully, the results of the investigation are going to shed light on the experience and abilities of those people who decide to gain qualifications to teach English without completing their BA or MA English programme with a particular focus on their ICT skills.

The core objective of the investigation was, however, to determine the structure of the relationships among different measures of attitudes and motivation as well as self-confidence and anxiety connected with studying in the online environment and their correlations with measures of achievement in an online methodology course prepared for postgraduate trainee teachers. The study was filtered through the lens of the constructivist approach to teaching (see chapter one), the main directions in contemporary teacher education (see chapter two) as well as the Gardner's socioeducational model of motivation (see chapter three).

4.2.1. Background to the study

The present investigation was designed and developed by the present author as a consequence of two earlier research studies carried out in 2007 and 2008, which revealed significant shortages and problems teachers encounter in the EFL classroom. The first of the studies concerned the research conducted among 48 teachers, investigating their use of the Project Method as the autonomising tool in foreign language instruction (Koralewska 2008). The data collected by means of a questionnaire and interviews with a few chosen teachers revealed that in spite of their favourable opinions concerning the influence of the Project Method on learner's autonomy, they were discouraged by many difficulties, therefore the teachers' practice at the level of the classroom did not reflect their beliefs about the most effective teaching processes. Although the Project Method was used by the majority of teachers, they did not follow the constructivist principles, which often led to their students' boredom and an ineffectiveness of the teachers' efforts. The study revealed that it was not enough to approve of a theory to use it effectively; it was more important to be able to apply it in the classroom. My conclusion was that making the project lessons more con-

constructivist could help to develop the autonomy of both teachers and learners (Koralewska 2008).

The second research study, which was an incentive for carrying out the research depicted in the present dissertation, concerned the use of technology in everyday teachers' work. Questionnaires and interviews proved that, although in the teachers' opinion the use of technology had a positive influence on their students, they did not use it as often as they and their students would like to, due to various reasons such as e.g. lack of time, the quality of the equipment and other, organizational problems (Koralewska 2009). Reflecting on the two studies, the present author recognized the need to train teachers both in the constructivist Project Method design as well as to provide them with a genuine experience allowing for the use of the recent technological advances in learning.

Drawing on Warschauer's opinion (2004: 81) that "[c]omputers and the Internet are not much use without content and applications that serve people's needs", the online course *Enhancing Effective Teaching through the Project Method* prepared for trainee teachers was based on the underlying assumptions of constructivism as well as recent trends in teacher education (see section 2.2). With regard to the difficulties connected with carrying out projects, the course was designed for postgraduate trainee teachers in order to challenge their thinking about teaching and to make them apply the constructivist ideas in the area of the Project Method.

Before the main study took place, a pilot one was carried out. Its aims and participants are going to be discussed in the next section. The data were gathered in two time slots: the pilot study took place between December 2009 and March 2010, while the main study started just afterwards and lasted from March 2010 until June 2010. The main study was targeted at a population of 40 EFL trainee teachers acquiring knowledge and skills in a different institution than the pilot study at Adam Mickiewicz University, but in accordance with the same requirements imposed by the authorities concerning postgraduate trainee teachers' education (see *Rozporządzenie Ministra Edukacji i Sportu z dnia 7 września 2004 r.* [Ministry of Education Order 2004] and *Rozporządzenie Ministra Edukacji Narodowej z dnia 12 marca 2009* [Ministry of Education Order 2009]). In both cases the same research instruments were used. The research timetable is provided in Table 4.

Table 4. Research timetable.

December 2009 – February 2010	Course – pilot study
March 2010	Questionnaires – pilot study
March 2010 – May 2010	Course proper – main study
June 2010	Questionnaires – main study

4.2.2. Preparation of the research – a pilot study

The investigation of the postgraduate trainee teachers' attitudes, motivation and achievement in the online environment started with a pilot study, which was carried out in order to test the online methodology course and the questionnaires prepared for the participants, which served both their own reflection, as well as gathering data for the research.

The participants of the pilot study were EFL trainee teachers enrolled in the postgraduate EFL programme at Adam Mickiewicz University (AMU) School of English. The course *Enhancing Effective Teaching through the Project Method* was a part of the ICT course run by another academic teacher, who required the trainee teachers to complete the online course in order to get a grade.

Among the 13 respondents of the pilot study who completed the course, 9 (69%) were in the age range 20-29, and so were just after, or a few years after, graduating from their first faculty. The subsequent age range, 30-39 included 3 participants (23%) and there was one participant who was 40. Female trainee teachers constituted the majority of participants, which is a typical situation in the Polish context, where in schools male teachers are in the minority. Consequently, in the total number of 13 respondents, 11 (85%) were females, while there were only 2 (15%) males. The basic parameters of the sample, including age and gender information are presented in Table 5.

As a result of the pilot study, a range of observations have been made which allowed for improving both the online course as well as the organization of the research. Firstly, the deadlines for particular tasks were adjusted to the participants' preferences and abilities. After the trainee teachers' request, it was necessary to implement such minor changes as making the answers of other participants visible for the rest, which they believed was one of the most important advantages of the online course. Additionally, the

opinions of the participants of the pilot study concerning the difficulties with projects were gathered and then inserted into the course as a resource for the trainee teachers participating in the main study

Table 5. Respondents in the pilot study by age and gender.

Respondents of the pilot study by age groups				
	20-29	30-39	40 and more	Total
N (pilot study)	9	3	1	13
Females				
	20-29	30-39	40 and more	Total
N (pilot study)	8	3	0	11
Males				
	20-29	30-39	40 and more	Total
N (pilot study)	1	0	1	2

For the majority of the participants of the pilot study, it was the first e-learning course in their life (88%, 14 participants out of 16 who completed the *Time for reflection* questionnaire). An additional difficulty, which they found uncomfortable, was the lack of face-to-face contact (24%, 4 participants out of 17 who suggested the changes to be introduced into the course in an open-ended question) with the online tutor, as they met twice only: at the beginning and at the end of the experience. It was noticed that they preferred to discuss difficulties with the teacher who carried out face-to-face ICT classes regardless of the fact that this person was not engaged in the organization of the online course. Direct contact with the online tutor via a communicator or email was rare in spite of encouragement during the initial meeting as well as the contact details provided in the syllabus of the course. Hence, it was noticed that blended courses run by the same teacher might bring better results in terms of online communication. Therefore, in the main study the online tutor was the same person who taught the face-to-face classes.

Another aim of the pilot study was to check if the research tools, namely, questionnaires, were well prepared. This proved to be true as the alterations included in the course

of the pilot study in the form of updating the *Attitudes and Motivation Questionnaire* – (henceforth AMQ) with additional questions concerning the trainee teachers’ age, education, place of work, as well as details concerning their computer use and skills, the computer use workshops as well as ICT use self-assessment and the respondents’ assessment of the EETTPM course (see Appendix H.3.) were all found to be sufficient. In the next section the objectives of the main study are going to be discussed.

4.2.3. Objectives of the main study

The research depicted in the present dissertation is aimed at the understanding of the motivational and attitudinal factors in the online environment and their relationship with EFL trainee teachers’ achievement on the basis of the adapted socioeducational model depicted in section 3.5. It is hoped that the objectives of the study may prove to be relevant not only to teacher educators but many other professionals working in the field of education, technology, psychology and motivation.

At the beginning of the investigation, research questions instead of hypotheses were formulated and addressed. The research was of a primary type whose main purpose was the estimation of whether motivation and attitudes towards ICT contribute to the achievement of EFL postgraduate trainee teachers in the online methodology course. The main body of the study investigated the relationship between the course achievement and thirteen variables based on the model proposed by Gardner followed by additional two variables: an EFL achievement measure, and methodology achievement measure, assessed with the use of two separate tests.

There were six research questions in the study. The first three concerned its context, while the next three were the main research questions:

1. What was the participants’ ability to use ICT?
2. What was the participants’ willingness and ability to use technology to teach English?
3. What were the EFL trainee teachers’ attitudes towards e-learning?
4. What were the relationships between the motivational and attitudinal variables?
5. What was the relationship of each of these variables with measurements of achievement in the course?

6. What were the relationships between the participants' EFL and methodology competence and measurements of achievement in the course?

Hence, the main research questions of the study concentrated around the investigation of the EFL trainee teachers' attitudinal and motivational variables towards technological advances in education and their interrelationship with achievement in the online course. Moreover, their willingness and ability to use information and communications technology in the EFL classroom were the subject of the analysis, constituting the contextual background to the study. Following Chapelle and Duff (2003: 158) the present author believes that the context of a study exerts a significant impact on the outcomes of an investigation, so the main research themes were accompanied by a considerable amount of data concerning the participants and the researched online course.

4.2.4. Participants of the main study

The participants of the main study were 40 postgraduate EFL trainee teachers at Wyższa Szkoła Języków Obcych (WSJO) in Poznań. Apart from Adam Mickiewicz University, School of English, this is the second institution in Poznań which offers EFL teacher education programmes to teachers of various subjects. There were a number of factors which influenced the researcher's choice of the particular kind of participants for the investigation. One of them was the reported change in the approach to education in general – see section 2.2. – so it was believed to be interesting to investigate the attitudes of those who had already been in the teaching profession for some time. The second reason was the growing interest in the use of ICT in the EFL classroom, so that it was expected, that having experience in teaching, it would be easier for them to relate the knowledge gained throughout the course to their everyday classroom practice and draw meaningful conclusions about the place of ICT in teaching English.

Among the 40 respondents of the study proper, 25 (62.5%) were in the age range 20-29. The subsequent age range, 30-39 included 15 participants (37.5%). As it was in the case of the pilot study, female trainee teachers constituted the majority of participants. Consequently, in the total number of 40 respondents, 37 (92.5%) were females, while there were only 3 (7.5%) male participants. The results of the analysis are presented in Table 6.

Table 6. Respondents of the main study by age and gender.

Respondents of the main study by age groups				
	20-29	30-39	40 and more	Total
%	62.5%	37.5%	0%	100%
N (study proper)	25	15	0	40
Females				
	20-29	30-39	40 and more	Total
%	57.5%	35%	0%	92.5%
N (study proper)	23	14	0	37
Males				
	20-29	30-39	40 and more	Total
%	5%	2.5	0	7.5%
N (study proper)	2	1	0	3

Another issue which was investigated about the participants was their education – see Appendix C, Table 3. In the group of 40 participants of the main study, 37 (92.5%) possessed an MA degree while 3 of them (7.5%) a BA only. 9 of the MA graduates had completed additional postgraduate studies. The majority of the participants of the main study (21, 52.5%) had majored in education or other languages, among which the most popular were German and Polish, and various studies connected with education, such as pedagogy and applied linguistics, for example. Almost a quarter of them had graduated from social sciences, mostly economics and 5 from studies connected with science. Three of the respondents possessed a BA diploma in English, English translation and applied linguistics.

The study revealed that, contrary to the expectations, not all of the participants were teachers – see Appendix C, Table 1 for details. In the group of 40 participants, 26 (65%) had experience as teachers, while 13 (32.5%) did not. Moreover, 14 (35%) of them were or used to be English teachers. The great majority of the 26 participants of the online course who declared to be teachers were young, and among them 16 had experience of less than 3 years. Among the 14 teachers of English, 12 had been teaching for less than 3 years. The teachers of other subjects, who had started the postgraduate EFL studies, constituted a group of 12 participants. Among them, 7 were German teachers, while others taught Polish, Maths and ICT, PE, elementary education and pedagogy. One of the participants was a Polish and English teacher at the same time.

The participants of the investigation worked in state schools at primary, lower secondary as well as higher secondary levels but also in private schools – see Appendix C, Table 2 for details. In the group of 26 participants who declared themselves to be teachers, 13 worked in primary schools, among them 10 worked in primary schools only, 3 both in primary schools and lower secondary schools at the same time, while one person in primary school and higher secondary school and one in primary school and kindergarten simultaneously. 3 participants were private school employees, while 2 worked in technical college; the same number of teachers worked in lower secondary school only. One person worked in higher secondary school, another in lower secondary school and higher secondary school. One of the trainee teachers used to have experience at university level in Indonesia and in a private school in Poland.

4.2.5. Design of the studied course

The online course *Enhancing Effective Teaching through the Project Method* was designed according to the recent trends in teacher education described in chapter two. One of the main goals of the course was to involve trainee teachers in a self-awareness development as well as the development of their own theories of teaching, which would allow them to make conscious decisions in everyday practice in line with the current shift from teacher training to teacher education. The course was designed to provide the participants with a comprehensive and in-depth understanding of the constructivist philosophy and to constitute a link between the theory and practice of teaching so that the participants' beliefs about teaching would become clearer to themselves. Another aim was to provide them with workable ideas which could be incorporated into their practice. In order to achieve these goals, the participants were asked about their own experiences with learning English. They were also asked to describe an example project they had carried out with their students and to comment on other participants' descriptions of projects.

Learning about teaching extends far beyond a pre-service programme as it is not possible for trainee teachers to acquire all the necessary skills without hands-on experience. The philosophy underpinning the design of the course was that EFL trainee teachers should be actively engaged in the learning process, and therefore they were involved in a number of “learning about learning” tasks providing them with the opportunity to behave in an

autonomous way and take more responsibility for their learning. It was anticipated that the e-learning course would allow EFL trainee teachers' to develop their abilities to organise and monitor work, cooperate with others, share experience and overcome difficulties.

Moreover, an inquiry-based approach to learning, understood as having less emphasis on prescription, was adopted in the design. Therefore, the online EETTPM course prepared for trainee teachers consisted of many tasks which allowed them to examine different approaches to the learning and teaching process and then to choose the ones which best suited their beliefs and preferences. In this way, instead of being told what to do and how to do it, the EFL trainee teachers were engaged in conducting their own inquiry on improving the effectiveness of their teaching which was accompanied by the surveys they were expected to carry out after implementing a project among their own students in their own classrooms. The participants were requested to reflect on their own teaching and filter their former practice through the constructivist lens, designing project lessons according to constructivist principles and to comment on their students' performance afterwards. This experience enabled them to learn by "doing" while simultaneously learning from other participants of the course by sharing their experience.

The advances in technology, especially in information and communications technology, determined the way of delivery of the online course. It was a reaction to the growing need for hands-on practice in the field and for the integration of the technical as well as pedagogical aspects. The course in question was designed to encourage trainee teachers to adopt e-learning to their own needs in the future in their own EFL classroom. Therefore, it was designed with the use of a very popular and easily available Moodle (Modular Object-Oriented Dynamic Learning Environment), a free source e-learning software platform of Moodle Pty ltd. In the case of the EETTPM course it was located on the server of AMU, Faculty of Chemistry.

The course involved trainee teachers in ten (in the case of the pilot study) and eleven (in the case of the main study) weeks of active participation both on-line, using the Moodle platform, and in their own classrooms. The course consisted of various resources (citations, links to articles and a video – see Appendix B) which were necessary for the completion of the required tasks.

The first part of the course was: *Let's start – edit your profile*. It lasted one week and consisted of two elements: edition of the participants' profile with a photograph and a short description, as well as getting acquainted with the syllabus of the course. The profile

constituted an important element allowing for the creation of the online community and was used in communication between the participants.

During the second part of the course, *Your experience*, the participants were encouraged to share their classroom experiences, values and beliefs about teaching and learning. This part consisted of three tasks. The first of them concerned the participants' own EFL secondary school classes. In open-ended questions they were asked about the most memorable issues about the classes, as well as the best language course they had participated in and the advice about learning English they would like to have had and that they had not had at that time. In the second task, the participants were asked if they had ever used the Project Method, about the advantages and disadvantages of using it in the foreign language classroom, as well as if whether they considered it to be an effective way of learning English. After the task, the participants were expected to describe an example project and, in the next one, to read the example projects described by other participants, commenting on the one they liked best. Task five consisted of several questions about the Project Method which they were to mark according to their level of agreement on a five-point scale. Thus, this part of the course reached back in time to make the participants reflect on their own experiences as learners and their observations concerning the Project Method.

The objective of part three, *Constructivism and teaching English*, was to familiarize the participants with constructivist principles. Three links to articles were included; namely, *My teaching philosophy* by Douglas Orme [n.d.], *Characteristics of constructivist learning and teaching* by Elizabeth Murphy (1997d), and *On Constructivism* by Susan Hanley (1994); this was together with a definition of constructivism by Siek-Piskożub (2006: 163) and features of a constructivist teacher by Brooks and Brooks (2001: 101-118). Additionally, the participants were asked to watch a video with Jean Piaget talking about the aim of education. One of the tasks was a crossword on constructivism (Task 7) and two matching exercises (Task 8A and 8B), which required the participants to find appropriate words in the resources provided and to match two words to form a constructivist collocation. The two tasks aimed at familiarizing the participants with the constructivist vocabulary which they were expected to use in the next part of the course when designing a project. Two other tasks from this section consisted of open-ended questions, which were asked to make trainee teachers revise the constructivist principles and to check their understanding of the included resources. On the basis of the materials (in Task 6) the trainee teachers were to come up with one or two examples of activities in the language classroom that would match

the constructivist paradigm, and to write down three adjectives describing a constructivist teacher. The last task in this part (Task 9) was to read one of the articles and express an opinion about its content as well as to provide a comparison between a constructivist and traditional classroom. Reflection on the constructivist principles, carried out in this part, was necessary to complete the next part of the course.

In part four, *Designing a constructivist project*, the participants were asked to think about the possible ways of implementation of the constructivist ideas in their everyday practice and to express their opinions online, so that other participants could read them. After analyzing the list of difficulties with projects expressed by the participants of the pilot study, they were asked to think about the ways in which projects might be made more constructivist. The issues to be considered included planning, data collection, forms of presentation, assessment and the role of the teacher. After reflecting on the aspects of the Project Method they were asked to design a constructivist project to be carried out later. It is important to notice that the participants were able to view each others' responses.

The next part, *Project in action*, took place in the participants' classrooms during the practical project lessons they were required to carry out. They were asked to conduct a survey among two chosen students after the lesson.

The final part consisted of three questionnaires *Time for reflection*, *Technology survey*, and an *Attitudes and Motivation Questionnaire* described in the next section.

4.2.6. Research instruments

Since research tools are determined by the research methodology adopted, the present study was carried out with the use of both quantitative as well as qualitative methods. The main source of data for the present study constituted questionnaires administered to postgraduate EFL trainee teachers, which included both qualitative and quantitative measures. One of them was conducted in order to investigate the computer literacy of the participants and their ability to use information and communications technology (see Appendix H.1. *Technology survey*), while the second one, *Time for reflection*, (see Appendix H.2.) was to provide data about their remarks concerning their participation and achievement in the EETTPM online course. The main research instrument, however, was the questionnaire based on Gardner's AMTB test – *Attitudes and Motivation Questionnaire* modified in order

to fit the particular context in which the learning process of the EFL trainee teachers was taking place (see Appendix H.3.). It included a set of questions connected with background information about the trainee teachers as well as measures of attitudes and motivation towards computer technology and the particular online course.

All the three questionnaires, namely, the *Technology survey*, *Time for reflection* and *Attitudes and Motivation Questionnaire* constituted an integral part of the course; the first two were conducted in English, while the AMQ, which was the most elaborate, was prepared in Polish. The aims of the questionnaires were twofold: firstly, they were a part of the course itself and constituted a tool for reflection for the trainee teachers, to stimulate their development of reflective learning and teaching; secondly, they were designed to provide data for research analysis. Therefore, some of the questions included, although important for the course performance, were not relevant for the present investigation.

The *Technology survey* carried out in English included questions concerning the participants' ability to use different computer programmes, interactive whiteboards as well as the frequency and ways of using the Internet. The respondents were also asked in an open-ended question if it makes any difference when the teacher uses technology during a lesson and if the pupils expect teachers to use technology. Other two open-ended questions concerned the advantages and disadvantages of using technology in the classroom, while the next two asked if the trainee teachers had already used technology during lessons and if they felt prepared to do it in the future.

The *Time for reflection questionnaire* concentrated on the participants' attitudes towards e-learning courses and their opinions concerning the effectiveness of distance learning on a five point Likert scale ranging from strong agreement to strong disagreement. They were also asked about their opinions concerning the *Enhancing Effective Teaching through the Project Method* online course, its advantages and disadvantages, and requested to suggest any changes they found necessary to influence the participants' preparation for the job of a teacher. The respondents were to answer if it was their first e-learning course and which elements they found particularly useful for a prospective teacher, as well as if they were going to use e-learning with their own students in the future. Other two open-ended questions concerned the influence of the content of the course, namely, the constructivist principles, on the participants' attitude towards the teaching/learning process and way of thinking about projects. The next part of the questionnaire consisted of the participants' reflections after having carried out the constructivist project in their classrooms. The last

question concentrated on the trainee teachers' preference for participating only in traditional classes instead of blended courses held both online and in the classroom. Participants were also provided with space for additional comments.

Since Gardner's socioeducational model was operationalized by the Attitude/Motivation Test Battery described in section 3.3.1., similarly, such an instrument had been worked out for the present model adapted for teacher education in the online environment. The main components of the test together with the measurement scales are included in Appendix G. The measures associated with the present model of online teacher education are presented in Table 7. *Integrativeness*, as understood in the study, can be defined as an open interest in ICT as well as the desire to identify with the requirements of the part of the society or the professional environment, in particular, which uses technology on a regular basis. It is assessed by three scales: (a) *Attitudes towards using technology in the classroom*, (b) *Interest in ICT*, (c) *Extrinsic Motivation*.

Attitudes towards the learning situation reflect evaluative reactions of the participants to the online course learning context. They are assessed by three measures: (a) *Attitudes towards the online learning environment*, (b) *Attitudes towards ICT in teacher education*, and additionally (c) *Attitudes towards the content of the course*.

Motivation concerns the effort expended, desire to learn the content online as well as favourable attitudes towards learning in the online environment. It is measured by two scales: (a) *Motivational intensity* and (b) *Desire to learn to use technology*.

In the group of other non-motivational variables, *ICT anxiety* as well as *Computer confidence* can be distinguished as very important factors which can contribute to a better understanding of the relationships and influences under consideration. Therefore, it was decided to include the variables in the investigation. *ICT anxiety* reflects the individual's apprehension in the online environment and in the situations requiring the use of technology. In the study in question it was measured by: (a) *Computer use anxiety* and (b) *Anxiety concerning the participation in the online course*. While *Computer Confidence*, which is a concept strongly related to anxiety, was investigated with the use of another two measures: (a) *Persistence to use ICT* and another measure under the same name (b) *Computer confidence*.

For the purposes of the present dissertation, instead of Gardner's instrumental and integrative orientation, extrinsic and intrinsic motivation variables were introduced, as it was believed to better suit the needs of the investigation. Motivation was divided on the

basis of its source, so that the desire to be able to use ICT stemming from the outside e.g. due to the requirements of pupils, headmasters or society in general were defined as extrinsic motivation, while the factors stemming from the inside, an inner drive of the participants, such as the need to be considered well-qualified were defined as intrinsic motivation.

Table 7. Attributes measured by the Attitudes and Motivation Questionnaire in teacher education in an online environment (adapted from Gardner 2001: 10f.).

<p>Integrativeness</p> <p>Attitudes Towards Using Technology in the Classroom</p> <p>Interest in ICT</p> <p>Extrinsic motivation</p>
<p>Attitudes Towards the Learning Situation</p> <p>Attitudes Towards the Online Learning Environment</p> <p>Attitudes Towards ICT in Teacher Education</p> <p>Attitudes Towards the Content of the Course</p>
<p>Motivation</p> <p>Desire to Learn to Use Technology</p> <p>Motivational Intensity</p>
<p>ICT Anxiety/ Computer Confidence</p> <p>Computer Use Anxiety</p> <p>Anxiety Concerning the Participation in the Online Course</p> <p>Persistence to use ICT</p> <p>Computer Confidence</p>
<p>Intrinsic Motivation</p> <p>Intrinsic Motivation</p>

The *Attitudes and Motivation Questionnaire* was carried out in Polish after the online course completion; it started with questions concerning the general information about the participants, some of which were to complement the data which were found insufficient after the analysis of the first two questionnaires: the *Time for reflection*, and the *Technology survey*. The questions concerned the participants' age, education, work experience, as well as the number of hours they used a computer every day and the frequency of use of e-mail, webpages, games, preparing materials for classes and searching for such materials on the Internet, communication with students, online shopping, as well as reading

professional methodological literature. They were also asked if they had participated in any technology workshops before, and were required to self-evaluate their ability to use ICT for teaching English as well as for their participation in the online course. The course *Enhancing Effective Teaching through the Project Method* was also to be assessed. The main body of the questionnaire, however, was focused on motivational and attitudinal factors.

When designing the *AMQ* questionnaire for the present study, it was necessary to work out a compromise. On the one hand, due to the fact that motivation is a highly complex and multifaceted issue, it seemed to be necessary, in order to obtain reliable results, to administer an elaborate questionnaire. On the other hand, there are limitations connected with completing long questionnaires by respondents such as the amount of time they are willing and able to spend on answering questions. In order to obtain trustworthy results, before trainee teachers became tired, it was decided to cut down on the number of items focusing on each variable by eliminating the opposite responses in the belief that only positively or only negatively loaded multi-item scales were going to preserve their validity. Moreover, the scope of the instrument, in comparison with Gardner's original test, was narrowed down. The decision was based on the assumption that shorter questionnaires were not going to discourage the respondents and their answers were going to be more consistent and reliable.

As a result of the adjustments, a questionnaire which contained measures of motivation, attitudes and anxiety connected with computer technology as well as achievement and self-evaluation scales of course performance was produced. Measures on 13 variables (from V1 to V13) were obtained which were assessed with the use of a 5-point Likert scale, ranging from strong disagreement to strong agreement. For the anxiety scales, larger values indicated higher anxiety levels. The scale descriptions were adapted from Gardner et al. (1997: 348) and based on the AMTB test adjusted to a university level. The items used are reproduced in Appendix G and grouped by scale. Every item is preceded by a number referring to the item number in the questionnaire for the reason that they were presented to the participants in a random order and without any description of the categories.

The analysis was enriched by trainee teachers' opinions expressed online while completing the assigned tasks. The analysis of their responses allowed the present author to draw conclusions concerning the main objectives of the research study. Collecting data in the form of trainee teachers' contributions while completing the tasks in the e-learning environment revealed a new dimension of research opportunities allowing for the reduction of

some inconveniences of the survey study and updating it with a more complete view very similar to the one which can be obtained through interviews.

The results of the quantitative part of the investigation will be presented together with the qualitative data in the form of quotations in order to give depth to the understanding of the issues in question.

The English test consisted of three grammar and vocabulary tasks: two multiple choice exercises and a word-building one, while the methodology test consisted of ten open-ended questions. Eight of them concerned the issues discussed during both face-to-face classes and the online course, while two other questions focused on two chosen methodology books the trainee teachers were required to read.

4.2.7. Methods of data analysis

Due to the fact that the data concerning the investigation were gathered from a number of questionnaires as well as from the trainee teachers' responses online, there was a need to categorize the information. Therefore, it was divided into four major sections. First, the background information concerning the participants was analysed including the issues about their experience, education and professional background, followed by the information concerning their abilities to use information and communications technology, and the issues connected with their ability and willingness to use such technology to teach English, as well as their attitudes towards e-learning in general. The second part of the investigation consisted of the data collected by means of a questionnaire based on Gardner's AMTB test, while the third part included the data concerning measures of aptitude collected with the use of two tests, and in the last part the participants' achievement measures in the online EETTPM course were garnered. The main components of each of these sections are presented in Table 8.

Table 8. Organization of data.

Background information	
Part one: Education and professional experience	
Part two: Ability to use information and communications technology	
Part three: Ability and willingness to use technology to teach English	
Part four: Attitudes towards e-learning	
Attitudes and Motivation Questionnaire	
1. Attitudes towards the online learning environment	
2. Attitudes towards ICT in teacher education	
3. Attitudes towards using technology in the classroom	
4. Attitudes towards the content of the course	
5. Desire to learn about technology	
6. Computer use anxiety	
7. Anxiety concerning the participation in the online course	
8. Interest in ICT	
9. Intrinsic motivation	
10. Extrinsic motivation	
11. Motivational intensity	
12. Persistence to use ICT	
13. Computer confidence	
Competence measures	
1. EFL competence	
2. Methodology competence	
Achievement measures	
A. Test (M1)	
Online test on constructivism (max. 20 credits)	
B. Organizational issues (M2)	
1. Keeping deadlines (max. 10 credits)	
2. Carrying out of the project with students (max. 10 credits)	
C. Language used (M3)	
Constructivist vocabulary used (max. 20 credits)	
D. Quality of work (M4)	
1. Quality of the constructivist project designed by the participant (max. 10 credits)	
2. Quality of reflection after the course (max. 10 credits)	
Total: 80 credits	

Throughout the process of data analysis a variety of statistical tools were used ranging from simple descriptive statistics carried out in order to find out central tendencies in the set of data, to multivariate statistics. With regard to the general background data concerning the trainee teachers, the mean score or a frequency analysis was used where necessary, while the most elaborate survey, the AMQ test, required additional, more sophisticated methods such as calculating correlations and factor analysis. The qualitative data

gathered from the responses to open-ended questions in the questionnaires as well as from the tasks in the online course complemented and gave depth to the quantitative outcomes, which contributed to a better understanding of the phenomena in the context-specific settings.

Unlike the *Attitudes and Motivation Questionnaire*, the other questionnaires were conducted in English, so that there was no need to translate the responses into Polish, and as a result, actual participants' answers were the subject of analysis, limiting the influence of the researcher's interpretation on the outcomes of the study. Due to the fact that the original words of the respondents were cited, mistakes occurred; but the present author decided not to correct them in order to preserve the genuine intentions of the participants.

The data obtained in the AMQ were computer-coded. The statistical analyses carried out in the present dissertation were performed with the use of a software system – STATISTICA of Statsoft, Inc. (2010), which was licensed to School of English, Adam Mickiewicz University, Poznań, Poland.

In order to measure the reliability of the AMQ items, which in the majority were gathered with the help of 5 different questions each, the internal consistency reliability α was calculated. The responses obtained from the whole group of respondents varied in spite of the fact that they were intended to quantify the same aspect. The stronger the correlation between the responses, the greater the internal consistency reliability of the instrument. The internal consistency reliability (α) coefficients obtained in the study are going to be analysed in section 5.2.1. Below a short description of each of the variables used in the study is provided.

Attitudes towards the online learning environment (V1). The scale consists of five positively worded items. A high score is a proof of a positive attitude.

Attitudes towards information and communications technology (ICT) in teacher education (V2). The scale consists of five positively worded items. A high score indicates a positive attitude.

Attitudes towards using technology in the classroom (V3). Five positive items comprise the scale. A high score reflects a positive attitude.

Attitudes towards the content of the course (V4). This measure consists of six positive items, with a high score indicating a positive attitude.

Desire to learn about technology (V5). Five positive items comprise this measure. A high score indicates a positive attitude.

Computer use anxiety (V6). This measure consists of five negatively worded items. A high score reflects a considerable level of apprehension when using computer technology.

Anxiety concerning the participation in the online course (V7). Five negatively worded items comprise this scale, with a high score indicating a considerable level of apprehension in the online environment.

Interest in information and communications technology (V8). This measure consists of five positively worded items, with a high score indicative of an interest in learning about and using computer technology.

Intrinsic motivation (V9). This scale consists of five positive items which assess the extent to which the participants seek to learn about computer technology stemming from internal motives.

Extrinsic motivation (V10). This measure consists of five positively worded items assessing the degree to which the participants seek to learn about computer technology for the reasons stemming from external motives.

Motivational intensity (V11). Six positively worded items comprise this measure, with a high score representing a considerable effort by the participants to learn to use technology.

Persistence to use ICT (V12). This measure consists of seven negatively worded items assessing the impact of various factors on refraining from technology use of the participants. The negative value means that the participant is persistent in ICT use.

Computer confidence (V13). This measure consists of five positively worded items and assesses a trainee teacher's self-confidence when using technology.

As the main purpose of the investigation was to determine the structure of the relationships between the measures of attitudes, motivation and anxiety and the participants' achievement in the online course, the data analysis was conducted in two steps. The first, undertaken with the use of factor analysis (see section 4.1.4.), was to find relationships between the 13 individual variables depicted above. The second one was to find out how the various individual difference variables relate to the participants' achievement (see Table 9) measured by the online test on constructivism, organizational issues such as keeping deadlines and carrying out the project with pupils, the ability to use constructivist vocabulary when answering open-ended questions and quality of work during the course measured by the quality of the constructivist project designed by the participants, and of their reflections

after the course. In order to do this, correlations of the aggregate scores with achievement grouped into four items were calculated.

Table 9. Achievement measures in the EETTPM online course.

Achievement measures	
Item	Score
A. Online test on constructivism (M1)	
A1. Task 7. A crossword – constructivism	5 points
A2. Tasks 8A and 8B. Characteristics of constructivist learning and teaching – key terms	5 points
A3. Task 6. Constructivism – quiz	5 points
A4. Task 9. Read the text “On constructivism” and finish the sentences	5 points
total score: Online test on constructivism	20 points
B. Organizational issues (M2)	
B1. keeping deadlines (Part 2, Part 3 and Part 4 of the course)	10 points
B2. carrying out the project with students	
a. a summary in the form of reflection included	5 points
b. surveys completed by pupils delivered	5 points
total score: Organizational issues	20 points
C. Language used (M3)	
constructivist vocabulary used	20 points
total score: Language	20 points
D. Quality of work (M4)	
D1. quality of the constructivist project designed by the participant (Task 15 in the online course)	10 points
D2. quality of reflection after the course (a table in <i>Time for reflection survey</i>)	10 points
total score: Quality of work	20 points
TOTAL SCORE (A+B+C+D)	80 points

The four areas of assessment of the participants’ achievement in the course were defined as it was believed that the test on constructivism (M1 – *Online test on constructiv-*

ism) included in the course was not valid enough and it seemed to be necessary to take more items into account. The test consisted of a crossword (Task 7), two matching exercises (Task 8A and 8B) and a revision of constructivist principles (Task 6) as well as a task checking the participants' understanding of one of the included articles (Task 9). The total score in this part was 20.

The score for organizational issues (M2 – *Organizational issues*) consisted of two main components. The first of them was the fact of keeping deadlines, while the second one concerned the fact of whether the participants carried out a project with their own students. The measure concerning keeping deadlines was calculated only for Parts 2, 3 and 4 of the course due to the fact that Part 1 was merely an introductory one and the practical component in Part 5 did not depend directly on the participants themselves, but on their possibility to carry out a project, namely, it could have depended on headmasters and mentors in the chosen schools. The average delay, if one occurred, was calculated for each of the three parts separately by adding up the number of days of delay for each task in Parts 2 and 3 and dividing them by the number of tasks. Part 4 was treated as a whole because the final element “Design a constructivist project” depended on the completion of the previous elements, so only the time of delivery of the last task was taken into account. Then the average delay for all the three parts was calculated. The score gained by the participants was granted according to Table 10 below and the final average numbers of delay were rounded to the nearest tenth from 0.1 to 0.4 down, and from 0.5 to 0.9 up.

Table 10. Score for keeping deadlines.

Average delay in days	0	1- 10	11- 20	21- 30	31- 40	41- 50	51- 60	61- 70	71- 80	81- 90	More than 91
Score	10	9	8	7	6	5	4	3	2	1	0

Another measure of achievement was the fact of acquiring the constructivist vocabulary (M3 – *Language used*). On the basis of the resources included in the course, the articles and links, 21 key words and expressions were identified. The participants' contributions in Part 4 of the course were analysed, in order to find the particular uses of the vocabulary in the constructivist context, and counted. The results of the investigation are provided in Appendix I. It was assumed that the more often the constructivist vocabulary was

used, the more successful the particular person was in acquiring the content of the course. The number of constructivist items used was then related to the best result among the 40 participants – which was 65.

The last component of the achievement measure was the quality of work (M4 – *Quality of work*) which was assessed on the basis of the participants’ performance in the course. Firstly, the quality of the constructivist project designed by individual participants was analysed and then the quality of reflection after the course completion, which was included in the *Time for reflection* questionnaire. This time, not only its existence was important, as it was in the case of the organizational issues, but the content was also assessed. In both cases it was checked if the answer was relevant, exhaustive and if it used the constructivist principles. The measures of achievement in this part are presented in Table 11.

Table 11. Measures of achievement concerning the quality of work.

Score	Measures of achievement
0-4	the answer poorly relevant to the question, not exhaustive, constructivist principles not used or used to a very small degree
5-7	the answer relevant to the question, developed quite well, constructivist principles used at a satisfactory level
8-10	the answer relevant to the question, exhaustive, constructivist principles skilfully applied

The four areas investigated in order to measure the level of the participants’ achievement in the course were believed to provide more insight into the real performance of the trainee teachers, who were assessed not only on the basis of their ability to answer closed and open-ended questions requiring knowledge of the constructivist principles but also on the ability to carry out a project and to reflect on their performance.

4.3. Conclusion

The research methodology, which was chosen in the present investigation, was a mixture of both qualitative and quantitative ways of gathering and analysing data in order to overcome the limitations connected with the traditional approach, embedded in the positivist theory. The choice of measurements was made in order to identify systematic patterns in the investigated phenomena as well as to enrich the results with the participants’ perspectives. The present author believes that both methods complement each other and when used simulta-

neously enable the researcher to conduct a higher-quality research, which provides more insight into the reflection on the individual's performance indicating the possible trends prevalent in the chosen population. The results of the study presented in the next chapter provide a description of how the significant changes, which are taking place due to the development of the information and communications technology, affect EFL trainee teachers' attitudes and motivation to learn and if it influences their achievement in the online environment.

Chapter 5: The results of the research study – postgraduate EFL trainee teachers' attitudes and motivation in the online environment

Introduction

Having outlined the theoretical background to the study as well as the methodological details of the process of data collection and analysis in previous chapters, further analysis of the data will be provided in the following part of the dissertation. The focus of the research was the performance of the postgraduate EFL trainee teachers in an online EFL methodology course and the impact of their attitudes and motivation on the course achievement. The findings are presented in line with the research questions which were addressed by the investigation. A mixture of quantitative and qualitative approaches was chosen for the analysis of the data due to the fact that the notion of attitudes and motivation is a very complex and multifaceted one. Therefore, using both methods of gathering and analysing data was believed to bring more reliable and useful results. In the present section, quantitative results are supplemented with complementary qualitative measures in the form of trainee teachers' voices, which were believed to contribute to a better understanding of the issues under question.

The chapter is divided into three parts. Firstly, the data concerning the context of the investigation, which includes a summary of the postgraduate trainee teachers' ability to use ICT, their willingness and ability to use technology to teach English together with their attitudes towards e-learning. Secondly, there is the data focusing on the main research questions and addressing such issues as the relationships between motivational and attitudinal variables, followed by the analysis of the relationships between these variables with measurements of achievement and supplemented by the analysis of the relationship between two

additional variables and achievement. Finally, the limitations of the investigation are going to be depicted.

5.1. Data for the research concerning the context of the study

In view of the fact that the issues of attitudes and motivation constitute such a complex and multifaceted matter, it is very important to provide a comprehensive description of the context of the study in which the learning process was taking place. In the present study the data concerning the educational and occupational characteristics of the participants of the e-learning experience is of vital importance for the understanding of the results (see section 4.2.4.) as well as the data concerning their familiarity with ICT use, willingness and ability to use ICT in their EFL classroom and their attitudes towards e-learning, which are presented in the next section..

5.1.1. The trainee teachers' ability to use ICT

The objective behind the questions concerning the ability of the participants to use ICT was to observe if they were familiar with technological advances and if they used technology in their professional life. For the purpose of the present study it was interesting to investigate the ability of the participants of the online course to use technology as it was supposed to have a significant influence on the results. The participants were asked about the frequency and purpose of their use of a computer and the Internet, and their ability to use computer programmes and an interactive whiteboard.

The study revealed that the majority of the participants of the present study used a computer for less than 3 hours a day (29, 72.5%). 10 participants (25%) for less than 1 hour, 11 (27.5%) for 1.5-2 hours and 8 (20%) for 2.5-3 hours a day, while 10 of them (25%) between 5.5 and 8 hours a day. The results proved that all the participants used a computer on a regular basis.

Another question concerned the proportion in which the participants of the study used a computer for work and entertainment. In the case of 28 participants (70%), the proportion was 75% for work and 25% for entertainment, while in the case of 8 of them (20%),

the time spent on work and entertainment was the same. Only 3 participants (7.5%) used a computer for work only and one of them spent 75% on entertainment and 25% on work. None of the participants used a computer for entertainment only.

In the next part of the questionnaire the respondents were asked to indicate the frequency of different areas of computer use. The analysis of the responses allowed the researcher to observe that the participants used a computer and the Internet in different ways with different incidence. Among the various activities performed with the use of the technological devices, using webpages as well as sending and receiving e-mails was the most popular one as respectively 39 (97.5%) and 38 (95%) of the informants used them often or very often. Preparing materials for lessons was also a very popular activity as 21 respondents (52.5%) did this often and 15 (37.5%) very often. A similar situation occurred when looking for materials for lessons was analysed, as in each case 18 respondents (45%) did this often and the same number of them very often. In fact, 36 respondents (90%) prepared materials for lessons or looked for materials for lessons with the use of a computer. Reading methodology literature was also quite popular among the respondents as 15 (37.5%) did this often or very often, while 19 (47.5%) did so sometimes. Only 5 participants (12.5%) admitted that they did this seldom, while one of them (2.5%) never. Another activity, namely, shopping online, was less popular; however, 18 respondents (45%) did this sometimes and 5 (12.5%) often or very often. 14 of them (35%) did shopping via the internet seldom and 3 participants (7.5%) never. It has been observed that communication with students was not very popular as 26 trainee teachers (65%) did this seldom or never, which can be explained by the fact that not all of them were teachers. Only 8 respondents (20%) used this sometimes, while only for 6 participants (15%) it was quite a frequent way of communicating with their students. None of the participants declared to do so often. Playing games was the least frequent way of computer use as 32 participants (80%) never did this. None of the respondents declared it to be an activity performed often or very often, while 7 of them (17.5%) played games sometimes and 1 person (2.5%) seldom. Concluding, in the light of the findings presented above it appears that the participants commonly used webpages and e-mail for purposes connected with their profession, while computer games were not as popular among them.

The respondents were also asked in an open-ended question what computer programmes they could use. The analysis of the obtained data revealed that the most popular software among the 40 participants of the study was Microsoft Office as almost all of them

could use it. Its individual components, such as Power Point, Word and Excel, were indicated by 28 (70%), 27 (67.5%) and 23 participants (57.5%) respectively. The whole set of programmes, which was defined as Microsoft Office, was indicated by 11 participants (27.5%) and was used by other participants of the study than those who indicated the particular computer programmes with the exception of one person, who answered both Office and Excel. Hence, it can be concluded that almost all of the participants taking part in the investigation were able to use the Microsoft Office software and were able to prepare presentations, edit documents and calculate data. However, graphic software was not so popular, because only 9 participants (22.5%) admitted they could use Adobe Photoshop of Adobe Systems and 3 participants from the group (7.5%) Corel Draw of Corel Corporation. Internet software was indicated by a small fraction of the participants, 6 of them (15%) answered that they could use Outlook Express of Microsoft, 4 (10%) that they could use the Internet Explorer by Microsoft, the same number of respondents answered they could use Mozilla Firefox of Mozilla Corporation. It seems to be true to say, however, that all the participants of the course were familiar with this kind of software as they had successfully participated in the online course which required such abilities. Other respondents answered that they could use Windows – 3 participants (7.5%), the same number of trainee teachers indicated Nero Burning Rom. The author of the present dissertation decided to exclude software which was mentioned only by one respondent as the number of computer programmes indicated by single participants was too numerous and did not contribute much to the investigation.

The respondents were also asked about their ability to use an interactive whiteboard and only 14 of them (35%) declared that they were familiar with this device despite the fact that it is becoming more and more popular in schools. The rest of the participants of the course (26, 65%) could not use it.

The last question belonging to the part, connected with the ability to use ICT, concerned the frequency of the use of the Internet by the participants. With the exception of one person who used the Internet once a week, the rest, i.e. 39 participants (97.5%), used it at least once a day including 17 who used it even a few times a day (42.5%).

Overall, the postgraduate trainee teachers reported their regular use of a computer and the Internet both for work and entertainment. It can be concluded that Information and Communications Technology, although not completely integrated into their life, had become an important part of it, so the participation in the e-learning course was not an abso-

lute novelty for them but just a different use of the device which they already used on a regular basis but in a different way.

5.1.2. The participants' willingness and ability to use technology to teach English

Apart from the participants' general ability to use ICT for various purposes, it is believed that due to the topic of the course concentrating on the issue of teaching English, knowledge about the trainee teachers' willingness and ability to use ICT to teach English would be very important for the understanding of the level of their engagement in the course. The questionnaires provided a wealth of data concerning their participation in ICT workshops, self-assessment concerning the use of ICT for teaching, their feelings about the expectations of students concerning the use of technology during lessons as well as the advantages and disadvantages of using ICT in the classroom. The participants were also asked if they already used technology when teaching.

Almost two thirds of the participants of the course (25, 62.5%) had never taken part in any workshops on the use of technology in teaching. However, 11 of them (27.5%) had such an experience once, three participants twice and one person even three times. The respondents were also asked to provide the topic of the workshops they participated in. In the whole group of 15 trainee teachers who took part in at least one workshop (37.5%), eight indicated the subject very broadly as the use of ICT in teaching, three were educated in the use of an interactive whiteboard and the same number in preparing presentations. E-learning was indicated by two respondents while e-twinning, Comenius, M Publisher, mail and searching the net as well as creating webpages were indicated once by different respondents. The number of workshops differs from the number of topics as not all participants provided the topic for every workshop while others included a few topics discussed during the workshop in question.

Although the official preparation of the participants for using technology in the classroom was not very exhaustive, a very interesting fact was observed during the investigation, namely, that 31 respondents (77.5%) admitted they felt prepared to use technology during a lesson while only 9 of them (22.5%) denied it. Moreover, when asked to assess their ability to use ICT for teaching English on a five-point scale, 12 participants (30%) assessed their ability at 3 and 21 at 4, while only 2 at 5. Only 5 respondents (12.5%) indi-

cated 2 or 1. Such a discrepancy between previous workshop participation and trainee teachers' assessment concerning their ability to use ICT may be explained by their genuine interest in the topic leading to self-study practices as 38 participants (95%) confirmed they liked technology.

Another question concerned the trainee teachers' beliefs about their present and future students' expectations towards the use of technology in the classroom. The study revealed that with the exception of 3 participants, they (i.e. 92.5%) were convinced that pupils expected them to add technological elements to lesson scenarios.

When asked about the actual use of technology when teaching foreign languages, 27 participants (67.5%) admitted they did so. In an open-ended question they elaborated on the particular uses among which video, DVD and films proved to be the most popular as 14 participants used them. Multimedia presentations were used by 12 trainee teachers. CDs were indicated by 6 of them, although it seems to the present author that the use of this device might have been so obvious for the participants that many of them did not even consider to include it in their answer. The use of the Internet during their teaching was declared by 6 respondents, while additional exercises were indicated by 5 of them. A similar number declared the use of games and songs or karaoke. 4 respondents noticed that they used listening activities or dialogues and the same number of participants mentioned the use of a computer and projector. Only 3 respondents asked their students to search for information on the Internet, while 2 of them declared the use of audio files, pictures or photos, articles or online exercises. Preparation of tests, exercises and tasks was indicated by only one participant. Other uses, like e-mails, e-cards, recording students' presentations or speeches, finding information, interactive whiteboards, sounds and quizzes were also declared by individual participants. The number of trainee teachers who declared the use of technology when teaching English (27, 67.5%) outnumbered the number of practising English teachers in the group (14, 35%). It can be explained by the fact that some of those who had not had experience as teachers might have used technology during the practical component of studies at schools or during private lessons at home. A few respondents provided such an explanation.

All the participants admitted that it makes a difference when a teacher uses technology during a lesson and the majority of them (37, 92.5%) emphasized the positive influence of technology on the teaching practice, while the responses of the remaining 3 participants (7.5%) revealed neither a positive nor negative attitude. As a result of the qualitative analy-

sis of the answers of the participants, it was observed that the reason which was most frequently used to explain the change caused by the use of technology during a lesson was the fact that it made it more interesting, supported by 22 respondents (55%). Five trainee teachers (12.5%) believed that the use of technology made the lesson more effective and the same number of them that such lessons were attracting students' attention better, while 4 of them (10%) believed that such lessons were more attractive. One of the respondents wrote (all answers of the respondents are cited in original words, as in order to avoid translation the present author asked them to complete the questionnaires in English, mistakes were not corrected) :

- (1) *“Using technology during a lesson can be more effective than conducting traditional classes. The use of technology makes lessons to be more attractive. It allows teachers to display more information, and enhance student learning! Moreover, using various technologies (such as videos, internet, overhead projectors), it can help teachers save time and energy and allow for more attention to be paid by students. Besides, letting students use technology in class can develop their creative thinking and interest of the world”* [T14].

A few subjects emphasized the fact that the use of technology caused the lesson to be more *modern* and proved the teachers' competence, for instance:

- (2) *“[...] It makes students feel that a teacher can follow the brand new trends and technological fashions and, in many cases, such a teacher is more respected by students”* [T20].

Three respondents (7.5%) emphasized the important role of visual materials in the process of learning. One noticed that thanks to technology, lessons were easier to prepare and carry out. Individual respondents stressed also the dynamism of such lessons and the fact that they were encouraging and engaging. One of them looked at the issue from the point of view of her students:

- (3) “[...] Students are interested in technology. They like surfing the Net, playing computer games and using computers, interactive boards, displays. It’s a good way to interest them in a lesson” [T18].

whereas another respondent noticed the presence of ICT in the world:

- (4) “[...] Today technology is a part of young people’s life” [T37].

Generally speaking, the respondents expressed very favourable attitudes towards the use of technology during a lesson, providing many valuable remarks concerning the ways in which ICT makes the lessons different.

Similar results were obtained after the analysis of the answers concerning the advantages of using technology during a lesson, although the respondents tried to provide more detailed and concrete replies. Many participants admitted that the use of technology made the lesson interesting (17, 42.5%). Six respondents noticed that it better attracted attention; a similar number admitted that it was involving, while another six respondents considered its adding variety to classes as an important advantage. Technology as a source of knowledge was emphasized as an advantage by five participants (12.5%), the same number of respondents pointed to the beneficial role of visual materials in acquiring knowledge by their students, while for 4 of them (10%) technology was considered to be time-saving and made the process of learning and teaching easier. A few respondents (5, 12.5%) pointed to the creativity-generating power of technology, while 3 others (7.5%) noticed that learning was more active. Two participants (5%) mentioned that learning with technology appeals to different senses, and the same number of them stated that it can be fun, attractive, motivating and effective. One of the respondents wrote enthusiastically about the role of the computer in the contemporary world and noticed its value for students with special needs:

- (5) “Computer seems to be one of the greatest wonders of the modern world. It has already revolutionized our lives more than anything we have invented so far and today it is hardly possible to imagine the world without computer. [...] Students with special needs can view, listen to, and process texts and engage actively in classroom learning” [T27].

The analysis concerning the participants' opinions about disadvantages connected with the use of technology during lessons revealed that the two aspects, namely technical problems occurring during a lesson and the fact that preparation of such classes is very time-consuming, are considered important by 12 participants (30%). Five (12.5%) did not see any difficulties, while three of them (7.5%) considered technology to be expensive and the same number of trainee teachers believed their students might be more interested in the technology and equipment itself than in the subject of the lesson. Three respondents (7.5%) complained about the lack of equipment and three others about possible mess during a lesson and less control over the pupils. The same number of trainee teachers noticed the importance of combining technological elements with traditional ways of carrying out classes as technology cannot be overused. Three participants emphasized that technology can be damaging for people's health (7.5%), or complained about the lack of human contact when working with technology (2, 5%). Others added an observation that students do not practise handwriting. One of the participants believed it to be a disadvantage that:

(6) “[...] *you have to be knowledgeable about the technology*” [T33].

5.1.3. The trainee teachers' attitudes towards e-learning

Another group of questions focused on the participants' opinions connected with e-learning as a new way of acquiring knowledge and skills. It was believed that the data on the attitude of the trainee teachers participating in the EETTPM course towards it was going to contribute to a more effective explanation of the relationships between their motivation and achievement.

The exploration of the participants' attitudes towards e-learning was carried out with the use of two groups of questions. The first group included questions concerning their views on e-learning in general. The respondents were asked if they had ever taken part in an e-learning course, what their overall attitude towards e-learning was, if they considered it to be a good way of educating teachers, if they were going to use e-learning in the future and if they preferred to participate only in traditional classes. The second group of questions focused on the *Enhancing Effective Teaching through the Project Method* online ex-

perience. The questions investigated if after the course the participants felt they were better prepared to be a teacher. They were also asked to indicate the most useful elements and to outline the main advantages and disadvantages or difficulties connected with the course. Further, they were asked to suggest any changes to the course they would like to be introduced.

The results of the analysis clearly indicate a very favourable attitude of the respondents towards e-learning in general as well as towards the particular methodology course, although their experience with online learning was very limited as only 11 participants (27.5%) had already taken part in an e-learning course before, while for 29 of them (72.5%) it was the first contact with this way of acquiring knowledge.

When asked about their overall attitude towards e-learning courses, the majority of respondents (29, 72.5%) indicated they liked them, while 3 others (7.5%) liked them even strongly. A neutral opinion was expressed by 7 participants (17.5%), while only one of them (2.5%) expressed a negative opinion. Another question concerned the trainee teachers' opinion on distance learning as an effective way of educating teachers. The findings obtained in the analysis of this questionnaire item revealed that 24 (60%) respondents agreed with it, while 3 others (7.5%) agreed even strongly. Six respondents (15%) had neither a positive nor negative opinion concerning the issue, while seven (17.5%) did not consider such a form of conveying knowledge as effective.

It appears that the respondents were satisfied with the fact that the methodology course they took part in was supplemented by the online component. In the whole group of 40 participants of the course, 38 (95%) answered they would not choose only traditional classes, while one expressed a preference towards traditional ways of learning only and one person did not provide an answer.

The experience of taking part in an online course seemed to be very important for the trainee teachers' professional career development because 32 (80%) of them wanted to use e-learning in the future with their students, while 4 (10%) were not sure about it and 4 others (10%) did not have such an intention.

Another group of questions concerned the trainee teachers' feelings about the usefulness of the EETTPM course for the job of a teacher. It was declared to contribute to a better preparation by 33 (82.5%) of the participants including 26 (65%) who agreed, and 7 (17.5%), who agreed strongly. Six respondents (15%) answered that they did not know if it

would help them while only one disagreed with the view that the course was going to influence their preparation for the job in a positive way.

Additionally, trainee teachers were asked a few open-ended questions about the online EETTPM course, which were the source of many interesting comments and served as an explanation and justification for their opinions and attitudes described above. The first question concerned the elements of the course which the participants found particularly useful. The most frequently repeated answer was that forums gave the participants the possibility to share experiences, which was mostly appreciated as 19 of them (47.5%) indicated it as the most useful element of the course. A few of them emphasized the practical value of exchanging ideas with others, for example:

- (7) *“[...] Every participant could share his/her experiences and present excellent ideas for carrying out a project. Some of them were so interesting that I decided to apply them during my lessons”* [T14].

The second most frequently indicated part of the course was the theoretical one on constructivism, as 12 respondents (30%) mentioned it. One of the participants, who had been teaching English for five years at home, admitted:

- (8) *“[...] I had never heard about constructivism and the project method before”* [T5].

Other participants noticed:

- (9) *“[...] the theoretical part provided me with lots of interesting information concerning teaching and the different point of view towards teaching itself”* [T2].

- (10) *“[...] I have learnt how important and interesting the constructivist approach is. Thanks to this course I have learnt how a constructivist classroom should look like. I have also realized that it's much more interesting than a traditional classroom”* [T6].

Six participants (15%) appreciated the possibility to carry out a real project in their classroom and the same number the process of designing a project according to the constructivist principles before its implementation. An example opinion is presented below:

- (11) “[...] *The teacher can try a project on students and see how students react, what are advantages and disadvantages of prepared work and also what are his/her strong/ weak points in being a teacher*” [T9].

The above voice introduces the next element indicated by 5 respondents (12.5%), namely, the redefinition of the role of the teacher. One of them wrote:

- (12) “[...] *It shows that a teacher should look on students as thinking human beings who have their own experience and the teacher should use it in teaching English. This method shows that the teacher is only a guide and shouldn't impose own opinions*” [T18].

While another confessed:

- (13) “[...] *I become an aware teacher. Now I know that the most important for me as a teacher is to encourage students to find some information, to give them clues where to find information and to support and listen students*” [T36].

One of the respondents seemed to regard the course as a dialogue of the tutor with the participants:

- (14) “[...] *Teacher had a dialogue with students, helping students construct their own knowledge. Teacher's role is interactive, rooted in negotiation*” [T31].

A very interesting remark was made by another participant who wrote:

- (15) “[...] *I really appreciate the surveys at the end because it means that our opinion and reflection is taken into account. Actually, it shows us that we should do the same with our students*” [T13].

Two participants answered that they considered all the parts useful, while another valued the tests:

- (16) *“[...] I also liked the tests checking my knowledge on the material I had just acquainted myself with although I didn't do very well on them” [T2].*

Another part of the questionnaire concerned the advantages and disadvantages of the course, which were regarded as most important by the participants. Again the fact that the participants could share their experiences proved to be the most valued as 20 of them (50%) mentioned it. One of them summarized the advantages of the course in the following way:

- (17) *“a. I can do the exercise whenever I want and have time for it, it's very convenient*
b. I can read materials given by teacher, then I have time for reflection, and I can return to exercises when I have ideas
c. I can read what others participants think which is great cause some of them are teachers or have more experience and I can see other points of view. During traditional classes not everybody wants share their thoughts and here we were “forced” to do it” [T19].

Overall, 16 respondents (40%) appreciated the flexibility provided by the online course, while 10 (25%) the fact that they had more time for reflection on their experience, 6 (15%) the comfort of studying at home, 5 (12.5%) the fact of learning individually, and 3 (7.5%) the possibility to choose their own pace of work. Three respondents (7.5%) emphasized that during the course performance everybody was supposed to be active and another three trainee teachers underlined that this way of learning was more interesting and attractive, while 4 of them (10%) believed that the course stimulated their creativity. In general the answers were so varied and inventive that it was very difficult to summarize the rest of them because the participants looked at the issue from very different points of view.

The disadvantages and difficulties with the e-learning course described by the participants were much more consistent. They complained mostly about the time-consuming nature of the course (14, 35%) and lack of face-to-face contact (11, 27.5%). Eight (20%)

did not like the fact that the course required self-discipline and good organization of work, while 7 participants (17.5%) complained about deadlines. Technical problems were mentioned by 6 respondents (15%). Three participants (7.5%) regarded lack of free time as a problem and the same number of them complained about too difficult a topic of the course or language used, while another three about there being no immediate or too limited feedback. One of the participants seemed not to understand the main assumptions of the course and the constructivist principles according to which it was designed:

- (18) “[...] *There is no direct contact with the person handling the course which makes it more difficult to double check whether your point of view, if different from others, is still correct or wrong*” [T20].

Referring to possible changes in the course, the most important ones suggested by the respondents were: the idea to include more references and materials (4, 10%), more direct contact with the online tutor (4,10%) and a more detailed plan at the beginning to allow students to plan work better (2, 5%). Two respondents (5%) suggested hiding each others' responses before the end of the course, which was contrary to the favourable attitudes of many other participants, who appreciated the possibility of sharing ideas with others. One participant expressed the following opinion:

- (19) “[...] *Although I enjoyed the possibility of reading what my colleagues though, I think students' responses should be hidden, at least till the deadline – it would be fair (students who did their exercise earlier may have impression that the others make use of their work) and make every single student to make some effort*” [T19].

Four participants (10%) claimed they had not enough experience to suggest any changes, while 8 of them (20%) would not change anything. Eight (20%) left a free space or a horizontal line instead of a response, which can be interpreted as lack of suggestions, and another 3 respondents (7.5%) explicitly stated they did not know what to change. Individual trainee teachers asked for examples of projects, which was surprising, as such examples were provided by other participants; for word limits for each question; and more control on the part of the online tutor as well as for more time to complete the required tasks.

Two participants asked for more strict deadlines (5%), although such deadlines were provided in the syllabus at the beginning of the course, which the participants were expected to read.

Overall, the respondents stressed the important role of ICT, and the online course EETTPM in particular, in their professional development. They showed a lot of enthusiasm both for the content of the course as well as the way it was provided. They believed technology had become an important part of everyday life and were aware that their students expected them to incorporate technology during their lessons. On the one hand, the participants enumerated many advantages of using technology during a lesson, which could contribute to more effective teaching and learning; on the other hand, they saw a few problems which could disturb classes. For the majority of the participants it was their first experience with an e-learning course, but they were willing to make use of it with their students in the future. They liked this form of learning when mixed with more traditional forms, believing that a mixed course was more effective. The constructivist content of the course proved to be very important for them and it seems that it has already influenced their thinking about the EFL teaching and learning process. In the next part of the analysis the main research questions are going to be addressed.

5.2. The results of the investigation of trainee teachers' attitudes and motivation in the online environment

The main objective of the present study was to examine the trainee teachers' attitudes and motivation towards ICT and learning in the online environment as well as to find out if these exert influence on their achievement in the online methodology course. An Attitudes and Motivation Questionnaire, together with the factor analysis used in the process of data analysis, were expected to contribute to a better understanding of if the specific aspects influence the trainee teachers' performance.

5.2.1. The relationships between motivational and attitudinal variables

Apart from the questions explored in section 5.1., the participants' motivation and attitudes towards ICT and e-learning were analysed by describing the results of the Attitudes and Motivation Questionnaire for the EETTPM course. The 13 attitudinal and motivational variables included were assessed by trainee teachers with the use of a 5-point Likert scale ranging from strong agreement (+2) to strong disagreement (-2). All the variables used in the analysis are reproduced in Appendix E and grouped by scale. As it was discussed in section 4.2.6., the variables for the present research are based on the AMTB (Gardner 1985), although the items have been altered in order to adjust them to the different context and content of the learning experience. In the present section, all the thirteen variables are going to be analysed. The figures from the tables are going to be summed up in order to add clarity to the emerging tendencies. The examination of separate variables is followed by a factor analysis carried out in order to find the relationships between the analysed data.

The first of the thirteen variables, *Attitudes towards the online learning environment* (V1) was measured with the use of five questions. As it can be seen in Table 12, the answers were consistent and the participants believed that e-learning was an effective way of educating people (35 subjects, 77.5%). 32 respondents liked learning online (80%), 31 believed they were more engaged in this environment (77.5%) and 36 were able to learn more (90%). It is interesting to notice that in spite of such favourable responses of the majority of the participants concerning the effectiveness of learning in this way; still 5 of them (12.5%) expressed the opinion that learning online was not something that they liked doing, while 3 did not think they were more engaged online (7.5%).

Table 12. Attitudes towards the online learning environment (V1).

Question	Number of participants, who answered:				
	2	1	0	-1	-2
Q1. Online courses are an effective way of educating people.	8 (10%)	27 (67.5%)	5 (12.5%)	0 (0%)	0 (0%)
Q2. I like learning online.	6 (15%)	26 (65%)	3 (7.5%)	5 (12.5%)	0 (0%)
Q3. Online learning is something I like doing.	5 (12.5%)	27 (67.5%)	3 (7.5%)	5 (12.5%)	0 (0%)
Q4. Thanks to learning online I am more engaged.	6 (15%)	25 (62.5%)	6 (15%)	3 (7.5%)	0 (0%)
Q5. Thanks to learning online I can learn more.	7 (17.5%)	29 (72.5%)	4 (10%)	0 (0%)	0 (0%)

The respondents' attitudes towards ICT in teacher education were very favourable, as all of the respondents, without exception, believed it was very important to gain knowledge and skills concerning the use of computers in teaching (Q6 and Q10). Almost all of them, about 90%, expressed the opinion that computers are an indispensable tool in teacher education programmes (Q7 and Q8) and all but one that computers improve the quality of such programmes (39, 97.5%).

Table 13. Attitudes towards ICT in teacher education (V2).

Question	Number of participants, who answered:				
	2	1	0	-1	-2
Q6. As a teacher/ future teacher I believe it is important to learn about using technology in the classroom.	17 (42.5%)	23 (57.5%)	0 (0%)	0 (0%)	0 (0%)
Q7. Computers are very important in teacher education.	14 (35%)	22 (55%)	4 (10%)	0 (0%)	0 (0%)
Q8. A computer is a necessary tool in teacher education.	16 (40%)	21 (52.5%)	1 (2.5%)	2 (5%)	0 (0%)
Q9. Computers improve the quality of teacher education.	16 (40%)	23 (57.5%)	1 (2.5%)	0 (0%)	0 (0%)
Q10. Learning about the use of computers in teaching is very useful for me.	8 (20%)	32 (80%)	0 (0%)	0 (0%)	0 (0%)

The analysis of the questions focusing around the trainee teachers' *Attitudes towards using technology in the classroom* (V3) revealed that access to ICT in the classroom was believed to contribute to being a better teacher in the opinion of 32 respondents (80%). Only one person expressed the opposite opinion, while 6 (15%) did not have any view on the topic.

Table 14. Attitudes towards using technology in the classroom (V3).

Question	Number of participants, who answered:				
	2	1	0	-1	-2
Q11. If I had access to computers in my classroom, it would help me to be a better teacher.	9 (22.5%)	23 (57.5%)	6 (15%)	1 (2.5%)	0 (0%)
Q12. I am glad teachers have the opportunity to use computers during their lessons.	15 (37.5%)	24 (60%)	1 (2.5%)	0 (0%)	0 (0%)
Q13. Teaching with computers surpasses traditional methods of teaching English.	8 (20%)	21 (52.5%)	10 (25%)	1 (2.5%)	0 (0%)
Q14. Using computers during lessons suits contemporary students' preferences.	19 (47.5%)	20 (50%)	1 (2.5%)	0 (0%)	0 (0%)
Q15. Using technology during lessons makes learning English more interesting for students.	22 (55%)	17 (42.5%)	1 (2.5%)	0 (0%)	0 (0%)

All but one of the respondents (39, 97.5%) were glad that teachers have the opportunity to use computers during their lessons and 29 of them (72.5%) were convinced that teaching with the use of ICT surpasses the traditional methods of teaching English. Only one participant was against this view, yet 10 others (25%) did not express any opinion about the matter. Another issue worth noticing is that the respondents (39, 97.5%) were convinced that contemporary pupils prefer learning enhanced by technological devices and that it makes learning English more interesting (see Table 14).

The analysis of the next set of questions connected with the fourth variable, *Attitudes towards the content of the course* (V4), proved that constructivist ideas constituting the core of the e-learning course were very important for the trainee teachers – see Table 15. All of them believed that knowledge about constructivism was vital for them in the job of a teacher, 17 participants (42.5%) strongly agreed while 23 (57.5%) agreed more generally with the opinion. Moreover, all respondents expressed willingness to use the constructivist ideas in their professional career, 18 participants (45%) strongly agreed and 22 others (55%) agreed when answering the question. All but one participant (39, 97.5%) were convinced that teachers should understand the role of the constructivist approach and that they should become familiarized with the role of the theory in teaching.

Table 15. Attitudes towards the content of the course (V4).

Question	Number of participants, who answered:				
	2	1	0	-1	-2
Q16. I think knowledge about constructivism is very important for me as a teacher/future teacher.	17 (42.5%)	23 (57.5%)	0 (0%)	0 (0%)	0 (0%)
Q17. I would like to use constructivist ideas in my work with students/ future students.	18 (45%)	22 (55%)	0 (0%)	0 (0%)	0 (0%)
Q18. Teachers should understand the role of the constructivist approach in their teaching.	22 (55%)	17 (42.5%)	1 (2.5%)	0 (0%)	0 (0%)
Q19. Teachers should have the opportunity to learn about constructivism in teaching.	15 (37.5%)	24 (60%)	1 (2.5%)	0 (0%)	0 (0%)
Q20. Knowledge about constructivism has changed my approach to teaching and learning.	9 (22.5%)	27 (67.5%)	3 (7.5%)	1 (2.5%)	0 (0%)
Q21. The course helped me in the process of introducing technology into my teaching.	8 (20%)	20 (50%)	9 (22.5%)	3 (7.5%)	0 (0%)

It is also important to notice that, in the opinion of the trainee teachers, the course has already changed their approach to teaching as 9 (22.5%) agreed strongly and 27

(67.5%) agreed with the opinion. Only one person expressed the opposite view, while 3 (7.5%) did not have any opinion. Additionally, the participants felt that the online experience helped them in the process of introducing ICT into their teaching (28 participants, 70%), among which 8 (20%) agreed strongly. Nine respondents (22.5%) did not have an opinion, while 3 (7.5%) disagreed.

The variable *Desire to learn about technology* (V5) was investigated with the use of five questions, which proved that all the respondents wanted to learn about technology (40, 100%) and 10 (25%) even strongly. They also wanted to learn how to use ICT during lessons (39, 97.5%), among which almost half (19, 47.5%) expressed strong willingness. Except for two respondents (5%) who disagreed, and two others who did not have an opinion, they wanted to use a computer naturally during their lessons (36, 90%), and 38 of them (95%) believed that computer skills were very important for them. They also expressed willingness to learn about the use of ICT in education (37, 92.5%).

Table 16. Desire to learn about technology (V5).

Question	Number of participants, who answered:				
	2	1	0	-1	-2
Q22. I would like to learn more about the use of ICT.	10 (25%)	30 (75%)	0 (0%)	0 (0%)	0 (0%)
Q23. I want to learn to use technology during lessons as much as possible.	19 (47.5%)	20 (50%)	1 (2.5%)	0 (0%)	0 (0%)
Q24. I want to use a computer naturally during my lessons.	11 (27.5%)	25 (62.5%)	2 (5%)	2 (5%)	0 (0%)
Q25. Computer skills are very important for me.	11 (27.5%)	27 (67.5%)	1 (2.5%)	1 (2.5%)	0 (0%)
Q26. I want to learn as much as possible about the use of technology in the teacher's work.	10 (25%)	27 (67.5%)	3 (7.5%)	0 (0%)	0 (0%)

The respondents were also asked a set of questions which were aimed at investigating their anxiety connected with the use of a computer (*Computer use anxiety* V6) – see Table 17. The results revealed (Q27 and Q29) that the trainee teachers did not feel uneasy when using a computer during lessons (31, 77.5%). It is also important to notice that they did not consider learning to use technology as a difficult task (36, 90%) and that nobody was of the opposite opinion. Although some of the participants (11, 27.5%) were afraid they might not be able to cope with unexpected difficulties when using a computer, 24 respondents (60%) did not worry about it. Additionally, 10 respondents (25%) were afraid that their students might know more about technology than they did, while 17 others

(42.5%) did not feel anxious about it. There was also a relatively large number of the participants who did not have any opinion (13, 32.5%).

Table 17. Computer use anxiety (V6).

Question	Number of participants, who answered:				
	2	1	0	-1	-2
Q27. Using a computer during a lesson may make me feel uneasy.	0 (0%)	1 (2.5%)	8 (20%)	21 (52.5%)	10 (25%)
Q28. I am afraid my students/ future students know much more about technology than me.	3 (7.5%)	7 (17.5%)	13 (32.5%)	12 (30%)	5 (12.5%)
Q29. I do not feel at ease when using computers.	0 (0%)	5 (12.5%)	4 (10%)	26 (65%)	5 (12.5%)
Q30. I think it is difficult to learn to use technology.	0 (0%)	0 (0%)	4 (10%)	29 (72.5%)	7 (17.5%)
Q31. I am afraid I may not cope with difficulties when teaching with a computer e.g. a computer programme may not open.	1 (2.5%)	10 (25%)	5 (12.5%)	17 (42.5%)	7 (17.5%)

Another set of questions was intended to measure the level of anxiety stemming from the e-learning experience (*Anxiety concerning the participation in the online course V7*) – see Table 18. The investigation here revealed that a vast majority of the participants were not anxious when working online, although a few individuals expressed the opposite opinion. 34 respondents (85%) denied they did not feel at ease when working online, while three others were anxious about it. Similarly, 3 respondents (7.5%) felt uneasy when completing tasks online, while 36 others (90%) expressed the opposite opinion.

Table 18. Anxiety concerning the participation in the online course (V7).

Question	Number of participants, who answered:				
	2	1	0	-1	-2
Q32. I do not feel at ease in the online environment.	1 (2.5%)	2 (5%)	3 (7.5%)	26 (65%)	8 (20%)
Q33. I am rather reluctant to ask questions and send messages when participating in the online course.	1 (2.5%)	4 (10%)	7 (17.5%)	25 (62.5%)	3 (7.5%)
Q34. I am worried that other participants seem to perform better in the online environment.	1 (2.5%)	7 (17.5%)	3 (7.5%)	27 (67.5%)	2 (5%)
Q35. I feel uneasy to complete tasks online.	1 (2.5%)	2 (5%)	1 (2.5%)	30 (75%)	6 (15%)
Q36. I express opinions online rather reluctantly.	1 (2.5%)	10 (25%)	4 (10%)	23 (57.5%)	2 (5%)

The participants' feelings about communication online brought similar results as only 5 respondents (12.5%) were reluctant to exchange messages when participating in the course against 28 (70%) of those who disagreed with the statement. 11 respondents (27.5%) admitted that they did not express opinions online willingly, but 25 others (62.5%) did not see any problem with this. What is interesting, 8 (20%) respondents were worried that other participants seemed to perform better in the course, although for the vast majority of them (29, 72.5%) it was not a problem.

The respondents were also asked about their interest in ICT (*Interest in Information and Communications Technology V8*) – see Table 19. The analysis proved that all but one of the respondents were interested in the possibilities which the use of a computer brought to the teachers' work (39, 97.5%), and that the majority of them (32, 80%) liked to learn about the use of technology, against 3 others (7.5%) who denied they liked it. Talking about the use of technology was a popular activity among 22 respondents (55%), while 7 (17.5%) did not like it and 11 (27.5%) did not have any opinion about it. What is interesting, according to the respondents, knowledge about the use of computers is worth the effort, as 38 respondents (95%) admitted it and only one of them (2.5%) denied. Moreover, the same number of participants considered learning about the use of technology in EFL teaching an interesting challenge, among which 16 (40%) agreed even strongly.

Table 19. Interest in Information and Communications Technology (V8).

Question	Number of participants, who answered:				
	2	1	0	-1	-2
Q37. I am interested in the possibilities of using a computer in teacher's work.	11 (27.5%)	28 (70%)	0 (0%)	1 (2.5%)	0 (0%)
Q38. I like to learn about the use of technology.	8 (20%)	24 (60%)	5 (12.5%)	3 (7.5%)	0 (0%)
Q39. I like to talk about using technology.	5 (12.5%)	17 (42.5%)	11 (27.5%)	6 (15%)	1 (2.5%)
Q40. Knowledge about the use of computers is worth the effort.	13 (32.5%)	25 (62.5%)	1 (2.5%)	1 (2.5%)	0 (0%)
Q41. Learning about the use of computers in foreign language teaching is an interesting challenge.	16 (40%)	22 (55%)	2 (5%)	0 (0%)	0 (0%)

Five other questions were aimed at investigating the participants' intrinsic motivation (*Intrinsic motivation V9*) – see Table 20. A range of reasons underlying the respondents' desire to learn ICT was found. 38 respondents (95%) believed that because of knowing how to use technology they would be considered to be better qualified, while 32 (80%) regarded it to be important for their own self-evaluation. However 3 others (7.5%) did not

share such an opinion. The fact of being able to use ICT when teaching was important for 36 respondents (90%) due to the belief that it would allow them to prepare their students better for a future job. For 35 respondents (87.5%) it was important in view of the fact that thanks to ICT skills they would be able to understand both the world and their students better. The findings indicated that computer skills influenced the respondents' own satisfaction as well (36, 90%), and only for one person was this not important.

Table 20. Intrinsic motivation (V9).

Question	Number of participants, who answered:				
	2	1	0	-1	-2
Q42. Learning to use technology is important for me, because I want to be considered to be a well qualified teacher.	20 (50%)	18 (45%)	2 (5%)	0 (0%)	0 (0%)
Q43. Learning about the use of technology is important for me, because I am going to consider myself to be a better qualified teacher than those who do not do it.	12 (30%)	20 (50%)	5 (12.5%)	2 (5%)	1 (2.5%)
Q44. The ability to use technology is going to allow me to prepare my students for their future job better.	8 (20%)	28 (70%)	4 (10%)	0 (0%)	0 (0%)
Q45. The fact that I am going to have computer skills will help me to understand the world better as well as the problems of my students.	12 (30%)	23 (57.5%)	4 (10%)	1 (2.5%)	0 (0%)
Q46. I feel the need to use technology during my lessons for my own satisfaction.	10 (25%)	26 (65%)	3 (7.5%)	1 (2.5%)	0 (0%)

Also extrinsic motivation (V10) was analysed, in order to find out the way in which external factors influenced the participants' willingness to learn. In the opinion of the majority of the respondents, the expectations of their students were an important motivating factor (35, 87.5%) as well as society in general (29, 72.5%) and of their headmasters (28, 70%). No respondent denied that students' expectations were significant and only individual respondents indicated the little motivational role of the two remaining factors.

The trainee teachers believed that ICT skills were important for them because many other teachers had already developed and used them (29, 72.5%). They were also convinced that it would help them to have a better position in society due to the possibility of finding a better job (34, 85%). Financial rewards proved not to be a very important motivating factor for the participants of the study, so it was decided to remove Q52 from further analysis as it was not in line with the other items and seemed to blur the results.

Table 21. Extrinsic motivation (V10).

Question	Number of participants, who answered:				
	2	1	0	-1	-2
Q47. I think the ability to use technology is important for me because headmasters expect it.	4 (10%)	24 (60%)	8 (10%)	3 (7.5%)	1 (2.5%)
Q48. There are great social expectations concerning the use of technology during lessons at school.	5 (12.5%)	24 (60%)	7 (17.5%)	4 (10%)	0 (0%)
Q49. The ability to use technology is important for me because many other teachers can already do that.	4 (10%)	25 (62.5%)	11 (27.5%)	0 (0%)	0 (0%)
Q50. The ability to use technology enables people to find a better job.	12 (30%)	22 (55%)	5 (12.5%)	1 (2.5%)	0 (0%)
Q51. Students expect teachers to use new technologies during lessons.	12 (30%)	23 (57.5%)	5 (12.5%)	0 (0%)	0 (0%)
Q52. Teachers who use technology during their lessons can expect financial rewards.	1 (2.5%)	2 (5%)	25 (62.5%)	8 (20%)	4 (10%)

The result of the analysis of the next variable, V11 (*Motivational intensity*) is presented in Table 22. It is important to notice that almost all of the trainee teachers, except one person, tried to learn about the most useful aspects of ICT and, what is more, 34 tried to be up to date with advances in technology (85%). Similarly, all but one participant were motivated enough to try to solve problems with ICT and would not get discouraged. The answers were less consistent with Q56 (*I work a lot to learn to use a computer*) as only 17 respondents admitted so (42.5%), while 10 (25%) were neutral about the answer and 13 gave a negative answer (32.5%). 23 participants were not easily discouraged from learning to use a computer (57.5%), while 10 expressed the opposite opinion (25%).

Table 22. Motivational intensity (V11).

Question	Number of participants, who answered:				
	2	1	0	-1	-2
Q53. I try to learn about these aspects connected with technology which are useful for me.	11 (27.5%)	28 (70%)	1 (2.5%)	0 (0%)	0 (0%)
Q54. I try to be up to date with information and computer technology.	6 (15%)	28 (70%)	2 (5%)	4 (10%)	0 (0%)
Q55. If I have a problem with understanding some issues connected with technology I try to ask others to help me or solve the problem myself.	15 (37.5%)	24 (60%)	0 (0%)	1 (2.5%)	0 (0%)
Q56. I work a lot to learn to use a computer.	5 (12.5%)	12 (30%)	10 (25%)	12 (30%)	1 (2.5%)
Q57. I am not easily discouraged to learn to use a computer.	5 (12.5%)	18 (45%)	7 (17.5%)	10 (25%)	0 (0%)

The most significant factor that discouraged the participants to use technology during lessons was insufficient access to equipment and the Internet (27, 67.5%) – see Table 23. Thirty four respondents believed they had enough time to plan introducing technology into their lessons (85%), but 6 (15%) were afraid that the lesson was too short to use technology, as opposed to 26 (65%) others who did not have such a problem. The respondents were convinced that they were knowledgeable enough to use technology during English lessons as 33 expressed such view (82.5%). Moreover, 37 respondents were convinced that technology was useful during English lessons and 28 that their students were ready to use it (70%). 3 participants expressed the opinion that they did not know how to use technology during EFL instruction. All but one of the participants believed that they needed technology and that traditional methods were insufficient for them.

Table 23. Persistence to use ICT (V12).

Question	Number of participants, who answered:				
	2	1	0	-1	-2
Q58. Insufficient access to the equipment and the Internet discourages me/ may discourage me to use technology during lessons.	2 (5%)	25 (62.5%)	3 (7.5%)	9 (22.5%)	1 (2.5%)
Q59. I do not have time to think about introducing technology into my lessons.	0 (0%)	1 (2.5%)	5 (12.5%)	27 (67.5%)	7 (17.5%)
Q60. I think a lesson is too short to use technology.	2 (5%)	4 (10%)	8 (20%)	23 (57.5%)	3 (7.5%)
Q61. I do not know how to use technology during English classes.	0 (0%)	3 (7.5%)	4 (10%)	27 (67.5%)	6 (15%)
Q62. I do not think technology is useful during English lessons.	0 (0%)	1 (2.5%)	2 (5%)	23 (57.5%)	14 (35%)
Q63. I think my students are not ready to use technology.	0 (0%)	2 (5%)	10 (25%)	24 (60%)	4 (10%)
Q64. Traditional methods of carrying out lessons are enough for me, I do not need technology.	0 (0%)	1 (2.5%)	0 (0%)	25 (62.5%)	14 (35%)

The last variable, *Computer confidence* V13, proved that the participants believed in their abilities to learn to use technology to teach English (39, 97.5%) and that they felt confident when using a computer (33, 82.5%). Only three respondents (7.5%) expressed doubts about their computer confidence. A vast majority of them believed that, in spite of the fact that they did not know everything about the use of a computer, it did not make them feel uneasy about it (29, 72.5%) against 5 others (12.5%) who felt uneasy in such a situation. Surprisingly, although 30 respondents (75%) expressed the opinion that understanding the basic ways of using a computer was not difficult for them, yet 9 participants (22.5%) found

it difficult. The belief about the abilities of teachers to learn computer skills was much better as all but 3 (7.5%) of the participants were convinced that most teachers could easily learn to use them (37, 92.5%).

Table 24. Computer confidence (V13).

Question	Number of participants, who answered:				
	2	1	0	-1	-2
Q65. I am sure I can learn to use technology to teach English.	13 (32.5%)	26 (65%)	1 (2.5%)	0 (0%)	0 (0%)
Q66. I feel confident using a computer.	8 (20%)	25 (62.5%)	4 (10%)	3 (7.5%)	0 (0%)
Q67. Although I do not know everything about the use of a computer it does not make me feel uneasy using it.	5 (12.5%)	24 (60%)	6 (15%)	5 (12.5%)	0 (0%)
Q68. Understanding the basic ways of using a computer is not difficult for me.	12 (30%)	18 (45%)	0 (0%)	9 (22.5%)	1 (2.5%)
Q69. Most teachers can easily learn to use a computer.	12 (30%)	25 (62.5%)	3 (7.5%)	0 (0%)	0 (0%)

The next step of the analysis was carried out in order to reduce the number of variables and to find the underlying relationships between them.

Table 25. Reliability analysis.

Variable	Cronbach Alpha	Cronbach Alpha after reduction of items
V1 (Q1, Q2, Q3, Q4, Q5)	0.86	
V2 (Q6, Q7, Q8, Q9, Q10)	0.74	
V3 (Q11, Q12, Q13, Q14, Q15)	0.73	
V4 (Q16, Q17, Q18, Q19, Q20, Q21)	0.77	0.82 (Q21 removed)
V5 (Q22, Q23, Q24, Q25, Q26)	0.78	
V6 (Q27, Q28, Q29, Q30, Q31)	0.79	
V7 (Q32, Q33, Q34, Q35, Q36)	0.81	
V8 (Q37, Q38, Q39, Q40, Q41)	0.72	
V9 (Q42, Q43, Q44, Q45, Q46)	0.71	
V10 (Q47, Q48, Q49, Q50 , Q51)	0.59	0.60 (Q50 removed)
V11 (Q53, Q54, Q55, Q56, Q57)	0.50	
V12 (Q58 , Q59, Q60, Q61, Q62, Q63, Q64)	0.61	0.65 (Q58 removed)
V13 (Q65, Q66, Q67, Q68, Q69)	0.51	0.60 (Q69 removed)

In order to check the reliability of the scales, the internal consistency coefficients (Cronbach Alpha) were calculated. As a result of the reliability analysis, it was found that all but one of the variables met the expected requirements as they took values between 0.60 (V10) and 0.86 (V1) – see Table 25.

In the case of four variables an additional procedure of reducing the number of items was applied in order to increase their reliability. It did not work with V11, which was still below the minimum value of 0.6. Due to this fact it was decided to remove the variable from the factor analysis. In the case of variable V4, item Q21 was removed (*The course helped me in the process of introducing technology into my teaching*), while Q50 (*The ability to use technology enables people to find a better job*) was eliminated from V10. The same procedure of the reduction of items allowed for improving the reliability of V12 and V13, which resulted in the increase of the value of the coefficient from 0.61 to 0.65 and from 0.51 to 0.60 respectively. The items eliminated in these cases were Q58 (*Insufficient access to the equipment and the Internet discourages me/may discourage me to use technology during lessons*) and Q69 (*Most teachers can easily learn to use a computer*). After the initial reliability test, basic statistical analyses were carried out.

Table 26. Descriptive statistics concerning the participants' motivation and attitudes.

variables	mean	SD	median	min. score	max. score	25%	75%
V1	0.93	0.58	1	-0.6	2	0.8	1.2
V2	1.31	0.40	1.3	0.6	2	1	1.6
V3	1.25	0.43	1.4	0.4	2	0.9	1.6
V4	1.4	0.40	1.20	0.60	2	1	1.8
V5	1.24	0.42	1.2	0.4	2	1	1.4
V6	-0.72	0.66	-0.8	-1.8	0.8	-1.1	-0.4
V7	-0.69	0.67	-0.8	-1.8	1.4	-1	-0.3
V8	1.05	0.50	1	0.2	2	0.7	1.3
V9	1.17	0.47	1.2	-0.2	2	1	1.4
V10	0.86	0.49	0.75	-0.3	2	0.63	1.13
V11	0.83	0.48	0.6	0	2	0.4	1.2
V12	-0.95	0.44	-1	-1.83	0	-1.25	-0.67
V13	0.94	0.58	1	-0.5	2	0.5	1.25

Firstly, the mean scores and standard deviations were calculated for each variable to view the overall results, followed by median values, minimum scores, maximum scores as well as the lower and upper quartils. Such an analysis was believed to provide more significant insight into the nature of the variables than simple mean scores.

There were six variables with means above 1: (V2 – *Attitudes towards ICT in teacher education*; V3 – *Attitudes towards using technology in the classroom*, V4 – *Attitudes towards the content of the course*, V5 – *Desire to learn about technology*, V8 – *Interest in ICT* and V9 – *Intrinsic motivation*). All of them but one (V9) have a minimum score above 0 as well. Moreover, in the case of 10 variables (apart from the above ones, also: V1 – *Attitudes towards the online learning environment*, V10 – *Extrinsic motivation*, V11 – *Motivational intensity* and V13 – *Computer confidence*) 75% of the individual scores took on values above 1. All the above mentioned values proved a positive attitude of the participants towards ICT and the online course.

In the group of thirteen variables, three (V6 – *Computer use anxiety*, V7 – *Anxiety concerning the participation in the online course* and V12 – *Persistence to use ICT*) had mean values below zero. In the case of V6, 75% of scores were equal or smaller than -0.4, for V7 the value was -0.3, while for V12 it was -0.67. They proved that the level of anxiety of the trainee teachers taking part in an online methodology course was relatively low.

The highest mean value 1.4 with a standard deviation (SD) equal to 0.40 was obtained by variable V4 – *Attitudes towards the content of the course*, with the minimum score 0.40 and 75% of answers above 1. Therefore, a very favourable attitude of the participants towards the content of the e-learning experience provided for them can be observed.

The second highest mean, 1.31 (SD=0.40) with a minimum score 0.6, 25% of answers below 1 and 75% of answers below 1.6, was V2 – *Attitudes towards ICT in teacher education*. Again, the results proved a very positive attitude of trainee teachers towards the presence of ICT in education. Very similar results were obtained in the case of V3 – *Attitudes towards using technology in the classroom*, and V5 – *Desire to learn about technology*, as the mean scores were 1.25 (SD=0.43) and 1.24 (SD=0.42) respectively. The minimum score in the case of both variables was 0.4 and the maximum 2. 25% of answers were concentrated below 0.9 or 1, while 75% of them below 1.6 or 1.4 respectively. Hence, it can be concluded that a very positive attitude of trainee teachers to the use of technology in

their everyday work was accompanied by their relatively strong desire to learn how to use such technology.

The lowest mean value was obtained in the case of V12 – *Persistence to use ICT*. The influence of factors discouraging trainee teachers from using technology was relatively weak as the mean was -0.95, and none of the values obtained were above 0, which supports the results obtained with the use of previous variables about the positive attitudes of the participants towards ICT. In the case of this variable, the results indicate that they are rather not discouraged from using technology.

The confidence of the participants to use a computer (V13 – *Computer confidence*) was relatively weaker but still positive. The mean was 0.94 (SD=0.58) with a negative minimum value of -0.5, 25% of answers below 0.5 and 75% of them below 1.25. V8 – *Interest in ICT*, had the mean 1.05 (SD=0.5), with the minimum value above 0 (0.2), 25% of answers below 0.7 and 75% below 1.3. Therefore, although computer confidence among the participants ranged from the weak positive (with the exception of two negative values of -0.25 and -0.5) to strong positive values, the majority of the participants were interested in technology and wanted to learn about it.

In the case of intrinsic motivation (V9), the mean was 1.17 (SD=0.47). Although the minimum answer was below 0 (= -0.2), it was the only negative one. 25% of answers took values below 1, while 75% of them below 1.4. So the responses of the participants of the e-learning course proved to be relatively similar in this case. Extrinsic motivation (V10) scored lower, with the mean 0.86 (SD=0.49) with 25% of answers below 0.63 and 75% below 1.13.

The variable connected with motivational intensity (V11) with the mean 0.83 (SD=0.48) was removed from the analysis due to its lack of reliability.

The next procedure applied in the present investigation was a correlational analysis conducted between the measures obtained with the use of the Attitudes and Motivation Questionnaire. It was carried out in order to find out relationships between the variables to discover which of them are interrelated.

There are a few issues worth noticing about the correlation matrix. Firstly, the majority of the correlations is of positive value, with the exception of those connected with anxiety (V6 – *Computer use anxiety* and V7 – *Anxiety concerning the participation in the online course*) as well as with the *Persistence to use ICT* factor – V12, which proved to have negative correlations with other variables and positive ones with themselves (except

V10 – *Extrinsic motivation*). The negative correlations, however, were rather weak as they did not exceed the value of -0.50 (except for the correlations between V6, V7 and V12 with V13, which took on values below -0.6).

Table 27. Correlational analyses between motivational and attitudinal measurements.

Correlations (V1 to V13 without V11) N=40												
	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V12	V13
V1	1.00	0.59	0.67	0.62	0.62	-0.13	-0.37	0.74	0.70	0.52	-0.30	0.23
V2	0.59	1.00	0.73	0.61	0.70	-0.29	-0.28	0.71	0.70	0.62	-0.46	0.39
V3	0.67	0.73	1.00	0.58	0.64	-0.24	-0.23	0.60	0.64	0.51	-0.42	0.25
V4	0.62	0.61	0.58	1.00	0.61	-0.30	-0.32	0.67	0.60	0.38	-0.39	0.22
V5	0.62	0.70	0.64	0.61	1.00	-0.21	-0.28	0.80	0.70	0.48	-0.49	0.36
V6	-0.13	-0.29	-0.24	-0.30	-0.21	1.00	0.80	-0.30	-0.29	0.05	0.60	-0.66
V7	-0.37	-0.28	-0.23	-0.32	-0.28	0.80	1.00	-0.39	-0.37	0.02	0.61	-0.62
V8	0.74	0.71	0.60	0.67	0.80	-0.30	-0.39	1.00	0.70	0.51	-0.44	0.43
V9	0.70	0.70	0.64	0.60	0.70	-0.29	-0.37	0.70	1.00	0.60	-0.46	0.40
V10	0.52	0.62	0.51	0.38	0.48	0.05	0.02	0.51	0.60	1.00	-0.08	0.10
V12	-0.30	-0.46	-0.42	-0.39	-0.49	0.60	0.61	-0.44	-0.46	-0.08	1.00	-0.62
V13	0.23	0.39	0.25	0.22	0.36	-0.66	-0.62	0.43	0.40	0.10	-0.62	1.00

The second important fact about the matrix is that there is a particular group of variables which are strongly correlated with each other. According to the guidelines given by Stanisz (2000), those correlations equal to or above 0.5 are regarded as strong and those which are equal to or above 0.7 as very strong. Among the twelve variables used in the analysis there is a group of eight which are strongly or very strongly correlated with each other: V1 (*Attitudes towards the online learning environment*), V2 (*Attitudes towards ICT in teacher education*), V3 (*Attitudes towards using technology in the classroom*), V4 (*Attitudes towards the content of the course*), V5 (*Desire to learn about technology*), V8 (*Interest in ICT*), V9 (*Intrinsic motivation*) and V10 (*Extrinsic motivation*). Only in two cases do the correlations between the above variables tend to be weak as V4 – *Attitudes towards the content of the course* and V5 – *Desire to learn about technology* are not strongly correlated with V10 – *Extrinsic motivation*. The variables with the highest number of very strong correlations are V2, V8 and V9. They are strongly correlated with each other and with V5; moreover variable V2, is very strongly correlated with V3, while variables V8 and V9 with V1.

The third observation is that V6 – *Computer use anxiety* and V7 – *Anxiety concerning the participation in the online course* are very strongly positively correlated with each other and strongly with V12 – *Persistence to use ICT*. They are also negatively strongly correlated with V13 – *Computer confidence*, which is at the same time a variable having the weakest correlations with the remaining measures (other than V6, V7 and V12).

After the analysis of the correlation matrix presented above it can be concluded that the existence of a certain structure of relationships can be assumed among the data obtained in the investigation. There seem to be two groups of variables which are significantly correlated. In other words, at least two groups of attitudinal and motivational factors among the 12 remaining variables are visible. As such, a multivariate pattern is not possible to be effectively explained just on the basis of the examination of the correlations among two variables at a time only, and therefore a more sophisticated procedure is necessary to be applied i.e. factor analysis. In order to assess its relevance in this particular case, Bartlett's test was carried out to verify the zero hypothesis that the correlation matrix is a unit one ($H_0: R=I$) meaning that all correlation coefficients are equal to 0 (Stanisz 2007: 218). If the hypothesis is not to be rejected, one can consider applying a factor analysis. The formula testing the zero hypothesis is presented below, where p is the number of variables, n is the number of participants and λ is an eigenvalue (Stanisz 2007: 179):

$$U = - \left(n - 1 - \frac{2p + 5}{6} \right) \sum_{i=1}^p \ln \lambda_i$$

The statistics have got a chi-square distribution of χ^2 with $p(p-1)/2$ degrees of freedom. For the present investigation the value of U was calculated and took on the value of 325.2532225958333 with 66 degrees of freedom, which means that the use of factor analysis is justified.

The steps undertaken in order to find out the relationships between variables in the present investigation were similar to the ones applied by Gardner et al. (1997: 350). After the Pearson product-moment correlations were computed – see Table 27 above – they were subjected to a principal component analysis which resulted in the extraction of those factors with eigenvalues greater than 1. As consecutive factors were extracted, they accounted for less and less variability. In order to make a decision of when to stop extracting factors certain procedures were adopted: Kaiser's criterion and Cattell's scree test. Cattell's scree test was applied to indicate the factors which accounted for the significant part of the variance and best accounted for the correlations among variables. Afterwards, the chosen factors were rotated by means of the Varimax procedure in order to maximize the sum of the variances of the squared loadings of a factor on all the variables.

As a result of the principal component analysis of the data for the present investigation, two factors with eigenvalues greater than 1.0 were obtained – see Table 28 below.

Table 28. Eigenvalues for variables from V1 to V13 (without V11).

Eigenvalues (V1 to V13 without V11) Extraction: Principal components				
	Eigenvalue	% of total Variance	Cummulative eigenvalue	Cummulative %
1	6.288613	52.40511	6.28861	52.4051
2	2.243121	18.69267	8.53173	71.0978
3	0.673261	5.61050	9.20499	76.7083
4	0.570391	4.75326	9.77539	81.4615
5	0.495463	4.12885	10.27085	85.5904
6	0.420111	3.50093	10.69096	89.0913
7	0.337053	2.80878	11.02801	91.9001
8	0.275572	2.29644	11.30358	94.1965
9	0.251234	2.09362	11.55482	96.2902
10	0.207126	1.72605	11.76194	98.0162
11	0.145477	1.21231	11.90742	99.2285
12	0.092578	0.77148	12.00000	100.0000

As it can be seen in the second column, which presents the results of the extraction of consecutive factors, the first factor explains 52.4 % of the total variance, while the second one 18.7%. All the factors taken together explain 100% of the variance and the sum of the eigenvalues is equal to the number of variables. The third column presents the cumulative variance extracted. After measuring how much variance each factor extracts, the decision was to be made on how many factors to retain. According to Kaiser’s criterion one should choose the two first factors which have eigenvalues greater than 1.0 and in this case when they are taken together they explain 71.1% of the total variance. This means that only those factors which extract at least as much as their equivalent in the original variable should be retained.

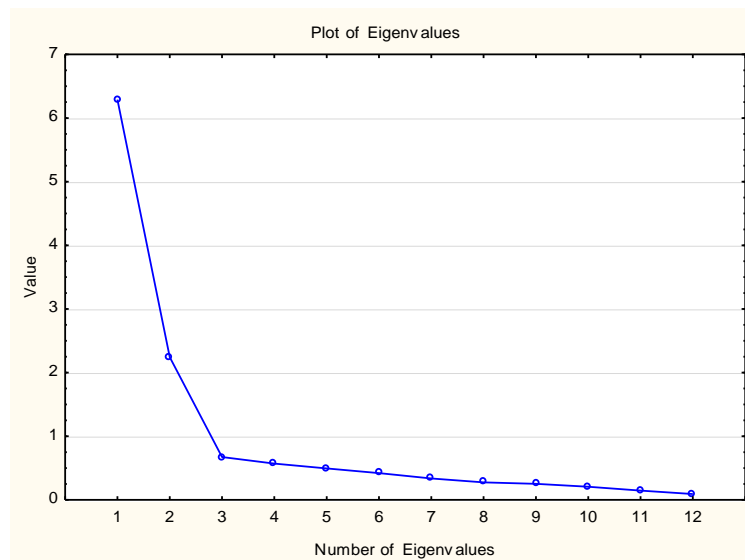


Figure 16. Scree test for the number of factors to be extracted.

An additional procedure, carried out in order to find out the number of factors to be chosen for the analysis, was Cattell's (1966) scree test. It is a graphical method of analyzing data, which suggests finding the place on the plot where the decrease of the eigenvalues levels off to the right. In the present example two or three factors are indicated which best account for the correlations among the variables – see Figure 16.

Both techniques can effectively help the researcher to choose the number of factors for the analysis; however, an additional aspect which is of use in making the decision is the ease of interpretation. Therefore, an examination of different solutions containing different numbers of factors was carried out in order to find the best solution to be interpreted. In the case of the present dissertation the number of factors chosen for the analysis on the basis of the two techniques was two and three. The first step was to calculate factor loadings for three factors – see Table 29.

According to the calculations, the variables V1, V2, V3, V4, V5, V8 and V9 have high factor loadings with the first factor, while the variable V6 with the second factor. The third factor does not have significant loadings with any variable and variables V7, V10, V12 and V13 do not have any significant loadings with any factor.

Table 29. Factor loadings without rotation (three-factor solution).

Factor loadings (unrotated) (V1 to V13 without V11) Extraction: Principal components (marked loadings are >,700000) in bold			
	Factor - 1	Factor - 2	Factor - 3
V1	0.780520	-0.285091	0.289104
V2	0.840020	-0.204603	-0.221876
V3	0.778828	-0.250914	0.007069
V4	0.751123	-0.147652	0.430369
V5	0.826581	-0.195654	0.012194
V6	-0.496395	-0.755124	0.002477
V7	-0.562624	-0.687832	-0.179679
V8	0.867406	-0.145199	0.093662
V9	0.849026	-0.162259	-0.088045
V10	0.572931	-0.539388	-0.420717
V12	-0.654524	-0.502883	0.062706
V13	0.571779	0.601977	-0.353955
Expl. Var	6.288613	2.243121	0.673261
Prp. Totl	0.524051	0.186927	0.056105

The three factors were then rotated by means of the Varimax procedure. The rotated factor matrix is presented in Table 30.

Table 30. Varimax rotated three-factor solution.

Factor loadings (Varimax raw) (V1 to V13 without V11) Extraction: Principal components (marked loadings are $>.700000$) in bold			
	Factor - 1	Factor - 2	Factor - 3
V1	0.808654	0.093506	0.333772
V2	0.482705	0.256929	0.705484
V3	0.608038	0.158141	0.524272
V4	0.844785	0.180392	0.158117
V5	0.628512	0.228433	0.523886
V6	-0.124239	-0.894292	0.037860
V7	-0.311113	-0.844856	0.106632
V8	0.696984	0.281511	0.466061
V9	0.566959	0.280948	0.595441
V10	0.260936	-0.136862	0.842243
V12	-0.263082	-0.759875	-0.196475
V13	-0.017485	0.842743	0.322600
Expl. Var	3.422387	3.162564	2.620044
Prp. Totl	0.285199	0.263547	0.218337

As a result of the rotation the participation of the third factor is increased, which has high loadings with variables V2 – *Attitudes towards ICT in teacher education* and V10 – *Extrinsic motivation*. Factor one has high loadings only with V1 – *Attitudes towards the online learning environment* and V4 – *Attitudes towards the content of the course* and factor two with V6 – *Computer use anxiety*, V7 – *Anxiety concerning the participation in the online course*, V12 – *Persistence to use ICT* and V13 – *Computer confidence*.

Factor loadings squared can be interpreted as a share of the variance explained. In factor analysis the term communality is used, which is the proportion of variance of a particular item shared with other items. The communalities are presented in Table 31, which shows the data for the cumulative sum of the squared values of factor loadings of particular variables. If all factors are taken into account, the communality is equal to 100%, but as a result of choosing only three factors for the analysis it was below this value. To estimate the communality for the purposes of the present investigation, the squared multiple correlation of an item with all other items was used. Due to the fact that factor loading for variable V1 was 0.808654, hence $(0.808654)^2 = 0.6539213$, which means that 65% of the variance of variable V1 is explained by the first factor. Factor two adds about 1% only, while the third one the next 11%. Altogether, the three factors explain 77.5% of the variance of variable V1 – see the fourth column.

Table 31. Communalities for three-factor solution.

Communalities (V1 to V13 without V11) Extraction: Principal components Rotation:Varimax raw				
	From 1 Factor	From 2 Factors	From 3 Factors	Multiple R-Square
V1	0.653922	0.662665	0.774069	0.774596
V2	0.233004	0.299017	0.796724	0.728837
V3	0.369711	0.394720	0.669581	0.679644
V4	0.713661	0.746202	0.771203	0.571287
V5	0.395028	0.447209	0.721666	0.728758
V6	0.015435	0.815193	0.816626	0.764948
V7	0.096791	0.810573	0.821943	0.775893
V8	0.485787	0.565036	0.782249	0.791193
V9	0.321442	0.400374	0.754925	0.699730
V10	0.068088	0.086819	0.796192	0.554487
V12	0.069212	0.646622	0.685225	0.599323
V13	0.000306	0.710521	0.814592	0.596798

As it can be seen in the table, all but five variables, namely, V3, V4, V10, V12 and V13, are explained below 70% with the values 68%, 57%, 55%, 60% and 60% consecutively, while other variables are all above 70%, with the highest value being for variable V8, for which 79% of variance is explained by the three chosen factors. The last column includes the initial calculation of communalities, calculated with the use of the squared correlation method. This part of the analysis was supported by a three-dimensional graph – see Figure 17.

Factor loadings, factor 1, factor 2 and factor 3

Rotation: Varimax raw; Extraction: Principal components

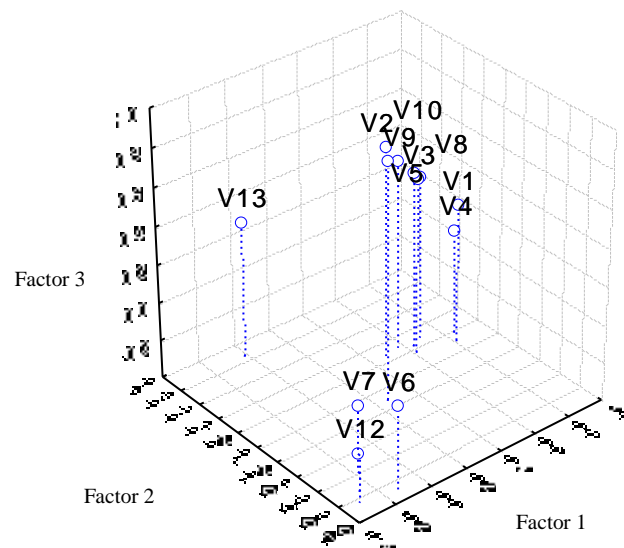


Figure 17. Three-dimensional Varimax – factor 1,2 and 3.

The next step of the analysis was to check if choosing only two factors would be more meaningful for interpretation. In order to do this, factor loadings for two factors only were calculated. The results are presented in Table 32 below.

Table 32. Factor loadings for two-factor solution.

Factor loadings (unrotated) (V1 to V13 without V11) Extraction: Principal components (marked loadings are >,700000) in bold		
Variable	Factor - 1	Factor - 2
V1	0.780520	-0.285091
V2	0.840020	-0.204603
V3	0.778828	-0.250914
V4	0.751123	-0.147652
V5	0.826581	-0.195654
V6	-0.496395	-0.755124
V7	-0.562624	-0.687832
V8	0.867406	-0.145199
V9	0.849026	-0.162259
V10	0.572931	-0.539388
V12	-0.654524	-0.502883
V13	0.571779	0.601977
Expl.var.	6.288613	2.243121
Prp. Totl	0.524051	0.186927

According to the calculations, the variables V1, V2, V3, V4, V5, V8 and V9 have high loadings with the first factor, while the variable V6 with the second factor. Variables V7, V10, V12 and V13 do not have significant loadings with any factor. In order to increase the share of other variables in the analysis, the procedure of rotation was carried out. The results are presented in Table 33.

Table 33. Varimax rotated two-factor solution.

Factor loadings (Varimax raw) (V1 to V13 without V11) Extraction: Principal components (marked loadings >,700000) in bold		
	Factor - 1	Factor - 2
V1	0.820588	0.130857
V2	0.833389	0.230128
V3	0.802475	0.159889
V4	0.728013	0.236609
V5	0.817294	0.231404
V6	-0.066089	-0.901250
V7	-0.156697	-0.874702
V8	0.828399	0.295350
V9	0.820646	0.271501
V10	0.763021	-0.192325
V12	-0.326996	-0.757869
V13	0.206483	0.804160
Expl. Var	5.330227	3.201507
Prp. Totl	0.444186	0.266792

As a result of the rotation the share of all the variables becomes significant. Variables V1, V2, V3, V4, V5, V8, V9 and V10 have high loadings with the first factor, while variables V6, V7, V12 and V13 with the second factor. As it was in the case of three factors, communalities for the chosen two factors were calculated. The results are provided in Table 34 below.

Table 34. Communalities for two-factor solution.

Communalities (V1 to V13 without V11) Extraction: Principal components Rotation: Varimax raw			
	From 1 Factor	From 2 Factors	Multiple R-Square
V1	0,673364	0,690488	0,774596
V2	0,694536	0,747495	0,728837
V3	0,643967	0,669531	0,679644
V4	0,530003	0,585986	0,571287
V5	0,667969	0,721517	0,728758
V6	0,004368	0,816620	0,764948
V7	0,024554	0,789658	0,775893
V8	0,686244	0,773476	0,791193
V9	0,673460	0,747173	0,699730
V10	0,582200	0,619189	0,554487
V12	0,106927	0,681293	0,599323
V13	0,042635	0,689308	0,596798

In the case of choosing only two factors for the analysis there are five variables which are explained below 70% (V3, V4, V10, V12 and V13) with the values of 68%, 57%, 55%, 60% and 60% consecutively. Another seven variables are explained above 70% with the highest value for variable V8 for which 79% of variance is explained by the two chosen factors. Below a two-dimensional graph representing the results is included – see Figure 18.

After the detailed analysis of the two possible solutions: choosing two or three factors, it was decided that a clearer pattern is obtained when two factors are the subject of the analysis. The first factor in this case is marked by high loadings on variables which can be defined as the *Orientation to learn to use ICT factor*, while factor two on variables connected with anxiety and confidence, which can be summarized as *Self-confidence with ICT factor*. This solution maximizes the number of variables which are incorporated into the analysis, as only in this case all the variables define factors, and none of them is missed out.

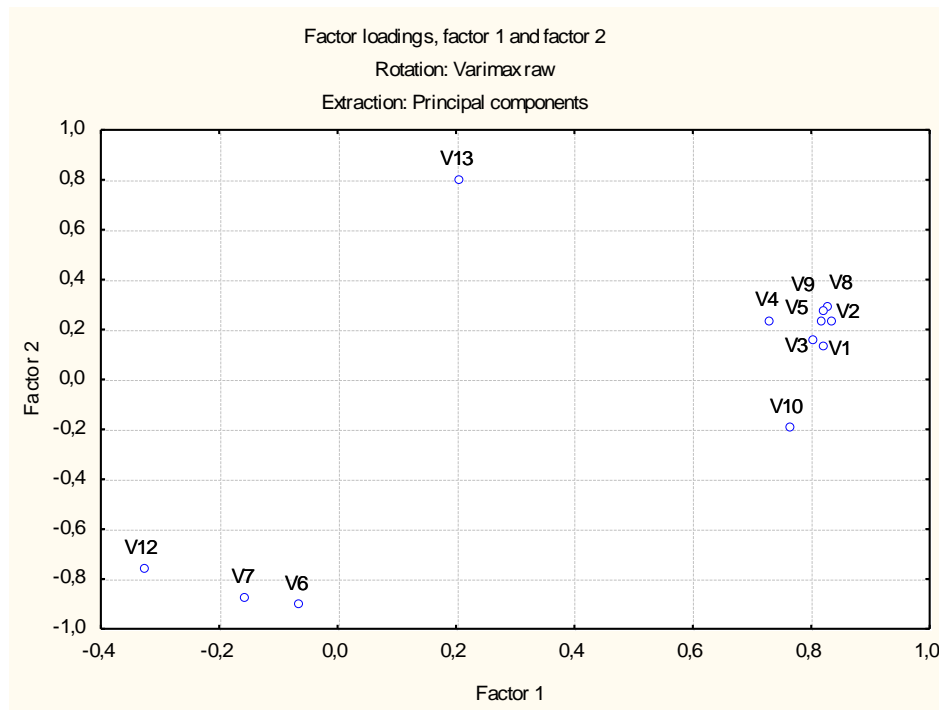


Figure 18. Two-dimensional Varimax – factor 1 and factor2.

Factor one obtains high positive loadings from eight variables: V1 – *Attitudes towards the online learning environment*, V2 – *Attitudes towards ICT in teacher education*, V3 – *Attitudes towards using technology in the classroom*, V4 – *Attitudes towards the content of the course*, V5 – *Desire to learn about technology*, V8 – *Interest in ICT*, V9 – *Intrinsic motivation* and V10 – *Extrinsic motivation*. The second factor obtains high positive loadings from one factor: V13 – *Computer confidence* and three high negative loadings from three other measures: V6 – *Computer use anxiety*, V7 – *Anxiety concerning the participation in the online course* and V12 – *Persistence to use ICT*. Hence it is suggested to define it as the *Self-confidence with ICT factor*.

The exploratory factor analysis carried out in this section was performed in order to determine the relationships between variables without any preconceived structure imposed on them. It was the natural consequence of the insufficient amount of research in the field of online trainee teacher education to be able to perform the confirmatory type of analysis. The investigation revealed that the various measures group together into two relatively independent clusters, which are called factors. The factors were identified as: the *Orientation to Learn to use ICT factor* and the *Self-confidence with ICT factor*. The examination of the twelve variables included in the analysis revealed that the given measures contribute only to one factor, hence it can be concluded that the two factors are mutually exclusive.

Having established the nature of the relationships between attitudinal and motivational variables, the next part of the investigation is going to shed light on the relationship between different individual measures with achievement in the online methodology course.

5.2.2. The relationship of motivational and attitudinal variables to measurements of achievement in the course

The questionnaires provided a wealth of data concerning the EFL trainee teachers' attitudes, motivation and ability to use ICT both in everyday as well as professional life. In this section the relationship of motivational and attitudinal measurements with measurements of achievement is going to be analysed in order to reveal their implications for teachers and teacher educators. Before starting the analysis, it is important to notice, however, that according to Dörnyei and Skehan (2003: 589) the correlations between aptitude, motivation and achievement are often not very high and usually range between 0.20 and 0.60 with a median of a little more than 0.40.

In order to increase the relevance and usefulness of the results, achievement was measured with the use of a range of items such as: an online test on constructivism, organizational issues (including keeping deadlines and carrying out a project), the language component (which was calculated as the number of constructivist vocabulary items used by the participants when answering open-ended questions), the measure of the quality of work, including the quality of the design of the constructivist project, as well as of reflection after the course. Such a composition of the measure of evaluation was to allow the researcher to look at the issue from different perspectives. The trainee teachers were assessed according to their knowledge concerning the content of the course, ability to keep deadlines and the ability to carry out the required project with their students, the ability to use constructivist vocabulary, as well as the quality of the answers on project design and open-ended questions concerning their reflection. The detailed description of the achievement components are provided in section 4.2.7. The table demonstrating the measurements of achievement of particular course participants is presented below – Table 35.

Table 35. Measurements of achievement of the participants of the EETTPM online course.

	1. test on con- structivism (M1) (max. 20)	2. organizational issues (M2) (max. 20)	3. language used (M3) (max. 20)	4. quality of pro- ject design and reflection (M4) (max. 20)	TOTAL (M5) (max. 80)
T1	19.70	19	3.69	11	53.39 (66.7%)
T2	13.40	18	10.15	13	54.55 (68.19%)
T3	16.30	6	3.38	5	30.68 (38.35)
T4	17.20	20	3.08	8	48.28 (60.35%)
T5	19.90	19	4.62	11	54.52 (68.15%)
T6	20.00	20	20.00	20	80 (100%)
T7	17.50	9	1.23	8	35.73 (44.66%)
T8	19.20	20	3.69	16	58.89 (73.61%)
T9	20.00	8	4.31	9	41.31 (51.64%)
T10	18.60	19	2.77	7	47.37 (59.21%)
T11	15.50	19	5.54	12	52.04 (65.05%)
T12	17.70	19	1.85	13	51.55 (64.44%)
T13	16.30	18	6.46	7	47.76 (59.70%)
T14	20.00	20	8.00	12	60.00 (75%)
T15	19.90	20	2.77	15	57.67 (72.09%)
T16	20.00	19	4.62	17	60.62 (75.78%)
T17	18.70	10	0.62	0	29.32 (36.65%)
T18	19.70	19	7.08	13	58.78 (73.48%)
T19	19.90	14	7.69	9	50.59 (63.24%)
T20	18.90	2	4.92	0	25.82 (32.28%)
T21	11.70	3	0	0	14.70 (18.38%)
T22	16.90	20	2.15	7	46.05 (57.56%)
T23	19.90	9	2.77	1	32.67 (40.84%)
T24	16.50	9	2.46	3	30.96 (38.70%)
T25	18.50	15	2.77	7	43.27 (54.09%)
T26	15.70	20	1.85	6	43.55 (54.44%)
T27	19.00	19	6.15	11	55.15 (68.94%)
T28	19.00	19	1.23	5	44.23 (55.29%)
T29	19.00	20	3.08	8	50.08 (62.60%)
T30	13.80	19	1.54	5	39.34 (49.18%)
T31	16.10	7	6.46	3	32.56 (40.70%)
T32	16.00	19	3.08	7	45.08 (56.35%)
T33	18.40	14	1.23	5	38.63 (48.29%)
T34	18.00	6	3.38	4	31.38 (39.23%)
T35	14.10	20	1.54	2	37.64 (47.05%)
T36	18.50	20	2.46	11	51.96 (64.95%)
T37	20.00	20	4.62	11	55.62 (69.53%)
T38	16.10	19	2.46	14	51.56 (64.45%)
T39	18.90	15	1.54	10	45.44 (56.80%)
T40	18.50	5	2.46	0	25.96 (32.45%)

As can be observed, the biggest number of participants (10) achieved a score between 51% and 60%, and the same number between 61% and 70%. In the group there are two protruding results, as one person gained the score of 18.38% (14.70 points) and another one got the maximum score to be obtained (80 points, 100%). This particular result constituted the basis for the analysis of the performance of other trainee teachers. According to

the drawing (see Figure 19 below), the other results concentrate more around values lower than 51% (14 participants) than above 70% (6 participants).

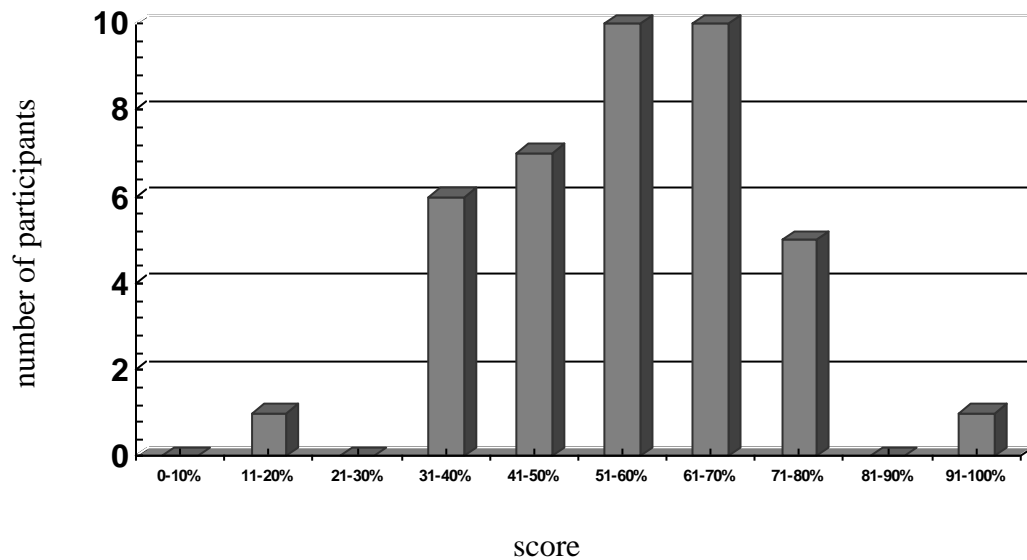


Figure 19. Participants and their achievement.

The next phase of the investigation was to assess how the individual difference variables described in section 4.2.7. relate to the particular measurements of achievement. In order to assess this, correlational analyses were carried out. The results are presented in Table 36 below.

Table 36. Correlations of the motivational and attitudinal variables with measurements of achievement.

Correlations (V1 to V13 without V11) Marked correlations are significant at $p < ,05000$ N=40 (Casewise deletion of missing data)					
	M1	M2	M3	M4	M5
V1	0,08	-0,22	0,21	-0,02	-0,04
V2	0,23	-0,00	0,13	0,13	0,13
V3	0,16	-0,15	0,06	0,15	0,03
V4	0,22	0,05	0,16	0,10	0,15
V5	0,13	-0,05	0,01	0,13	0,05
V6	0,00	-0,12	0,07	-0,08	-0,07
V7	0,01	-0,14	-0,14	-0,18	-0,17
V8	0,06	-0,07	-0,02	0,01	-0,03
V9	0,18	-0,00	0,11	0,14	0,12
V10	0,05	-0,11	0,00	-0,08	-0,07
V12	-0,11	-0,20	0,01	-0,33	-0,24
V13	-0,03	0,08	0,02	0,29	0,15

The first component of the achievement measure (M1) constituted the result of the online test on the content of the course, i.e. constructivism. As it can be seen from the table presented above, there were no significant correlations between this particular measurement and the 12 variables connected with trainee teachers' attitudes and motivation towards ICT and the online course. Only weak correlations, between 0.1 and 0.3 occurred, the strongest of which were: V2 (*Attitudes towards ICT in teacher education*) and V4 (*Attitudes towards the content of the course*) with values of 0.23 and 0.22 respectively. Similarly, only weak correlations were found with the second component (M2), measuring the ability of the participants to organize their work by keeping to deadlines and completing the required tasks. In this case the strongest correlations were established with V1 (*Attitudes towards the online learning environment*) with a value of -0.22 and V12 (*Persistence to use ICT*) with the value of -0.20. The strongest correlation with the third component (M3) was also weak: (0.21) with V1 (*Attitudes towards the online learning environment*). While the fourth one (M4), measuring the quality of the participants' work, was moderately correlated with two variables: inversely with V12 (*Persistence to use ICT*) with a value of -0.33 and positively with V13 (*Computer confidence*), 0.29. The composite measurement of achievement (M5) constituting a sum of M1, M2, M3 and M4 was weakly correlated with only one measure V12 (*Persistence to use ICT*) with the value -0.24, indicating an inverse relationship.

These results suggest that some of the variables are related to the measurements of achievement, but the strength of the correlations is not very high. Therefore, it is worth analyzing whether other factors influencing trainee teachers' achievement in the online environment were more influential.

5.2.3. The relationship of other variables to measures of achievement of the course

After finding out that the motivational and attitudinal variables connected with ICT did not correlate strongly with the trainee teacher's achievement, it was predicted that other variables may have been responsible for their online performance. In order to check this, another procedure was applied in order to find out if achievement in the course may have been influenced by the participants' EFL methodology knowledge as well as their ability to use the English language, in which the online course was delivered.

Firstly, the data concerning the results of the entrance English test of 38 participants were gathered (in the case of one participant the test was not required due to the profile of the previous studies, while the data concerning another one was missing). The test is reproduced in Appendix K with the consent of Wyższa Szkoła Języków Obcych. It consists of both vocabulary as well as grammar tasks. The maximum score to be obtained was 50.

Table 37. Results of an English test and a final test in methodology.

	test English	final test – methodology
T1	50	49
T2	50	46
T3	38	48
T4	30	44
T5	41	46
T6	50	48
T7	40	49
T8	40	47
T9	30	no attempt
T10	29	46
T11	29	46
T12	35	40.5
T13	29	44
T14	50	30.5
T15	39	48
T16	40	49
T17	40	45
T18	test not required	42
T19	50	44
T20	lack of data	37
T21	38	39
T22	21	38
T23	28	44
T24	13	15
T25	25	37
T26	20	25
T27	23	26
T28	21	27
T29	23	26
T30	27	37
T31	18	28
T32	38	34.5
T33	26	no attempt
T34	16	no attempt
T35	22	36
T36	19	32
T37	19	28
T38	25	37
T39	25	45
T40	23	32

The test on methodology was prepared by the present author and consisted of ten open-ended questions. Both theoretical and practical questions were included. Moreover, two questions concerned two books on EFL methodology the trainee teachers were re-

quired to read. In the group of 40, three participants did not attempt to pass the test. Therefore, the number of cases analysed was 37. The results are presented in Table 37 above.

The two additional variables which seemed to be potentially responsible for the trainee teachers' achievement in the online methodology course were then analysed with the use of a correlation matrix, reproduced in Table 38.

Table 38. Correlations between tests in methodology and English and measurements of achievement.

Correlations (V1 to V13 without V11) Marked correlations are significant at $p < ,05000$ N=35 (Casewise deletion of missing data)		
	test methodology	test English
M1 Online test on constructivism	0,12	0,18
M2 Organizational issues	0,03	0,05
M3 Language used	0,18	0,46
M4 Quality of work	0,35	0,43
M5 Composite measure	0,23	0,36

As can be observed, in the case of the two tests: in English and in methodology, some of the correlations with achievement were stronger than in the case of the attitudinal and motivational ones. Firstly, the methodology knowledge moderately correlated with M4 – *Quality of work* (0.35) and weakly with M5 – a composite measure (0.23). The relationships with the test in English were even higher as the values of correlations of the English test with M3 (*Language used*) and M4 (*Quality of work*) were very close to high (0.46 and 0.43 respectively). Additionally, the composite measurement of achievement (M5) established moderate correlations of 0.36 with the English test.

5.3. Limitations of the study

One of the main limitations connected with the study is the limited scope of the investigation as it was carried out on a sample of 40 participants. Therefore, the results may not be directly generalisable to the context of EFL postgraduate trainee teachers' education in the whole country. Dörnyei (2001a: 104) believes that although understanding motivation has undoubtedly a practical value, research on it lacks the level of sophistication which would make it possible to formulate straightforward recommendations for teachers. The authors' opinion is in line with the constructivist approach to education in which the context of the

learning process imposes the need to apply certain practices chosen from a set of suggestions available:

The crux of the problem is that although there are many effective motivational principles and guidelines that can help practitioners, these principles do not add up to a coherent theory. Furthermore, most of the available practical recommendations are subject to situational constraints; that is, they lack universal generalisability and cannot therefore be prescribed 'blindly', without adapting them to the particular learning situation in which they are to be used. For these reasons, the most educational researchers can do at present is to raise teachers' 'motivational awareness' by providing them with a menu of potentially useful insights and suggestions from which they can select according to their actual priorities and concerns, and the characteristics and composition of their students (Dörnyei 2001a: 104).

Hence, the results of the present investigation may serve as a tool increasing the awareness of teacher educators and provide useful suggestions rather than impose certain practices and understandings.

Another impediment is the imperfection of the statistical tools used in the study. The analysis from the initial correlation matrix to loadings of rotated factors required the researcher to make a few arbitrary decisions which significantly influenced the outcomes. The exploratory factor analysis used in the study is also the subject of criticism. Zakrzewska (1994: 97) summarizes the problem in three main points. Firstly, "there are no rationally optimal ways of extracting knowledge from experience without making certain prior assumptions". Secondly, there are no ways to obtain optimal solutions in factor analysis and no unique interpretations. Therefore, the author states that there is a problem with justification of the results. The author believes, however, that the objections concern "the unique and optimal knowledge" (1994: 97), while it can be effective when explaining the fields of reality which are less well-known. Consequently, it can be effective in fields such as motivation research. It should also be remembered that, as Zakrzewska states (1994: 81), the interpretation of the factor structure with the use of the exploratory techniques is just a hypothesis and should be verified in the next step. One of the ways of identification proposed by the author is a confirmatory factor analysis (Zakrzewska 1994: 98f.).

Additionally, due to the fact that in order to design the present research a model used in L2 acquisition was applied, it was just a starting point in discovering the variables and the interrelationships between them, which are subject and context specific. More research is needed in order to create a full model of acquisition in the online environment including the variables and relationships which are specific in the particular environment.

5.4. Conclusion

In the process of the data analysis the researcher systematically searched through and arranged the accumulated materials in the form of open-ended questions, the level of the participants' agreement with certain opinions as well as their contributions to the online course. They provided a wealth of data concerning the postgraduate EFL trainee teachers' ability and willingness to use ICT and e-learning. Moreover, a set of variables based on an adapted form of Gardner's socioeducational model was identified in order to discover any patterns among them. As a result, two clear factors were indicated: the *Orientation to use ICT factor* and the *Self-confidence with ICT factor*. The empirical investigation of the role of attitudinal and motivational variables concerning ICT use revealed, however, that they are not strongly responsible for the participants' achievement in the course. More influential in this case were two other measures: language competence test and methodology competence test. The results enabled the researcher to formulate recommendations for foreign language teacher education in general and for e-learning design in particular.

Chapter 6: Consolidation of the results and discussion

Introduction

Motivation is regarded as one of the most important factors influencing students' performance and effectiveness in learning. The way motivation and attitudes guide performance in the learning process has been the subject of many studies, although research in the context of the online education is still in the initial phase.

The investigation described in the present dissertation constitutes an attempt to shed light on the sophisticated issue of the role of motivational and attitudinal factors in the online learning process. It involves the examination of postgraduate EFL trainee teachers' attitudes and motivation towards learning online. Moreover, it is aimed at finding the relationships between motivational and attitudinal variables and measurements of achievement in the given specific context.

This chapter contains the consolidation and discussion of the results presented in chapter five with reference to the research questions posed in section 4.2.3. Firstly, an overview of the trainee teachers' ability to use Information and Communications Technology is outlined, followed by their most frequent attitudes and ability to use technology to teach English and attitudes towards e-learning. The discussion concerning the nature of the relationships between the attitudinal and motivational variables is depicted in section 6.4., while their interrelationship with measurements of achievement is the main subject of section 6.5. The analysis of the participants' achievement in view of their English and methodology competence is the main topic of section 6.6. The next part (6.5) constitutes an attempt to work out the final conclusions and implications stemming from the findings. Both the implications for foreign language teacher education in the online environment as well as

for designing e-learning courses in the specific context are outlined. Suggestions about further researchable topics and relevant research questions indispensable for a better understanding of the phenomena taking place in the particular online environment will be offered in the last section (6.8.).

6.1. What was the participant's ability to use ICT?

The ability to use Information and Communications Technology is becoming a more and more important condition of participation in the life of society. Technological advances are becoming a part of the life of individuals, and therefore these advances also naturally enter the world of education.

The findings of the investigation have revealed that the postgraduate trainee teachers taking part in the *Enhancing Effective Teaching through the Project Method* course were familiar with ICT both in their professional as well as private lives. The computer confidence of the participants proved to be high as most of them admitted they felt comfortable when using this device. Additionally, the majority of them did not feel uneasy when they lacked knowledge in the matter and they were convinced they would be able to learn to use ICT to teach English. The basic ICT skills seemed not to be difficult for most of the participants.

In most cases the trainee teachers used a computer on a regular basis spending between 1 and 8 hours a day in front of the computer screen. Practically all of them used the Internet every day. It is important to notice that the main purpose of their computer use was work rather than entertainment. The trainee teachers were familiar with many areas of ICT use. Their most frequent activities were searching the webpages, sending e-mails and preparing materials for lessons. They also used ICT for professional development, as almost all of them read methodology literature online. It was surprising, however, to find out that communication with students was not a very popular activity among the trainee teachers.

After analysing the postgraduate trainee teachers' ability to use computer programmes, it was observed that they were well prepared to make use of the most important kinds of programmes valuable for teachers. They declared they were able to use text editors as well as programmes which allow for preparing presentations. Regrettably, only one third of the participants declared the ability to use an interactive whiteboard, despite the fact that

this device is becoming more and more popular in Polish schools and its use does not require much professional expertise.

In spite of the fact that the trainee teachers participating in the online course were so familiar with ICT, it was observed that they lacked formal education in the area. The results of the investigation indicate that those who had ever participated in workshops on ICT use were in the minority. Although their preparation was so deficient, they felt they were prepared to use technology when teaching English, but at the same time many of them did not assess their ability as being very high. It can be concluded that although they were quite comfortable when using technology in the classroom, they felt there was still a lot to be done to integrate ICT into their teaching. Moreover, they were convinced that computers and technology are indispensable in teacher education programmes and that computers improve their quality. Additionally, it was found out that they were aware that access to ICT in the classroom contributed to better quality of their teaching, they were glad that teachers can use computers during their lessons and believed that such classes surpass the traditional ones.

Apart from the fact that the participants declared they liked technology and that they recognized the significance of ICT skills in their professional development, they also expressed a desire to learn about the potential use of ICT in general in the process of running lessons and in other areas of teacher's work. They also expressed a willingness to use a computer naturally during lessons. The participants were interested in the possibilities of using a computer in teachers' work, in the majority of cases liked to learn about technology and were convinced that ICT skills were worth the effort. Moreover, learning about the use of computers was considered to be an interesting challenge. Additionally, computer use anxiety of the participants was not very high. They also did not consider ICT use to be difficult to learn, although some were afraid of an inability to cope with difficulties which might occur during a lesson with technological devices and of the fact that their students might be more knowledgeable about computers than them.

6.2. What was the participant's attitude and ability to use technology to teach English?

The interpretation drawn above is supported by other findings of the study as almost all the postgraduate trainee teachers were aware that their students expect them to use ICT, and that using technology during lessons makes learning English more interesting for students, which may be a strong motivational factor. Actually, the majority of the participants declared that they had already used technology during their classes and it seems that such elements as video, DVD, CDs, and a computer with access to the Internet were not unusual in their classrooms. The trainee teachers used these devices to watch films with their students, to prepare presentations, to play language games, to sing songs, to listen to dialogues, to search for information and to find pictures and articles useful during lessons. The list of the uses is long and varied. The results were supported by the trainee teachers' opinions concerning the benefits of ICT use in the classroom. They believed it has a positive influence on the teaching practice, making the lesson more interesting as well as more effective and better attracting students' attention. An interesting remark was made by one of the participants that the use of technology by teachers proves that they are competent. A vital role of visual materials in the process of learning was also emphasized as well as the dynamism of technology enhanced lessons. Moreover, the fact that technology constitutes an important source of knowledge was stressed along with its power to inspire creativity. Apart from the advantages arising from the presence of ICT during lessons, two areas of weakness connected with it were indicated: technical problems with the equipment and the time-consuming preparation of lessons. Some of the respondents complained about limited access to technological devices in their places of work and about problems with discipline among students.

It was also interesting to analyse the reasons which, in the opinion of the respondents, motivated them to learn to use ICT. Two groups of reasons were identified: intrinsic ones and extrinsic ones. Firstly, learning to use technology was important for the respondents because they wanted to be considered to be well qualified, or to feel better qualified than their colleagues. They also felt the need to learn ICT in order to prepare their students better for a future job and to understand the world around them better, as well as for their own satisfaction. Secondly, among the extrinsic factors, the most influential proved to be the expectations of their students and the prospects for finding a better job. The expecta-

tions of society, the fact that their colleagues were able to use technology as well as the expectations of headmasters were also indicated by the larger part of the respondents.

The intensity of the motivation of the participants to gain knowledge of ICT also proved to be high. The respondents admitted that had they tried to learn about the most useful aspects of technology and to be up to date with ICT but less than a half had worked a lot in order to learn to use a computer. Undoubtedly, the learning process often takes place by way of performing other activities on the computer and does not require a lot of effort, although for some participants learning to use ICT proved to be easily discouraging. However, the trainee teachers expressed the opinion that they did not refrain from asking others for help if they needed it.

The only discouraging factor for the participants in the process of ICT skills acquisition proved to be insufficient access to the equipment. Time constraints were not as important. The respondents had time to think about introducing technology into their teaching and in most cases they believed their students were ready for such innovations. They also believed they knew how to use technology during English classes and that technology is useful to teach English. Only one respondent believed that traditional methods of teaching are enough and that technology is useless.

It can be concluded that the postgraduate trainee teachers who participated in the online course had the basic knowledge about the main areas of ICT use important for an EFL teacher and that they had already used technology to a large extent. Due to their regular use of ICT the participants were able to use the knowledge and skills gained previously in the present e-learning course, which, in the majority of cases, was a novelty for them. Moreover, their awareness about the importance of ICT skills for their professional development as well as desire and interest in the topic were very high. This fact is of vital importance for the future teacher educators as it means that trainee teachers are strongly motivated to learn about technology and are prepared to adopt new technological inventions using prior experience with other ICT uses and integrating the new information with it. Therefore, any attempt to increase their knowledge and skills in the area should bring good results.

6.3. What were the EFL trainee teachers' attitudes towards e-learning?

The analysis of both the quantitative and qualitative data made it possible to conclude that the participants' attitudes towards e-learning were very positive, both when they were asked about e-learning in general as well as when the questions considered the particular EETTPM course designed for them. Although in the case of the majority of the participants it was the first e-learning course in their life, after the experience they already seemed to have strong views about learning online. It is important to notice that only few respondents expressed a negative attitude towards e-learning and almost all of them were favourable towards it. Moreover, the vast part of the respondents believed that distance learning is an effective way of educating teachers, and, what is more, had the intention to use e-learning in the future with their own students. They expressed the opinion that thanks to learning online, they could learn more and were more engaged.

Next, it was observed that the trainee teachers were very satisfied that the methodology course they took part in was supplemented by the online component. They declared that the course positively influenced their preparation for the job of an EFL teacher and helped them in the process of introducing technology into their teaching. Their willingness and desire to succeed in it was clearly visible. They liked the idea of learning the methodology content online and considered it to be enjoyable and challenging, in spite of the fact that the level of their enthusiasm might have varied during the actual course performance.

The most appreciated part of the course was a forum engaging the trainee teachers in a purposeful and constructive dialogue, which gave them the possibility to share experiences and, as a result, gain knowledge about the effective ways of conducting lessons, managing problematic situations and finding alternative sources of teaching materials. Communication online was the source of anxiety for only a few participants, who admitted they were reluctant to exchange messages when participating in the course, while this was not a problem for the majority of them, who were not anxious about expressing opinions online. The findings are especially important in view of the investigative perspective adopted in the present dissertation, namely, constructivism, and more specifically social constructivism, depicted in section 1.2.3. The design of the online course and particularly the tasks performed on the forum allowed the participants to actively construct meaning out of their experience within the social milieu created by other participants and their personal understandings.

It was surprising that another part of the EETTPM course appreciated by the participants was the theoretical one about constructivism. All of them believed that knowledge about constructivism was important for them, and with the exception of a few individuals, that the knowledge had already changed their approach to teaching. Moreover, they expressed willingness to use the ideas in their future work. The trainee teachers were convinced that teachers should understand the role of the constructivist approach in teaching, and therefore they should be provided with the opportunity to learn about it. Although the theory has been influencing the reality of the EFL teaching and learning for a long time already, for many trainee teachers it was the first time they had heard about it. They found the theory interesting and discovered its practical applicability in their everyday work as a teacher. As a result of the online experience, the participants expressed the opinion that they became more confident in their own ability to figure things out instead of learning the imposed material by heart. Against the traditional assumption that the correlation between theory and practice is that “practitioners should be *consumers* of theory which is created by someone else” (Lampert 1997: 102) the trainee teachers were guided through a series of tasks which allowed them to work out their own understanding of the teaching practice. Some of them declared that the shared experiences and ideas were going to be a part of their classroom work in the future.

Apart from experiencing the world in cooperation with others, a constructivist learner is someone who is actively engaged in the process of learning. The knowledge gained in such a way can be an effective tool to cope with the situations in everyday life as the student has the opportunity to use the information from school to interpret the world around them. Some of the participants appreciated the opportunity to carry out a constructivist project in the classroom and found the process of designing the project beneficial for their professional development. Others indicated the influence of the course on their understanding of the role of a teacher. It is important to remark that one of the participants noticed the value of their opinions for the tutor and expressed willingness to do the same with her own students. Surprisingly, for one of the respondents, tests were the most important part of the course.

Among the most frequently mentioned advantages of the e-learning course was the ability to share experiences, its flexibility and the extra time it provided for reflection. A few participants appreciated the comfort of studying at home, individual work and the ability to choose their own pace of studying. A wide range of other advantages was expressed

such as: the active character of the learning process, its attractiveness and stimulating tasks. The questionnaire respondents were much more consistent when they enumerated the disadvantages. The most difficult for them was the fact that the online course was very time-consuming; some of them complained also about the lack of face-to-face contact, which probably contributed to problems with self-discipline and keeping deadlines. A few respondents indicated technical problems as a disadvantage. Anxiety about the participation in the online course proved not to be high as the majority of the respondents did not feel uncomfortable working in the environment and completing tasks online.

A direct reflection of the advantages and disadvantages of the EETTPM course was a list of suggested changes in the course the participants were asked to work out. Just more than a half of the trainee teachers took advantage of the opportunity to advocate improvements, such as including more references to interesting materials on constructivism, more direct contact with the online tutor, and providing them with a more detailed plan of the course. Some responses were contradictory, as while one group of participants was very satisfied with the possibility to read each others' opinions expressed online, another group did not like the idea that others were able to use their work when answering questions.

The positive attitude of the trainee teachers towards e-learning and the EETTPM course in particular seems to be a very important factor which constituted the background to the main research questions of the investigation and created a specific atmosphere in which the study was taking place. The participants' favourable feelings about this way of learning can be interpreted as the outcome of their conviction about the expectations of the contemporary students, who want their teachers to use technology during lessons, as well as the trainee teachers' experience with ICT in everyday life. In the next section the factors constituting trainee teachers' attitudes and motivation as well as their interrelationship with achievement in the course are going to be depicted.

6.4. What were the relationships between the motivational and attitudinal variables?

The investigation of the thirteen variables (discussed in detail in 5.2.1.) which were measured with the use of 69 questions was carried out in order to reduce their number into a less numerous set of factors presenting the complex relationships between the variables in a clearer and more comprehensible way.

The initial test revealed that one of the thirteen variables, namely, *Motivational intensity (V11)*, was to be removed from the factor analysis due to insufficient reliability. After the correlational analysis of the twelve remaining variables, a clear structure of two groups of measures was visible. The first group consisted of four items. Significant correlations were found between variables connected with computer use anxiety in general: V6 – *Computer use anxiety*, V7 – *Anxiety concerning the participation in the online course*, V12 – *Persistence to use ICT* and V13 – *Computer confidence*. The remaining variables seemed to constitute a second group: V1 – *Attitudes towards the online learning environment*, V2 – *Attitudes towards ICT in teacher education*, V3 – *Attitudes towards using technology in the classroom*, V4 – *Attitudes towards the content of the course*, V5 – *Desire to learn about technology*, V8 – *Interest in ICT*, V9 – *Intrinsic motivation* and V10 – *Extrinsic motivation*. They were strongly or very strongly correlated with each other, with the exception of V4 – *Attitudes towards the content of the course* and V5 – *Desire to learn about technology*, which proved to be relatively weakly correlated with V10 – *Extrinsic motivation*. It may be understood that the content of the course was not strongly interrelated with the participants' extrinsic motivation, but its relatively weak interrelationship with the desire to learn about technology may be surprising. V2 – *Attitudes towards ICT in teacher education*, V5 – *Desire to learn about technology*, V8 – *Interest in ICT* and V9 – *Intrinsic motivation* were strongly correlated with each other. The favourable attitudes of the participants of the course towards ICT in the education of teachers contributed to their desire to learn and their interest in technological advances, which may help them achieve the desired goals. Favourable attitudes towards ICT in teacher education (V2) correlated very strongly with the trainee teachers' attitudes towards using technology in the classroom (V3), which proved that the respondents saw the pragmatic value of incorporating ICT skills development for their professional work. Very strong correlations were also observed between interest in ICT (V8) and intrinsic motivation (V9) with attitudes towards the online learning environment (V1). It can be interpreted that positive attitudes towards working with the use of a computer exert an influence on the participants' interest in ICT as well as their willingness to achieve the assumed goals.

The factor solution which lent itself best to interpretation was the choice of two factors: the *Orientation to learn to use ICT factor* and the *Self-confidence with ICT factor*. The new sets of variables were abstract constructs, which were created on the basis of the whole set of twelve variables used in the investigation. Factor one was characterised by high posi-

tive loadings from eight variables: V1 – *Attitudes towards the online learning environment*, V2 – *Attitudes towards ICT in teacher education*, V3 – *Attitudes towards using technology in the classroom*, V4 – *Attitudes towards the content of the course*, V5 – *Desire to learn about technology*, V8 – *Interest in ICT*, V9 – *Intrinsic motivation* and V10 – *Extrinsic motivation*. These results indicated that there was communality among these variables, such that postgraduate trainee teachers who had positive attitudes towards ICT tended to have an interest and motivation to learn to use it. Moreover, the measures comprised the concept of integrative motive from Gardner’s socioeducational model (2001: 5) – see Figure 13. In addition, it can be concluded that participants with high levels of extrinsic and intrinsic motivation held favourable attitudes towards the role of ICT in education in general, as well as in their own professional development.

A high positive loading from one factor: V13 – *Computer confidence* and three high negative loadings from three other measures: V6 – *Computer use anxiety*, V7 – *Anxiety concerning the participation in the online course* and V12 – *Persistence to use ICT* were obtained by the second factor: the *Self-confidence with ICT factor*. Individuals with high levels of confidence in ICT use exhibited a lower level of anxiety than those who did not feel at ease when using it.

The two factors, the *Orientation to learn to use ICT factor* and the *Self-confidence with ICT factor*, proved to be mutually exclusive, meaning that each of the twelve variables consistently contributed to only one factor. Both factors taken together explain 71.1% of the total variance, factor one 52.4% and factor two 18.7%. Hence, following the conclusion of Sztemberg-Lewandowska (2008: 130), it can be assumed that factor two: the *Self-confidence with ICT factor* is much less important in the description of the relationships between variables than the first one: the *Orientation to learn to use ICT factor*.

In the course of the analysis of the twelve variables two factors were identified. It does not mean, however, that they are the only factors which are able to explain the situation within the adapted model of teacher education in an online environment presented in section 3.5. Gardner’s model has been empirically tested for many years and different combinations of variables and factors were incorporated in order to find the best solution. Undoubtedly, in the case of online teacher education more research is needed in order to verify the hypothesis about the two identified factors as well as to incorporate more variables, which may contribute to working out a fuller model.

6.5. What was the relationship of motivational and attitudinal variables with measurements of achievement

The present research investigated not only the relationships between motivational and attitudinal variables but also between them and postgraduate trainee teachers' achievement in the methodology online course.

The study of the correlations revealed, however, that the correlations between the four measures of the participants' achievement (M1 – *Online test on constructivism*, M2 – *Organizational issues*, M3 – *Language used*, M4 – *Quality of work*), and the correlations with the twelve variables, were weak or very weak with one exception.

The results of the online test on constructivism (M1) were only weakly correlated with all of the variables used in the analysis. The strongest of the weak correlations were with attitudes towards ICT in teacher education (V2) and, not surprisingly, with attitudes towards the content of the course (V4), namely, constructivism.

The measure of the ability of the participants to organize their work (M2) established the strongest, although still weak, correlations with attitudes towards the online learning environment (V1) and persistence to use ICT (V12), hence it can be concluded that those who were positively oriented towards the specific environment in which the learning process took place and those who were more persistent in using technological advances were more inclined to keep to deadlines and complete the required tasks.

The strongest correlation between the measure of achievement *Language used* (M3) and the set of twelve variables, was weak as well. The participants who were positively oriented towards the online learning environment (V1) tended to be more careful about the proper language to be used when answering the required questions and completing tasks. The quality of work (M4) had the two strongest correlations in the whole analysis. It proved to be moderately but negatively correlated with V12 – *Persistence to use ICT* and additionally moderately but positively with V13 – *Computer confidence*. As V12 was negatively worded in contrast to V13, it can be concluded that to some extent those participants who were not easily discouraged to use technology, and those who were confident when using a computer, performed better in the course in terms of designing the project as well as reflection on it. Maybe the better quality of their work, more exhaustive and relevant answers, as well as the constructivist principles applied, stemmed from the fact that, feeling comfortable when completing the tasks, they were able to put more effort to the

course completion in contrast to those who were easily discouraged and were not persistent enough to complete the tasks more carefully.

6.6. What were the relationships between the participants' EFL and methodology competence and measurements of achievement in the course?

In spite of the fact that certain trends have been observed above, it should be remembered that the correlations between the attitudinal and motivational variables and measures of achievement were rather weak. Therefore, it was assumed that there had to be other variables, which influenced the postgraduate trainee teachers' performance and so two other variables were introduced: language competence, and methodology competence, as measures signalling the possible significance of aptitude in the model. Both were measured with the use of a test. Language was assessed by WSJO before the trainee teachers started their postgraduate studies – see Appendix K, while methodology competence was assessed by the author of the online course in the form of ten open-ended questions (Appendix L) concerning the content of the whole methodology course, held both face to face and online.

The first observation was that some of the correlations between both tests and measures of achievement were stronger than it was in the case of the twelve variables described in the previous section. It is worth noticing that the *Quality of work* (M4) was moderately correlated with the results of the test on methodology. Those participants who were able to design a good constructivist project and who had something to say when reflecting on their performance were also able to acquire the required methodology content for the final test.

A more interesting observation can be made about the language competence of the participants and their performance online. The investigation proved a correlation that was very close to being a strong one between the postgraduate trainee teachers' ability to use English and the amount of the constructivist vocabulary which they were able to use when answering questions. Similarly, those participants who were able to use English more fluently, proved to have better results with the next measurement of achievement – the *Quality of work* (M4) – although an important remark should be made here, as it was observed that in the case of one of the participants the constructivist vocabulary was used randomly. The trainee teacher used ready formulas when answering questions, which seemed to be not

understood. The case may not have been isolated and careful discourse analysis may uncover other examples, which undoubtedly influenced the results in a negative way.

Organizational issues did not affect achievement significantly as the correlations were close to zero. What was surprising, the online test on constructivism (M1) weakly correlated with the test on methodology and only slightly more with the language abilities of the participants. The explanation of such a situation may be of vital importance for online course designers, as the observation of the online tutor was that there were trainee teachers who had not done the tasks themselves, but used the information provided by others (e.g. the time of completion of the task was too short). There are some ways in which such practices may be limited but working online the tutor is never able to be sure if the assigned tasks are the subject of individual work.

6.7. Final conclusions and implications

There are several implications that the present investigation may have for foreign language teacher education in the online environment as well as for designing online courses for foreign language trainee teachers. The adaptation of Gardner's socioeducational model used in L2 acquisition for the present analysis of the data helped to reveal some relationships between the variables included in the model. It seems that the decision to adapt it to online education was the right one, as it made it possible to observe (although on a small scale due to the limited scope of the investigation) that there exist certain factors which contribute to the participants' achievement, while other factors do not. The analysis of both the quantitative and qualitative data made it possible to work out certain suggestions which may be valuable for teacher educators as well as online course designers.

6.7.1. Conclusions and implications for foreign language teacher education in the online environment

The results of the investigation provided answers to the main research questions formulated in order to provide an insight into the sophisticated issue of the role of motivation in the online environment. The outcomes confirmed that the mere use of technology is insuffi-

cient to influence participants' achievement in a positive way. Due to the fact that the reported research on the relationship between the use of technology and achievement is not consistent, it may be concluded that a considerable number of factors influence performance online, therefore it is necessary to work out a more sophisticated model including a significant number of different variables which may be responsible for success. It is important to remember that online teaching supported by ICT tools is not a separate method, but it is integrated into the particular pedagogical approaches adopted by teachers.

After the examination of the factors which were assumed to be responsible for the postgraduate EFL trainee teachers' performance in the online environment, the following conclusions can be developed:

- (1) The most important finding about the trainee teachers is that they consider ICT as a natural part of their everyday, as well as professional, lives. Surprisingly, although they often lack official preparation for using ICT, they admit they feel ready to use it, which can be explained by self-study practices. Therefore, they are already able to use technology to some extent but, at the same time, are strongly motivated to learn it, recognizing that there are still some areas which they are not familiar with.
- (2) The strategy of providing trainee teachers with a genuine opportunity to use technology to learn in the same way they can use it with their own students brought about good results. Trainee teachers used different tools when participating in the online course and performed similar tasks to those which they may require from their own students in the future. On the basis of the participants' answers, it was evident that having been shown the practical applications of ICT use in the context of learning the methodology content, they had already changed their approach to teaching.
- (3) It was observed that for the trainee teachers taking part in the investigation learning in an active way was very important, they expressed favourable opinions about the practical components of the course, and about the constructivist way of acquiring knowledge and learning through doing. Moreover, they were not only passive consumers of the included materials but also active creators of some of the content (e.g. opinions on the forum, project design).
- (4) The breaking down of the traditional role of knowledge provider and initiating EFL teacher development as a reflective researcher was not the main aspect of the present investigation but constituted the core of the online course prepared for the

trainee teachers. Taking into account their appreciation of the parts of the course in which they were asked to rethink their understanding of the teaching and learning processes, it can be concluded that, according to the trainee teachers, action research and reflection are important aspects of the profession in practice – not only in theory. In the opinion of many participants of the EETTPM course, after filtering their practice through the constructivist lens they have already changed their views on teaching and learning and expressed willingness to use the ideas in their everyday work.

- (5) One of the most important findings is that insufficient target language competence seemed to hinder participants' performance, as in the present investigation it negatively influenced the quality of work and the precision of language use. The trainee teachers whose language proficiency, measured with the use of a grammar and vocabulary test, was lower, had more difficulties with completing the tasks online and usually achieved worse results, while those whose English proficiency was higher, performed better.

The implications for foreign language teacher education were formulated mainly on the basis of the participants' opinions about the course and its content formulated in the three questionnaires administered to them at the end of the course. The most important suggestions are outlined below.

- (1) It is important to offer trainee teachers more opportunities to acquire or develop their ICT skills providing them with practical applications relevant in the context of the foreign language classroom. Even those teachers who already use ICT in their teaching need workshops and training programmes on the use of technology in teaching, and are open for the new opportunities technology offers in their work.
- (2) The next issue worth emphasizing is the importance of learning in an active way. Online instruction, when skilfully designed, is able to intensify the engagement of participants. Tharp and Gallimore (1988: 190 quoted by Richardson 1997:108) stress that “[F]or teachers to learn new ways of teaching, we must construct settings that assist teachers to perform the new skills before they are fully competent”. According to the constructivist principles, education, to be considered effective, should initiate change. Professional development is supposed to be one of the main

- reasons motivating trainee teachers to exert their effort and continue the process of learning, preferably learning by doing, not only being told what and how to do it.
- (3) Another important suggestion for foreign language teacher education is the emphasis on the integration of language training with other aspects of teacher development. The holistic approach to teacher education reported in section 2.2.5. may be a good solution to overcome such problems, but foreign language development should be an integral and important part of teacher training programmes.
 - (4) By the redefinition of the traditional role of a teacher, teaching practice should be brought closer to the work of researchers and be a source of reflection leading to self-development. Action research, which encourages teachers to act as researchers in their own classrooms and to reflect on their performance, may be of vital importance for the increase of the effectiveness of their teaching. Therefore, encouraging and preparing teachers for such practices may be really valuable and ICT skills can contribute significantly to their success.
 - (5) The need to integrate technical and pedagogical aspects constitutes another challenge for effective teacher education. It is important to teach ICT in the particular context of the subject to be taught. Teacher educators, who are not only ICT experts, but also professional language teachers, are going to be more effective. As it was reported in section 2.3.2., Krajka (2009: 203f.) enumerated the basic groups of tools which should be in the focus of attention of foreign language teacher preparation: the ability to use text editors, search engines, multimedia tools, cooperation tools and e-learning. All of these should be used in a new, Web 2.0. way, in which trainee teachers play an active role in the Internet community, not only use the materials created by someone else. Moreover, as it was discussed above, the tools should be used within the subject matter area, demonstrating the ways in which they can be used practically. In his book *Technology and social inclusion: Rethinking the digital divide*, Warschauer (2004) stresses the fact that it is not the physical availability of computers and the Internet which is important, but rather the people's ability to make use of the new technologies in the context of meaningful social practices. A supportive teacher development programme, shaped on reflection, which brings to the experience practical applications for the trainee teachers' own classrooms, presenting them with images of teaching other than just telling what and how to do something, is of vital importance for them.

6.7.2. Conclusions and implications for the design of e-learning courses for foreign language trainee teachers

On the basis of the outcomes of the present investigation another set of conclusions was formulated, which concerns the design of e-learning courses for foreign language trainee teachers:

- (1) The most important remark stemming from the investigation is that the trainee teachers were positively oriented towards learning online and even if they saw some disadvantages connected with this form of acquiring knowledge, the advantages outweighed them considerably. They liked learning online and were ready to exert considerable effort in order to learn more.
- (2) Two multi-item factors were identified among the attitudinal and motivational variables: the *Orientation to use ICT factor* and the *Self-confidence with ICT factor*. Against intuition, the variables connected with attitudes and motivation as well as the ones connected with anxiety proved not to be responsible for the trainee teachers' achievement in the particular online methodology course delivered in English. Another two variables, which were identified as those which influence the participants' performance, were: English competence and methodology competence. The results of the present investigation proved, however, that none of the identified factors can be neglected due to the participants' strong desire for ICT to be incorporated into teacher education programmes.
- (3) Learning on the basis of both their previous experience as well as sharing experience with others was very important for the trainee teachers. Instances from the participants' own classrooms proved to be a very appreciated part of the online experience which, in many cases, was a source of reflection and self-development for them. Moreover, the participants' previously acquired ICT skills and knowledge were taken into account, and the study revealed that with their basic abilities to use the Internet and a computer, the trainee teachers did not need much detailed guidance to use a new tool such as the Moodle platform. It is important to notice, however, that the guidelines, concerning the way of subscribing to the course as well as editing a profile on the platform, were considered to be precise and consistent.

- (4) It was also interesting that the participants were so enthusiastic about the theoretical part of the course. They felt the need for the constructivist ideas to be propagated among EFL teachers. In the online course this was done by assigning them a role of constructivist learners themselves, to make them better prepared to implement constructivist pedagogies in their own work. The aim was to initiate changes from a teacher-directed and product-oriented delivery, based on the positivist model, to an intellectually engaging, and process-oriented one, framed by the constructivist perspective in education. In the case of the present study the participants appreciated the incorporation of their subjective perceptions and belief systems into the course and conducting their own inquiries followed by reflection. Although they complained about the time-consuming nature of the course, they assessed it positively and considered it to have challenged their opinions about teaching and learning.
- (5) On the basis of the two studies: the pilot one and the study proper, it can be concluded that with the same tutor, both online and face-to-face, communication was easier than when there were two separate teachers. The participants were more willing to exchange information online with the same tutor they met also during face-to-face classes. Moreover, it was found out that they felt the need to meet the teacher from time to time. The remark is similar to the research conducted by the U.S. Department of Education (Means et al. 2009) and reported in section 3.4.2.
- (6) It was important that the online course used e-learning to teach trainee teachers to use e-learning. Some of the participants expressed the opinion that the EETTPM course had already helped them in the process of introducing ICT into their teaching. They proved that there is a growing need for hands-on practice to encourage teachers to use e-learning in the future. The majority of the participants believed that e-learning is an effective way of educating teachers, they declared that they would like to use it in the future and expressed a strong desire to learn it.
- (7) In the case of the present investigation, the online experience required the participants to carry out a project lesson off-line after designing it in the online environment. Although the offline task proved to be very difficult to carry out by some of the participants, in the opinion of a number of them it was a very important part of the whole experience.
- (8) The level of anxiety of the participants was low and they used ICT on a regular basis. Although for the majority of the trainee teachers it was the first experience with

e-learning, few perceived the online environment to be uncomfortable and nobody denied its effectiveness. In a few cases, the participants expressed uneasiness at the beginning of the course; however, they did not require much assistance of the online tutor to guide them through the particular stages. The ability to manage the course by themselves was observed instead and except for the list of basic steps which were required in order to subscribe to the course at the beginning, no further assistance about the use of the Moodle platform was necessary.

- (9) The Moodle course served also as a vehicle for maintaining contact between participants, between participants and the online tutor, and for discovering whether they continued their performance online. The forum was considered to be the most useful part of the course.

On the basis of the above conclusions, a number of implications for the design of online courses for trainee teachers can be formulated:

- (1) Supporting foreign language trainee teachers' genuine interest in e-learning use for professional purposes is of vital importance and should prove to be very effective as they express a desire to learn and use it.
- (2) Although motivational and attitudinal factors proved not to be responsible for achievement in e-learning, they still constitute a significant factor, which should be taken into account due to the considerable importance attributed to them by trainee teachers, who regard e-learning as an indispensable part of the teaching process in the future.
- (3) The next recommendation stemming from the present investigation is the inclusion of the trainee teachers' previous experience in the course. M. Brown ([n.d.]:1) stresses that "[A] learner does not come to a classroom or a course web site with a mind that is a *tabula rasa*, a blank state. Each learner arrives at a learning 'site' with some pre-existing level of understanding". It can be recommended to check the participants' previous abilities and skills in order to adjust instruction in the online environment. The previous experience of participants should constitute a starting point in the course design to avoid boredom in the case when tasks are too simple, and to avoid annoyance and procrastination in the case when they are too difficult.

- (4) Another implication stemming from the investigation is that trainee teachers appreciate courses which promote high-order cognitive skills such as critical thinking, reflection, problem-solving, communication and reasoning, which are performed in the context of hands-on experience. Therefore, online courses which promote such skills should be designed.
- (5) An important observation was made on the basis of the EETTPM course that blended courses run by the same tutor seem to be more effective than purely online ones, and those run by two tutors, an online one and a face-to-face one, better still.
- (6) Another suggestion for designing e-learning courses for foreign language trainee teachers is to prepare courses stimulating off-line reflection and learning. In such a way, trainee teachers should be encouraged to implement and disseminate the knowledge gained online in their environment.
- (7) Low anxiety of participants in the online environment as well as their ability to perform there without much assistance of the online tutor on the basis of the instructions, which they assessed as clear and easy-to-use, means that consistency and clarity in designing online courses should be preserved.
- (8) The trainee teachers' appreciation for exchanging professional ideas online proved that communication tools can serve as a very important and effective way of learning from each other, which in the case of foreign language trainee teachers may bring good results. Hence, such elements should be included in the course design.

In conclusion, as a result of the present investigation, suggestions both for foreign language teacher education as well as for the design of the e-learning courses were formulated. The majority of the participants already used ICT to teach and they felt confident when using a computer and the Internet. Moreover, they understood the positive influence of technology on their teaching practice; they were aware that computers are an indispensable part of the teacher's life and they did not consider learning about technology to be a difficult task. Although for the majority of them it was the first e-learning course, they were able to perform well without much assistance.

6.8. Suggestions for further research

The present study, in attempting to address some of the issues connected with online trainee teachers' education, is just a first step in the discovery of the whole range of individual variables which may have an impact on achievement online. Due to the limited scope of the investigation, only chosen aspects of an adjusted socioeducational model of Gardner's were taken into account. Below, a few areas which deserve more detailed investigation are going to be presented.

Firstly, as an exploratory factor analysis needs to be verified due to the fact that it constitutes a hypothesis only, more research, including more variables, is necessary to adapt Gardner's model to the field of the online learning environment and then to confirm it with another statistical tool: structural equation modelling. More emphasis is necessary on those variables which proved to have a more powerful influence on achievement than the attitudinal and motivational ones and which were not the area of study in the present investigation (e.g. aptitude measures). The accumulation of expertise in the field may result in a more relevant model of EFL trainee teacher's education online as well as a more appropriate battery test adjusted to the specific context.

Secondly, as the progressing integration of technology into teaching may cause weariness and boredom with ICT, more research is needed in order to understand how the high levels of motivation can be promoted and sustained in trainee teachers.

Thirdly, as the larger a sample is, the more stable the results, working out a fuller model of EFL teacher education online should lead to research on larger sets of individuals. Such studies may be generalisable through the whole population of postgraduate EFL trainee teachers.

The last area, which may be a particularly interesting one to investigate, is the issue to what extent the positive attitude of the participants towards ICT was enhanced by a kind of political correctness and social pressure which they reported to feel, rather than their real positive emotions towards the advances in technology.

Conclusion

The constructivist approach adopted in the present dissertation, which stresses teaching for *meaning-making* and the active construction of knowledge, has dominated the contemporary intellectual debate on education. Its influence on the teaching practice is, however, not so prominent and many areas of weakness were identified in the related literature. Many authors attempt to show the place of the constructivist ideas in education and emphasize the lack of a link between the theoretical framework and the practice of teaching. A significant part of the contemporary literature is devoted to the sophisticated issue of providing learners with ownership of the process of learning, challenging their assumptions through the lens of the constructivist theory, and helping them develop an integrated understanding of the most important concepts without limiting constructivism to a set of rules, which would defy its philosophy. Social constructivists change the emphasis from the understanding of the learning process as the construction of knowledge by an individual, to learning as a social event, participation and a shared creation of meaning. There are voices, however, which advocate the idea of breaking with false dichotomies between the different approaches to constructivism and incorporating both cognitive and sociocultural ones.

The conclusion stemming from the analysis of the literature on constructivism is that an effective translation of the ideas into a teaching and learning theory may occur when trainee teachers, who are in the focus of attention of the present investigation, are advised how to work in a constructivist way, and drawing on the experience and knowledge of others are able to critically evaluate, rather than passively accept them. In the reported research on the place of constructivism in the Polish system of education the adherence of students to the traditional methods of teaching is clearly visible. It seems that the constructivist perspective introduced at the tertiary level of education, in order to educate trainee teachers

who are going to initiate social change, might be a good solution to the problem. Although some progress in particular areas of their education took place, there is still a lot to be done in order to reconceptualize teacher education programmes and to enable them to gradually change the whole system in the future.

After the analysis of the works of different authors it can be concluded that many areas of educating teachers in Poland need to be investigated in order to make teacher education programmes more effective. The existing research already indicates some areas of weakness. Firstly, an inability of teachers to transfer the acquired knowledge into practice is reported; secondly, their incomplete qualifications and the fact that methods courses are focused on prescription, rather than on critical reflection, is notable. Additionally, while some authors report that teachers' language competence is marginalised, others point to the fact that teacher education is limited to narrowly-understood linguistic and didactic specializations lacking a more holistic approach. As the quality of teacher education is directly responsible for the quality of life in a particular society, it is of vital importance to increase trainee teachers' self-awareness, to help them employ critical reflection on practice and to introduce action research in order to develop and to cause a significant and long-lasting change. One of the proposed solutions might be developing the teacher's own didactic style.

Motivation and attitudes are commonly believed to be predictors of success in learning. Motivation, however, is not a straightforward concept as many different variables, such as individual differences as well as the context of the learning process, may exert a significant influence on it. This fact explains the existence of various alternative theories of motivation, which encompass different sets of variables, because including all factors responsible for motivation is practically impossible. The analysis of the literature on the role of motivation and attitudes in education clearly indicates that there is an inclination towards a more integrated understanding of motivation and attempts to work out a fuller model are made.

For the purposes of the present dissertation the role of motivation and attitudes towards ICT in education was particularly important. Generally, the reported research reveals that students' motivation and attitudes towards ICT are positive and rather invariable. Moreover, on the one hand, despite the favourable attitudes towards ICT, practising teachers feel an insufficiency of the level of integration of technology into their teaching. On the other hand, they are strongly motivated to learn it and self-study practices are rather com-

mon among them. Research shows that blended approaches to e-learning, which incorporate both traditional and online teaching practices are more effective than purely online ones. In addition, the online components of the learning process result in qualitative changes in the teaching and learning processes. The online environment may reduce the anxiety of those who are afraid of face-to-face interaction, but at the same time increase the feeling of isolation. It is also reported that blended courses decrease the procrastination of the participants. The authors who are interested in this topic emphasize the need for the careful selection of materials and underline that it is of vital importance to remember that mere ICT use does not guarantee success, as it is embedded within a particular teaching style. In conclusion, technological advances naturally enter the world of education but should be used in a competent way to be effective. The opportunities that they offer teachers are in line with the constructivist philosophy and with the main trends in contemporary teacher education.

The present investigation studied the relationships between attitudes, motivation and achievement of postgraduate trainee teachers in an online methodology course delivered in the English. It was carried out in two steps; firstly, a pilot study was conducted on a group of 13 postgraduate trainee teachers at Adam Mickiewicz University in Poznań in order to check the research instrument and tools. Secondly, a study proper took place on the group of 40 trainee teachers at Wyższa Szkoła Języków Obcych in Poznań.

The research methodology applied in the investigation was of a mixed type as both quantitative as well as qualitative methods were used. They proved to contribute significantly to a better understanding of the phenomena which were in the focus of attention as they complemented each other. The quantitative part of the investigation has grown out of the sociocultural tradition of second language motivation research in the form of an adapted motivation and attitudes battery test. The qualitative parts of the study allowed the researcher to gain a significant amount of new insights into the participants' personal opinions and experiences.

The responsibility of the trainee teachers was to pass the course, they were expected to acquire the content (constructivist philosophy), to prove themselves to have the necessary language skills allowing them to complete it, to develop some degree of fluency with their handling of the computer and to develop a willingness to use the knowledge and skills in their environments. The next part engaged them in problematic situations connected with the Project Method and, on the basis of the materials, on the topic of constructivism pre-

sented online. They discussed the ways in which the project method could be improved in order to be more effective. Next, the participants asked their own students to prepare projects according to the revised principles and commented on-line if their expectations about the outcomes were right. In the final part of the course, the trainee teachers reflected on their experiences and completed the questionnaires.

The most important findings stemming from the investigation are believed to contribute to a better understanding of the role of ICT in the contemporary teacher education and of the factors which can contribute to better results of studying online. The outcomes of the factor analysis point to the fact that neither attitudes nor motivation are the factors contributing to better achievement. It was found out that the target foreign language and content competence seem to play a more important role influencing achievement in the course. It should be remembered, however, that the motivation and attitude factors cannot be neglected as trainee teachers are undergoing the process of ICT integration and are strongly convinced that technological advances are becoming a natural learning environment both for them as well as for their students. The curiosity of EFL trainee teachers towards the issues connected with the use of technological advances in the classroom was noticeable together with their awareness of their usefulness and motivating influence on their students' performance. Additionally, they expressed a strong desire to learn about ICT and to use it in the future.

Apart from ICT skills, the participants found the theoretical part of the course useful. It should be remembered, however, that constructivism is neither a method nor a technique of teaching and learning but rather a theory which guides educators in their everyday practice. Not many teachers would spend hours on end analysing and thinking over the academic texts written by scholars and to examine the recent academic research connected with their work. Fontana (1995: 143) expresses dissatisfaction with the level of cooperation between theorists and educators, stating that "it is a common complaint that theories of learning, for all their undoubted complexity, are not really that much help when it comes to the practicalities of helping students learn". That is why a link between the academic world and professionals dealing with classroom practice is needed – obviously not to impose certain practices on teachers but rather to give them plenty of ideas to choose from and to adjust to their own needs as well as to provide feedback whenever they need it.

On the basis of the findings reported above, two groups of implications for foreign language teacher education online in general as well as for the design of e-learning courses

for trainee teachers are suggested. Although the investigation was carried out on the EFL postgraduate trainee teachers, the results may prove to be a valuable source of information for teacher education in general, and foreign language teachers learning online in particular. The need for opportunities to develop ICT skills, learning in an active way, the integration of language training with other aspects of teacher development as well as the integration of technical and pedagogical aspects when preparing trainee teachers for their future job are the most important issues to be considered when designing teacher education programmes. The implications connected with designing online courses for teachers indicate that trainee teachers are ready and willing to learn to use e-learning, they appreciate tasks which refer to their professional experience and which promote high-order cognitive skills and reflection, they do not need much assistance when working online and they need to share their experiences and opinions with other participants.

The present author hopes that the research is going to produce guidelines for future action concerning teacher education in Poland. Educational decision-makers and teacher educators, who are to a great extent responsible for providing teachers with opportunities for professional development and sustaining their effort to self-develop, may find the suggestions useful.

The research findings of the present investigation can serve as starting points in exploring the broader domains of those factors which are influential in the online learning environment and lead towards a fuller model of foreign language trainee teachers' education within the given online context. On the basis of the results of the present study, it can be concluded that although information and communications technology can be used in various ways, its sole application does not guarantee effective learning and teaching. Nevertheless, it can be conducive to success because it can make learning more interesting and can motivate students, providing them with the opportunity for self-study and making the classes more attractive and engaging. Basically, new technologies offer new sources of motivation for many students but it is still the teacher who establishes the quality of the learning process.

Streszczenie

Rozprawa doktorska pt. "The postgraduate trainee teachers' attitudes, motivation and achievement in an online EFL methodology course. The social constructivist approach" [Postawy, motywacja i osiągnięcia studentów studiów podyplomowych przygotowujących się do zawodu nauczyciela języka angielskiego w kursie online z metodyki. Podejście społeczno-konstruktywistyczne] jest próbą odpowiedzi na pytanie, czy motywacja i postawy uczestników kursu w środowisku online mają związek z uzyskanymi przez nich wynikami.

Motywacja i związane z nią postawy są pojęciami wieloaspektowymi i dlatego bardzo trudnymi do zdefiniowania. Bogata literatura poświęcona tym zagadnieniom dowodzi, jak wielu teoretyków, naukowców oraz ośrodków badawczych stawia motywację w centrum zainteresowania. Jest to wynikiem zmian, jakie dokonują się w podejściu do edukacji: rosnącym naciskiem na rozwijanie autonomii, autorefleksji oraz holistycznego podejścia do wzbogacania kompetencji jednostek. W nurt ten wpisuje się również proces integracji nowoczesnych technologii informacyjnych i komunikacyjnych w nauczaniu. Wyniki badań dotyczące uczenia się w tym nowym środowisku mogą w znaczącym stopniu przyczynić się do wzrostu efektywności nauczania. Z jednej strony mogą wskazać możliwe drogi zastosowania technologii w konkretnym kontekście edukacyjnym, z drugiej pozwolić na uniknięcie nadmiernego zafascynowania zdobyczami techniki wykorzystywanymi bez krytycznej oceny ich przydatności. Powyższe zagadnienia są szczególnie ważne w aspekcie kształcenia nauczycieli, również nauczycieli języków obcych, którzy w szczególny sposób odpowiedzialni są za rozwój szeroko rozumianej kompetencji komunikacyjnej swoich uczniów. Dlatego powinni być przygotowani do funkcjonowania we współczesnym, rozwi-

niętym technologicznie świecie, w którym komputer i internet są rozpowszechnione w każdej praktycznie dziedzinie życia.

W niniejszej rozprawie zagadnienie motywacji rozpatrywane jest w kontekście podejścia konstruktywistycznego do nauczania oraz najnowszych trendów w edukacji nauczycieli języków obcych, a w szczególności studentów podyplomowych, przygotowujących się do wykonywania zawodu nauczyciela języka angielskiego. Praca badawcza koncentruje się na wykryciu zależności pomiędzy postawami i motywacją studentów biorących udział w kursie metodycznym prowadzonym online w języku angielskim, a wynikami, jakie uzyskali w procesie zdobywania w ten sposób wiedzy i umiejętności. Dodatkowo badana jest zależność tych wyników od poziomu zaawansowania języka angielskiego uczestników kursu i wyników testu z metodyki.

Podjęta została próba zdefiniowania zmiennych, które mogą być odpowiedzialne za efektywne nauczanie metodyki w języku angielskim w nauczaniu hybrydowym, czyli kursie prowadzonym zarówno w środowisku online oraz w tradycyjny sposób. Ze względu na niedostatek skoordynowanych, jednolitych badań dotyczących wykorzystania współczesnych technologii w nauczaniu oraz brak podstaw teoretycznych, konieczne było zakotwiczenie badań w ramach już istniejących paradygmatów dotyczących innych dziedzin. Z tego względu w niniejszej rozprawie zaadaptowany został model motywacji Gardnera, który uznawany jest za model najbardziej uniwersalny, który łatwo jest przystosować do różnych kontekstów nauczania oraz obejmujący szerokie spektrum różnic indywidualnych. Model ten w oryginale służył do wielokrotnie powtarzanych na przestrzeni ostatnich czterdziestu lat badań nad motywacją w nauce języka obcego. Po adaptacji został wykorzystany również do badań nad motywacją w środowisku online.

Rozprawa składa się z dwóch głównych części. Pierwsza z nich, część teoretyczna, zawiera trzy rozdziały: rozdział pierwszy koncentruje się wokół zagadnień dotyczących teorii konstruktywizmu, rozdział drugi stanowi podsumowanie głównych trendów w kształceniu nauczycieli języków obcych, a trzeci z nich przedstawia zagadnienia związane z motywacją w nauczaniu. Część druga pracy również składa się z trzech rozdziałów. Pierwszy z nich zawiera opis metodologii badań, drugi to wyniki badań empirycznych, natomiast trzeci stanowi podsumowanie tych wyników.

Pierwszy rozdział zawiera zestawienie zagadnień związanych z ideą konstruktywizmu i jej znaczeniem w edukacji, a w szczególności nauczania w polskim kontekście edukacyjnym. Zmiany dokonujące się we współczesnym świecie wymuszają zmianę podejścia

do uczenia się i nauczania, stąd wynika proces odchodzenia od paradygmatu pozytywistycznego, który od lat czterdziestych ubiegłego wieku wciąż wywiera wpływ na edukację, na rzecz podejścia promującego aktywne konstruowanie wiedzy na bazie wcześniejszych doświadczeń i w kooperacji z innymi, kładącego nacisk na umiejętność refleksji i samokontroli, na rozwijanie umiejętności krytycznego myślenia i odpowiedzialności za własną naukę. W rozdziale niniejszym kolejno omówione są zagadnienia dotyczące źródeł tworzenia się myśli konstruktywistycznej na przestrzeni ubiegłych wieków, na których bazie powstał współczesny konstruktywizm, ponadto została podjęta próba zdefiniowania pojęcia konstruktywizmu, tak, jak jest on postrzegany przez różnych autorów ze szczególnym uwzględnieniem społecznego konstruktywizmu, który stanowi teoretyczne tło rozprawy. Pomimo znaczących różnic w rozumieniu konstruktywizmu podjęta została próba opracowania zasad, które mogą pozwolić na efektywne wykorzystanie tej teorii w praktyce nauczania oraz profilu konstruktywistycznego ucznia, nauczyciela i cech zajęć prowadzonych w oparciu o idee konstruktywizmu. Pomimo powszechnej akceptacji nowego paradygmatu, nie brak również głosów krytycznych, których podsumowanie znajduje się w następnej części rozdziału. Rozdział pierwszy kończy się analizą sytuacji w polskim systemie edukacji na tle idei konstruktywistycznych oraz podsumowaniem badań, które mogą przyczynić się do lepszego zrozumienia miejsca nowego paradygmatu na gruncie zmian, które dokonują się w naszym kraju.

Rozdział drugi poświęcony jest rekonceptualizacji zagadnień związanych z kształceniem nauczycieli języków obcych, która dokonuje się pod wpływem zmiany paradygmatu pozytywistycznego na konstruktywistyczny. Współczesne programy kształcenia nauczycieli rezygnują z przekazywania wiedzy na rzecz rozwijania indywidualnego stylu uczenia kształcących się nauczycieli i krytycznej oceny przydatności różnych rozwiązań dla konkretnego kontekstu edukacyjnego. Rozdział rozpoczyna się od przedstawienia historii rozwoju różnych modeli edukacji nauczycieli w kierunku bardziej refleksyjnych, opartych zarówno na wiedzy nabytej w tradycyjny sposób, jak również na doświadczeniu przefiltrowanym przez każdą jednostkę indywidualnie. Podkreślone jest znaczenie postrzegania kształcenia nauczycieli języka angielskiego jako procesu ustawicznego, trwającego przez całe życie. Kolejna część zawiera podsumowanie głównych kierunków we współczesnym kształceniu nauczycieli. Pierwszym z nich jest odejście od tradycyjnego modelu, na który składało się zaznajomienie ich z różnymi technikami, które można wykorzystać podczas zajęć, na rzecz rozwoju ich własnych teorii nauczania opartych na świadomym wyborze i

refleksji. Drugi z tych kierunków to rozwój autonomii przyszłych nauczycieli, od których oczekuje się przejęcia odpowiedzialności za własny rozwój i zaszczepienia takiej potrzeby w swoich uczniach. Trzeci kierunek związany jest z przejściem od praktyk preskryptywnych w pracy nauczyciela do podejścia odkrywczego, związanego z bezpośrednim doświadczeniem w danym kontekście edukacyjnym i umożliwiającego dostosowanie przez konkretnego nauczyciela metod działania do jego środowiska pracy. Fakt ten jest bezpośrednio związany z kolejnym, czwartym kierunkiem, czyli przygotowywaniem nauczycieli do refleksyjnego podejścia do edukacji opartego na doświadczeniu. We współczesnej literaturze promowane jest również bardziej holistyczne podejście do edukacji nauczycieli, angażujące ich w szerokim zakresie i uwzględniające ich rozwój dotyczący również języka ojczystego, powiązania z innymi dziedzinami nauki, wykorzystanie zdobyczy współczesnej socjologii, psychologii oraz psycholingwistyki. Ponadto ważne jest rozumienie nauki języka obcego jako doświadczenia społecznego, stąd nacisk na rozwój kompetencji społecznych nauczycieli, które stanowią kolejny, szósty kierunek określający nauczyciela języka angielskiego jako mediatora pomiędzy kulturami. Siódmy aspekt, który został poruszony w rozdziale drugim, a bardzo ściśle związany z głównym tematem rozprawy to integracja technologii informacyjnej oraz komunikacyjnej w nauczaniu. Ze względu na fakt, że jest to nowa dziedzina nauki, która dodatkowo rozwija się w szybkim tempie, do tej pory nie wypracowano jednolitych ram dotyczących tego, w jakie umiejętności w dziedzinie technologii powinni być wyposażeni i w jaki sposób powinni się uczyć przyszli nauczyciele. Ostatni kierunek w edukacji nauczycieli opisany w rozdziale drugim to zaangażowanie przyszłych nauczycieli w badania w działaniu we własnej praktyce szkolnej. Rozdział drugi zakończony jest analizą reform w edukacji nauczycieli w Polsce po roku 1989 oraz podsumowaniem badań dotyczących edukacji nauczycieli języka angielskiego w Polsce.

Rozdział trzeci poświęcony jest motywacji oraz postawom w środowisku online. Podjęta została próba zdefiniowania pojęcia motywacji oraz postaw, a następnie podsumowanie głównych teorii motywacji według kategorii podanych przez Dörnyei'a i Skehan'a (2003:615f.), a mianowicie grupa teorii oczekiwań i wartości (tzw. expectancy-value theories), teorie celu (goal theories), teorie samodeterminacji (self-determination theories) oraz socio-psychologiczne teorie działania (social psychological theories of action). Istnienie tak dużej gamy różnorodnych teorii wynika ze złożoności pojęcia motywacji i znacznej ilości czynników wpływających na nią, dlatego każdy z teoretyków i badaczy zajmuje się tylko tymi determinantami ludzkiego zachowania, które wydają im się najważniejsze, pomijając

pozostałe. Próbę stworzenia modelu motywacji w nauczania języka angielskiego jako drugiego podjął Gardner, a badania na nim oparte są prowadzone od kilkadziesiąt lat. Model ten jest uważany za uniwersalny, który po adaptacji do konkretnej sytuacji może przyczynić się do efektywnego wyjaśnienia czynników wpływających na osiągnięcia uczniów. Opis modelu motywacji według Gardniera, posłużył również do opracowania modelu, który został wykorzystany, w empirycznej części pracy, do zdefiniowania czynników, które mogą mieć wpływ na osiągnięcia studentów, przygotowujących się do zawodu nauczyciela języka angielskiego w środowisku online. Rozdział trzeci zawiera również podsumowanie badań nad motywacją i postawami związanymi z technologią informacyjną i komunikacyjną. Ze względu na niedostatek badań dotyczących kształcenia nauczycieli w środowisku online przedstawione zostały wyniki badań dotyczących nauczania języków obcych z wykorzystaniem technologii w Polsce oraz tzw. *blended learning*, czyli nauczania hybrydowego zarówno w tradycyjny sposób, jak również za pomocą kursu e-learningowego jednocześnie, w przekonaniu, że mogą się przyczynić do lepszego zrozumienia zagadnień poruszanych w niniejszej pracy. Rozdział zamyka, zaadaptowany na potrzeby niniejszej rozprawy, model Gardniera w postaci modelu motywacji w kształceniu nauczycieli w środowisku online przeprowadzonego w języku angielskim.

Metodologia badań przeprowadzonych dla potrzeb niniejszej rozprawy została opisana w rozdziale czwartym. Obejmowała zarówno metody ilościowe, jak również jakościowe zbierania i analizy danych. Część ilościowa oparta była na Kwestionariuszu Postaw i Motywacji [Attitudes and Motivation Bartery Test] opracowanym przez Gardniera, podczas gdy część jakościowa, w postaci pytań o charakterze otwartym, stanowiła pogłębienie i dopełnienie informacji uzyskanych dzięki pomiarom ilościowym. Ta część rozprawy wskazała na wyniki badań przeprowadzonych przez autorkę, które potwierdziły, że praktyka szkolna nie odzwierciedla akceptowanych przez nauczycieli języka obcego założeń teoretycznych oraz że wykorzystanie technologii podczas lekcji jest niewystarczające w stosunku do oczekiwań zarówno samych nauczycieli, jak i ich uczniów. Tematyka niniejszej rozprawy jest konsekwencją tych badań i próbą znalezienia sposobów poprawy tej sytuacji. W rozdziale zawarty został również opis celów i uczestników badania pilotażowego przeprowadzonego wśród studentów podyplomowych Uniwersytetu im. Adama Mickiewicza w Poznaniu w Instytucie Filologii Angielskiej. Następnie przedstawione zostały cele badania głównego, przeprowadzonego wśród studentów podyplomowych w Wyższej Szkole Języków Obcych w Poznaniu, charakterystyka jego uczestników, instrumenty badawcze, jak

również metody analizy danych: statystyka opisowa, analiza korelacji oraz analiza czynnikowa. Ta część rozprawy zawiera również szczegółowy opis kursu e-learningowego z metodyki w języku angielskim przygotowanego przez autorkę, który był dopełnieniem kursu prowadzonego w tradycyjny sposób, a przygotowanego według idei konstruktywistycznych oraz odzwierciedlającego główne kierunki we współczesnej edukacji nauczycieli.

Rozdział piąty przedstawia wyniki badań przeprowadzonych na grupie czterdziestu studentów studiów zaocznych przygotowujących się do zawodu nauczyciela języka angielskiego. Znaczną część tego rozdziału stanowi podsumowanie danych jakościowych opisujących kontekst badania w postaci deklарowanych przez uczestników kursu umiejętności dotyczących wykorzystania nowoczesnych technologii, a w szczególności postaw oraz umiejętności ich wykorzystania w nauczaniu języka angielskiego, jak również postaw związanych z kursami e-learningowymi. Wyniki badania ilościowego w postaci opisu poszczególnych czynników, wraz z badaniem ich rzetelności, statystykami opisowymi, korelacjami między nimi, oraz analiza czynnikowa zaprezentowane są w następnej części rozdziału. Ponadto została przeprowadzona analiza związku pomiędzy tymi czynnikami, a wynikami uczestników. Na uwagę zasługuje wieloaspektowe ujęcie tych wyników, gdyż oprócz testu dotyczącego głównego tematu kursu, czyli konstruktywizmu, miarą sukcesu były również zagadnienia organizacyjne, takie jak dotrzymywanie terminów oraz umiejętność przeprowadzenia konstruktywistycznego projektu. Trzecim elementem mierzącym osiągnięcia studentów w kursie była umiejętność wykorzystania specyficznego konstruktywistycznego metajęzyka, a czwartym jakością konstruktywistycznego projektu przygotowanego przez uczestników oraz jakością refleksji po jego przeprowadzeniu. Dodatkowo wprowadzone zostały dwa czynniki w postaci testu gramatyczno-leksykalnego z języka angielskiego oraz testu z metodyki w celu zbadania ich ewentualnego wpływu na wyniki w kursie. Rozdział kończy przedstawienie ograniczeń związanych z przeprowadzonym badaniem.

Ostatni, szósty, rozdział stanowi podsumowanie wyników przeprowadzonego badania oraz wnioski i implikacje dla kształcenia nauczycieli w środowisku online, jak również sugestie dotyczące tworzenia kursów e-learningowych dla nauczycieli języka angielskiego. Chociaż celem rozprawy nie było uogólnienie uzyskanych wyników na całą populację podyplomowych studentów, przygotowujących się do zawodu nauczyciela języka angielskiego w Polsce, uzyskane wyniki mogą posłużyć jako przyczynek do dalszych badań nad czynnikami wpływającymi na efektywność kształcenia w środowisku online oraz jako su-

gestie, które po adaptacji do konkretnego kontekstu edukacyjnego mogą być przydatne w przygotowywaniu programów kształcenia nauczycieli języków obcych w ogóle oraz tworzenia kursów e-learningowych w szczególności. Jednym z najważniejszych wniosków wynikających z badań jest fakt, że technologia informacyjna i komunikacyjna stała się naturalnym elementem codziennego życia nauczycieli, i że są oni przekonani o konieczności rozwijania umiejętności posługiwania się nią w pracy zawodowej. Ponadto wykazują wysoką motywację do zdobywania wiedzy i umiejętności w tym zakresie. Szczególny nacisk powinno się położyć na praktyczne zastosowania i uczenie poprzez zaangażowanie w konkretne zadania integrujące zarówno technologiczne, jak również pedagogiczne aspekty. W wyniku analizy danych zostały wyodrębnione dwa czynniki związane z motywacją, i chociaż analiza nie wykazała silnego związku pomiędzy nimi a wynikami w kursie, w opinii jego uczestników znajomość współczesnych technologii jest niezbędna w pracy nauczyciela. Uczestnicy docenili fakt, że kurs e-learningowy wymagał od nich umiejętności krytycznego myślenia i dzielenia się doświadczeniami.

Ostatnia część rozprawy to spis wykorzystanej literatury oraz załączniki zawierające tabele z danymi, wykorzystane kwestionariusze, testy kompetencji języka angielskiego i metodyki oraz płytę CD z kursem e-learningowym wykorzystanym w badaniu.

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Appendices

Appendix A: Detailed characteristics of the participants – organization of the data

PART A: EDUCATIONAL AND OCCUPATIONAL CHARACTERISTICS OF THE PARTICIPANTS
<p>1. Respondents' experience as teachers:</p> <p>Are you a teacher?</p> <p>Are you an English teacher?</p> <p>How long have you been a teacher?</p> <p>How long have you been teaching English?</p> <p>What do you teach? (only non-English teachers included)</p> <p>What do you teach? (respondents teaching both English and another subject)</p> <p>2. Type of educational background of respondents:</p> <p>Number of respondents with MA and BA degrees by subjects.</p> <p>3. Respondents by their workplace:</p> <p>Where do you teach?</p>
PART B: PARTICIPANTS' ABILITY AND WILLINGNESS TO USE INFORMATION AND COMPUTER TECHNOLOGY
<p>4. Respondents by computer use:</p> <p>I usually use a computer for about ... hours a day.</p> <p>I use a computer for work and entertainment in the following proportions:</p> <p>I use a computer in order to (how often):</p> <ul style="list-style-type: none">- send/receive e-mails,- use www,- play games,- prepare materials for lessons,- look for materials for lessons,- communicate with students,- shop online,- read methodology literature. <p>I use the Internet (how often)</p>

5. Participants' ability to use ICT:

I have participated in workshops concerning the use of technology in teaching: (How many?

What was the topic?)

My technology use self-assessment would be (1= minimum, 5= maximum).

I can use the following computer programmes:

I can use an interactive whiteboard: yes/no.

Do you feel you are prepared to use technology during lessons? yes/no

Do you like technology? yes/no

6. Technology in the EFL classroom:

Do you think students expect their teachers to use technology? yes/no

Do you already use technology when teaching foreign languages? How?

Does it make a difference when the teacher uses technology during a lesson? How?

What are the advantages of using technology during a lesson?

What are the disadvantages?

7. Respondents' attitudes towards e-learning:

Was it the first e-learning course you have participated in?

Are you going to use e-learning with your students in the future? yes/no

What is your overall attitude towards e-learning courses?

Do you think distance learning is an effective way of educating teachers?

Do you prefer to participate only in traditional classes? yes/no

8. Respondents' attitudes towards the online EFL Methodology Course Enhancing Effective

Teaching through the Project Method.

Appendix B: Structure of the online course and the tasks included

<p>COURSE NAME: ENHANCING EFFECTIVE TEACHING THROUGH THE PROJECT</p> <p>METHOD</p>
<p>PART I – LET’S START (total 10 credits)</p>
<p>Write a short introduction and insert your photograph. Look through the syllabus of the course – there is a lot of valuable information you should know.</p> <ol style="list-style-type: none">1. Edit your profile (10 credits)2. Read the syllabus of the course
<p>PART II – YOUR EXPERIENCE (total 25 credits)</p>
<p>TASK 1. Answer the following questions (5 credits):</p> <p>Task 1a. Your secondary school English classes</p> <p>When you think back to your secondary school English/ foreign language classes, what stands out for you? (2 credits)</p> <p>Task 1b. The best language course</p> <p>What is the best language course you have ever participated in? What made it so good? (2 credits)</p> <p>Task 1c. Advice</p> <p>When you were learning English in secondary school, what advice would you like to have had that you did not have at the time? (1 credit)</p> <p>TASK 2. The Project Method – answer the following questions (5 credits):</p> <ol style="list-style-type: none">1. Have you ever used the Project Method when teaching English? How often? (never, seldom, sometimes, often, very often)2. What are the advantages and disadvantages of using the Project Method when teaching foreign languages?3. Do you think the Project Method is an effective way of learning English? Why? <p>Task 3. Example project (5 credits):</p> <p>Describe an example project you have carried out with your students. If you are not a teacher yet, think about a project you have participated in.</p>

Task 4. A project you like (5 credits):

Now read example projects described by other participants and choose the one you like best. Comment on it and justify your choice.

Task 5. The Project Method – your opinion (5 credits)

Now you are going to be asked several questions about the Project Method. Please think about the issues for a moment and choose the numbers from 1 to 5 reflecting the level of your agreement.

PART III – CONSTRUCTIVISM AND TEACHING ENGLISH (25 credits)

Read a few articles on constructivism and complete the tasks.

1. Link: Transmission versus Constructivist Model – a webpage
2. Resource: Constructivism: definition – citation
3. Resource: Characteristics of constructivist learning and teaching – a webpage link
4. Resource: On constructivism – Internet article

Watch a short film about one of the fathers of constructivism – Jean Piaget. Notice what he says about the aim of education.

1. Link: Jean Piaget – a film
2. Resource: Becoming a constructivist teacher – 12 principles connected with creating constructivist settings (Brooks and Brooks 2001)

Task 6. Constructivism – a quiz (5 credits)

1. Looking back at the constructivist school of thought discussed in the resources above try to come up with one or two examples of activities in the language classroom that would match the perspective. Justify your choice (3 credits).
2. After reading about constructivism and the role of a teacher in the constructivist classroom write down three adjectives describing such a teacher (2 credits).

Task 7. A crossword – constructivism (5 credits).

Complete the crossword.

Task 8 a and b. Characteristics of constructivist learning and teaching – key terms – matching exercises (10 credits).

Task 9. On constructivism – article (5 credits)

Read the article “On constructivism”: finish the sentences and answer the questions:

1. I totally agree with...
2. I totally disagree with ...
3. What are the characteristics of a constructivist classroom according to the article?
4. What are the characteristics of a positivist classroom according to the article?

PART IV – DESIGNING A CONSTRUCTIVIST PROJECT (30 credits)

Think about particular stages of projects and think how to make them more constructivist. Before you do that, have a look at the list of problems other participants of the course used to have with projects – maybe your ideas will help to cope with them.

Resource: Difficulties with projects

Task 10. Planning a project (5 credits):

Try to think about the ways of making a project more constructivist. Think about the choice of topic, individual or group work, time needed and the aim of the project. How can constructivist ideas be applied at the first stage?

Task 11. Data collection (5 credits)

How to make the data collection stage more constructivist?

Task 12. Forms of presentation (5 credits)

How to make everybody contribute to the project?

Task 13. Assessment (5 credits)

Think about the ways of assessing the project according to the constructivist principles. Should we assess students' work individually or the whole group should get the same mark?

Task 14. The role of the teacher (5 credits)

What is the role of the teacher during a project in a constructivist classroom?

Task 15. Design a constructivist project (5 credits)

Read what other participants have written about the design of a constructivist project.

Write a short summary about the changes you are going to implement working on a project with your students to make it more effective.

PART V – PROJECT IN ACTION (30 credits)

It is time to implement the constructivist ideas and carry out a project with your students. You have three weeks to do that. Choose two students and ask them to complete the enclosed survey.

Task 16. Project in action (30 credits)

Where (in which school) and when is your project going to take place? After you complete it – please inform me – you are going to get 30 credits.

Resource: Survey for your students

PART VI – TIME FOR REFLECTION – FINAL PART (30 credits)

Please answer the questions. This is the final part of the course. You are going to get 30 credits for the task.

Resource: Time for reflection – a survey for participants

Resource: Technology survey

PART VII – BIBLIOGRAPHY

Resource: Bibliography

Appendix C: Educational and occupational characteristics of the participants

Appendix C. Table 1. Respondents' experience as teachers

Are you a teacher?				
	Yes/ Used to be	No	Total	
N	24/2	14	40	
%	65%	35%	100%	
Are you an English teacher?				
	Yes/ Used to be	No	Total	
N	12/2	26	40	
%	35%	65%	100%	
How long have you been a teacher? (N=26)				
	1 year	2 to 3 years	4 to 7 years	8 to 14 years
N	6	10	5	4
%	23%	38.5%	19%	15.5%
				lack of data – 1 (4%)
How long have you been teaching English? (N=14)				
	1 year	2 to 3 years	4 to 7 years	8 to 14 years
N	6	6	1	1
%	43%	43%	7%	7%
<p>What do you teach? (N of teachers = 12, only non-English teachers included)</p> <p style="padding-left: 40px;">German (7, 58%)</p> <p style="padding-left: 40px;">Polish (1, 8%)</p> <p style="padding-left: 40px;">Maths and ICT (1, 8%)</p> <p style="padding-left: 40px;">PE (1, 8%)</p> <p style="padding-left: 40px;">Elementary education (1, 8%)</p> <p style="padding-left: 40px;">Pedagogy (1, 8%)</p> <p>What do you teach? (N=1, respondents teaching both English and another subject)</p> <p style="padding-left: 40px;">English and Polish (1, 100%)</p>				

Appendix C. Table 2. Respondents by their workplace (N=26, teachers only)

Where do you teach?	
School type	Number of teachers
Primary School (SP)	10 (38.5%)
Primary School + Lower Secondary School (SP+G)	3 (11.5%)
Private School	3 (11.5%)
Technical College	2 (7.5%)
Lower Secondary School / Gimnazjum (G)	2 (7.5%)
Higher Secondary School/ Liceum Ogólnokształcząca (LO)	1 (4%)
Lower Secondary School + Higher Secondary School (G+LO)	1 (4%)
Primary School + Higher Secondary School (SP+LO)	1 (4%)
Primary School + Kindergarten	1 (4%)
University + Private School	1 (4%)
Home only	1 (4%)

Appendix C. Table 3. Type of educational background of respondents

Number of respondents with MA and BA degrees				
	MA	BA	Lack of data	Total
N	37	3	0	40
%	92.5%	7.5%	0%	100%
Number of respondents with an MA degree in:		Number of respondents with a BA degree		
<u>Linguistics and education (21 – 52.5%):</u>		(3 – 7.5%) only in:		
German (5 – 12.5%)		English (1 – 2.5%)		
Polish (4 – 10%)		English Translation (1 – 2.5%)		
English (2 – 5 %)		Applied Linguistics (1 – 2.5%)		
Hungarian (1 – 2.5%)				
Russian (1 – 2.5%)		<u>Lack of data:</u> 2 respondents – 5%		
Norwegian (1 – 2.5%)				
Pedagogy (3 – 7.5%)				
Applied Linguistics (1 – 2.5%)		Additional postgraduate studies (9 – 22,5%):		
Philology (1 – 2.5%)		Pedagogical therapy (2 – 5%)		
Ethnolinguistics (1 – 2.5%)		Computer and pedagogy (1 – 2.5%)		
Elementary Education (1 – 2.5%)		Journalism and ICT (1 – 2.5%)		
Social Sciences (9 – 22.5%):		Library Studies (1 – 2.5%)		
Economics (4 – 10%)		Translation (1 – 2.5%)		
Tourism (2 – 5%)		Gymnastics (1 – 2.5%)		
History (1 – 2.5%)		European Studies (1 – 2.5%)		
Political Science (1 – 2.5%)		Pedagogy (1 – 2.5%)		
Cultural Studies (1 – 2.5%)				
Science (5 – 12.5%):				
Spacial Economy (1 – 2.5%)				
Medical Equipment (1 – 2.5%)				
Maths and ICT (1 – 2.5%)				
Engineering (1 – 2.5%)				
Biotechnology (1 – 2.5%)				

**Appendix D: Trainee teachers' ability to use Information and Communications
Technology (ICT)**

Appendix D. Table 1. Respondents by computer use

I usually use a computer for about ... hours a day (N=40):									
	0-1h	1.5-2h	2.5-3h	3.5-4h	4.5-5h	5.5-6h	6.5-7h	7.5-8h	> 8h
N	10	11	8	1	0	1	2	4	3
%	25%	27.5%	20%	2.5%	0%	2.5%	5%	10%	7.5%
I use a computer for work (W) and entertainment (E) in the following proportions (N=40):									
	100% W	75%W-25%E	50%W- 50%E	25%W-75%E	100%E				
N	3	28	8	1	0				
%	7.5%	70%	20%	2.5%	0%				
I use a computer in order to (N=40):									
		never	seldom	sometimes	often	very often			
1. send/ receive e-mails		0 (0%)	0 (0%)	2 (5%)	13 (32.5%)	25(62.5%)			
2. www		0 (0%)	1 (2.5%)	0 (0%)	12 (30%)	27(67.5%)			
3. play games		32 (80%)	1 (2.5%)	7 (17.5%)	0 (0%)	0 (0%)			
4. prepare materials for lessons		1 (2.5%)	0 (0%)	3 (7.5%)	21 (52.5%)	15(37.5%)			
5. look for materials for lessons		1 (2.5%)	0 (0%)	3 (7.5%)	18 (45%)	18 (45%)			
6. communicate with students		16 (40%)	10 (25%)	8 (20%)	6 (15%)	0 (0%)			
7. shop online		3 (7.5%)	14 (35%)	18 (45%)	4 (10%)	1 (2.5%)			
8. read methodology literature		1 (2.5%)	5 (12.5%)	19 (47.5%)	12 (30%)	3 (7.5%)			

Appendix D. Table 2. Participants' ability to use particular software

I can use the following computer programmes (N=40):	
Power Point	28 (70%)
Word	27 (67.5%)
Excel	23 (57.5%)
Office	11 (27.5%)
Adobe Photoshop	9 (22.5%)
Outlook	6 (15%)
Internet Explorer	4 (10%)
Mozilla Firefox	4 (10%)
Corel Draw	3 (7.5%)
Windows	3 (7.5%)
Nero Burning Rom	3 (7.5%)
Adobe Reader	3 (7.5%)
Publisher	2 (5%)
* Software indicated only once by respondents was excluded from the analysis	

Appendix D. Table 3. Participants' ability to use an interactive whiteboard

I can use an interactive whiteboard (N=40):	
Yes	No
14 (35%)	26 (65%)

Appendix D. Table 4. Respondents by Internet use

I use the Internet (N=40):				
never	a few times a month	once a week	every day	a few times a day
0 (0%)	0 (0%)	1 (2.5%)	22 (55%)	17(42.5%)

Appendix E: Trainee teachers' willingness and ability to use Information and Communications Technology (ICT) to teach English

Appendix E. Table 1. Respondents' participation in technology use workshops

I have participated in workshops on the use of ICT in teaching (N=40):				
Number of workshops	0	1	2	3
	25 (62.5%)	11 (27.5%)	3 (7.5%)	1 (2.5%)
I have participated in workshops on the use of ICT in teaching (N=15):				
Topic	Number of participants			
use of a ICT in teaching	8 (53%)			
interactive whiteboard	3 (20%)			
presentations	3 (20%)			
e-learning	2 (13%)			
e-twinning	1 (6.5%)			
Comenius	1 (6.5%)			
M Publisher	1 (6.5%)			
Mail/ searching the net	1 (6.5%)			
creating webpages	1 (6.5%)			
* the number of workshops differs from the number of topics as not all participants provided the topic for every workshop, and others included various topics discussed during one workshop				

Appendix E. Table 2. Participants' self-assessment concerning the use of ICT for teaching

Do you feel you are prepared to use technology during your lessons (N=40):				
yes 31 (77.5%)		No 9 (22.5%)		
Please assess your ability to use ICT for teaching English (1= minimum, 5= maximum) (N=40):				
1	2	3	4	5
2 (5%)	3 (7.5%)	12 (30%)	21 (52.5%)	2 (5%)
Do you like technology? (N=40):				
yes 38 (95%)		no 1 (2.5%)	Sometimes 1 (2.5%)	

Appendix E. Table 3. Participants' opinions concerning the use of ICT in teaching

Do you think students expect their teachers to use technology? (N=40):	
yes 37 (92.5%)	no 2 (5%) I don't know 1 (2.5%)
Do you already use technology when teaching foreign languages? How? (N=40):	
yes 27 (67.5%)	no= 4 (10%) I'm not a teacher= 6 (15%) I'm not an English teacher= 2 (5%) no answer= 1 (2.5%)
How? N=27	
video/ DVD/ film	14 (52%)
presentations	12 (44%)
CD	6 (22%)
Internet	6 (22%)
additional exercises	5 (18.5%)
games	5 (18.5%)
songs/karaoke	5 (18.5%)
listening/dialogues	4 (14.8%)

computer	4 (14.8%)
projector	4 (14.8%)
asking students to search for information on the Internet	3 (11%)
audio files/radio	2 (7.4%)
pictures/photos	2 (7.4%)
articles	2 (7.4%)
online exercises	2 (7.4%)
to prepare tests, exercises, tasks	1 (3.7%)
e-mails	1 (3.7%)
e-cards	1 (3.7%)
recording students' speeches/ presentations	1 (3.7%)
finding information	1 (3.7%)
interactive whiteboard	1 (3.7%)
sounds	1 (3.7%)
quizzes	1 (3.7%)

Appendix F: Trainee teachers' attitudes towards e-learning

Appendix F. Table 1. Respondents' attitudes towards e-learning in general

Was it the first e-learning course you have participated in? (N=40)				
yes				no
29 (72.5%)				11 (27.5%)
What is your overall attitude towards e-learning courses? (N=40)				
I strongly like them	I like them	I am neutral about them	I dislike them	I strongly dislike them
3 (7.5%)	29 (72.5%)	7 (17.5%)	1 (2.5%)	0 (0%)
Do you think distance learning is an effective way of educating teachers? (N=40)				
I strongly disagree	I disagree	I don't know	I agree	I strongly agree
0 (0%)	7 (17.5%)	6 (15%)	24 (60%)	3 (7.5%)
Do you prefer to participate only in traditional classes? (N=40)				
yes				no
1 (2.5%)				38 (95%)
* lack of answer 1 (2.5%) T17				
Are you going to use e-learning with your students in the future? (N=40)				
yes			no	not sure
32 (80%)			4 (10%)	4 (10%)

Appendix F. Table 2. Respondents' attitudes towards the online EFL Methodology Course: *Enhancing Effective Teaching through the Project Method*

Do you think after the course you are better prepared to be a teacher? (N=40)				
I strongly disagree	I disagree	I don't know	I agree	I strongly agree
0 (0%)	1 (2.5%)	6 (15%)	26 (65%)	7 (17.5%)

Appendix G: Attitudes and motivation questionnaire scales

I. ATTITUDES TOWARDS THE ONLINE LEARNING ENVIRONMENT (V1)	
Q1.	Online courses are an effective way of educating people.
Q2.	I like learning online.
Q3.	Online learning is something I like doing.
Q4.	Thanks to learning online I am more engaged.
Q5.	Thanks to learning online I can learn more.
II. ATTITUDES TOWARDS ICT IN TEACHER EDUCATION (V2)	
Q6.	As a teacher/ future teacher I believe it is important to learn about using technology in the classroom.
Q7.	Computers are very important in teacher education.
Q8.	A computer is a necessary tool in teacher education.
Q9.	Computers improve the quality of teacher education.
Q10.	Learning about the use of computers in teaching is very useful for me.
III. ATTITUDES TOWARDS USING TECHNOLOGY IN THE CLASSROOM (V3)	
Q11.	If I had access to computers in my classroom, it would help me to be a better teacher.
Q12.	I am glad teachers have the opportunity to use computers during their lessons.
Q13.	Teaching with computers surpasses traditional methods of teaching English.
Q14.	Using computers during lessons suits contemporary students' preferences.
Q15.	Using technology during lessons makes learning English more interesting for students.
IV. ATTITUDES TOWARDS THE CONTENT OF THE COURSE (V4)	
Q16.	I think knowledge about constructivism is very important for me as a teacher/future teacher.
Q17.	I would like to use constructivist ideas in my work with students/ future students.

Q18.	Teachers should understand the role of the constructivist approach in their teaching.
Q19.	Teachers should have the opportunity to learn about constructivism in teaching.
Q20.	Knowledge about constructivism has changed my approach to teaching and learning.
Q21.	The course helped me in the process of introducing technology into my teaching.
V. DESIRE TO LEARN ABOUT TECHNOLOGY (V5)	
Q22.	I would like to learn more about the use of ICT.
Q23.	I want to learn to use technology during lessons as much as possible.
Q24.	I want to use a computer naturally during my lessons.
Q25.	Computer skills are very important for me.
Q26.	I want to learn as much as possible about the use of technology in the teacher's work.
VI. COMPUTER USE ANXIETY (V6)	
Q27.	Using a computer during a lesson may make me feel uneasy.
Q28.	I am afraid my students/future students know much more about technology than me.
Q29.	I do not feel at ease when using computers.
Q30.	I think it is difficult to learn to use technology.
Q31.	I am afraid I may not cope with difficulties when teaching with a computer e.g. a computer programme may not open.
VII. ANXIETY CONCERNING THE PARTICIPATION IN THE ONLINE COURSE (V7)	
Q32.	I do not feel at ease in the online environment.
Q33.	I am rather reluctant to ask questions and send messages when participating in the online course.
Q34.	I am worried that other participants seem to perform better in the online environment.
Q35.	I feel uneasy about completing tasks online.
Q36.	I express opinions online rather reluctantly.

VIII. INTEREST IN INFORMATION AND COMMUNICATIONS TECHNOLOGY (V8)	
Q37.	I am interested in the possibilities of using a computer in teacher's work.
Q38.	I like to learn about the use of technology.
Q39.	I like to talk about using technology.
Q40.	Knowledge about the use of computers is worth the effort.
Q41.	Learning about the use of computers in foreign language teaching is an interesting challenge.
IX. INTRINSIC MOTIVATION (V9)	
Q42.	Learning to use technology is important for me, because I want to be considered to be a well qualified teacher.
Q43.	Learning about the use of technology is important for me, because I am going to consider myself to be a better qualified teacher than those who do not do it.
Q44.	The ability to use technology is going to allow me to prepare my students for their future job better.
Q45.	The fact that I am going to have computer skills will help me to understand the world better as well as the problems of my students.
Q46.	I feel the need to use technology during my lessons for my own satisfaction.
X. EXTRINSIC MOTIVATION (V10)	
Q47.	I think the ability to use technology is important for me because headmasters expect it.
Q48.	There are great social expectations concerning the use of technology during lessons at school.
Q49.	The ability to use technology is important for me because many other teachers can already do that.
Q50.	The ability to use technology enables people to find a better job.
Q51.	Students expect teachers to use new technologies during lessons.
Q52.	Teachers who use technology during their lessons can expect financial rewards. (removed)

XI. MOTIVATIONAL INTENSITY (V11)	
Q53.	I try to learn about those aspects connected with technology which are useful for me.
Q54.	I try to be up to date with information and computer technology.
Q55.	If I have a problem with understanding some issues connected with technology I try to ask others to help me or to solve the problem myself.
Q56.	I work a lot to learn to use a computer.
Q57.	I am not easily discouraged from learning to use a computer.
XII. PERSISTENCE TO USE ICT (V12)	
Q58.	Insufficient access to the equipment and the Internet discourages me/may discourage me from using technology during lessons.
Q59.	I do not have time to think about introducing technology into my lessons.
Q60.	I think a lesson is too short to use technology.
Q61.	I do not know how to use technology during English classes.
Q62.	I do not think technology is useful during English lessons.
Q63.	I think my students are not ready to use technology.
Q64.	Traditional methods of carrying out lessons are enough for me, I do not need technology.
XIII. COMPUTER CONFIDENCE (V13)	
Q65.	I am sure I can learn to use technology to teach English.
Q66.	I feel confident using a computer.
Q67.	Although I do not know everything about the use of a computer it does not make me feel uneasy using it.
Q68.	Understanding the basic ways of using a computer is not difficult for me.
Q69.	Most teachers can easily learn to use a computer.

Appendix H.1. TECHNOLOGY SURVEY (TS)

ENHANCING EFFECTIVE TEACHING THROUGH THE PROJECT METHOD Author: mgr Elżbieta Koralewska
Instytut Filologii Angielskiej, Uniwersytet im. Adama Mickiewicza, Poznań

Please underline the appropriate answer or answer the questions, then send it to: autonomiak@op.pl. This is the final part of the course.

e.g. I like learning English. YES/NO.

Name.....

1. I can use the following computer programs:

.....

2. I can use an interactive whiteboard: YES/NO.

3. I use the Internet

A. never B. a few times a month C. once a week D. every day E. a few times a day

4. I use the Internet to:

a. b. c.

5. Does it make a difference when the teacher uses technology during a lesson? How?

.....

6. Do you think students expect their teachers to use technology? YES/NO

7. What are the advantages of using technology during a lesson?

.....

8. What are the disadvantages?

.....

9. Do you feel you are prepared to use technology during your lessons? YES/NO

10. Do you already use technology when teaching foreign languages? How?

.....

DO YOU LIKE TECHNOLOGY? YES /NO

THANK YOU!

Appendix H.2. TIME FOR REFLECTION (TR)

ENHANCING EFFECTIVE TEACHING THROUGH THE PROJECT METHOD
Author: mgr Elżbieta Koralewska Instytut Filologii Angielskiej, Uniwersytet im. Adama Mickiewicza, Poznań

Please underline the appropriate answer or answer the questions, then send it to: autonomiak@op.pl. This is the final part of the course.

e.g. I like learning English. YES/NO.

Name.....

11. What is your overall attitude towards e-learning courses?

A. I strongly like them B. I like them C. I am neutral about them D. I dislike them E. I strongly dislike them

12. Do you think distance learning is an effective way of educating teachers?

A. I strongly disagree B. I disagree C. I don't know D. I agree E. I strongly agree

13. What are the advantages of the course "Enhancing effective teaching through the project method" when you compare it to traditional classes?

a. b. c.

14. What are the disadvantages or difficulties?

a. b. c.

15. What and how would you change?

.....

16. Was it the first e-learning course you have participated in? YES/NO

17. Do you think after completing the course you are better prepared to be a teacher?

A. I strongly disagree B. I disagree C. I don't know D. I agree E. I strongly agree

18. Which elements of the course did you find particularly useful for a teacher/teacher to be? Why?

.....

19. How would you describe your attitude towards the course?

.....

20. Are you going to use e-learning with your students in the future? YES/NO

21. Do you think learning about constructivism has already influenced your attitude towards the teaching/learning process? How?

.....

22. Has the course changed your way of thinking about projects? How?

.....

23. Was the project you have done in part 5 the first one you supervised as a teacher? YES/NO

24. When carrying out the project with your students, have you done anything differently than in the case of your previous projects (or the projects observed when you were a student)? Have you included the constructivist elements you mentioned in task 15 – “Design a constructivist project”? Did they work?

	Constructivist element	Different than in the case of previous projects? Yes/ No	Did it work? How?
Element 1			
Element 2			
Element 3			
Element 4			
Element 5			

25. Do you prefer to participate only in traditional classes? YES/NO

Please write below any comments/concerns you would like to add. ☺

.....

THANK YOU!

Appendix H.3. ATTITUDES AND MOTIVATION QUESTIONNAIRE (AMQ)

ENHANCING EFFECTIVE TEACHING THROUGH THE PROJECT METHOD

Author: mgr Elżbieta Koralewska Instytut Filologii Angielskiej, Uniwersytet im. Adama Mickiewicza, Poznań

CZEŚĆ PIERWSZA

Imię i nazwisko... Wiek:.....

1. Wykształcenie:
- wyższe- jakie?..... - licencjat- jaki?..... - studia podyplomowe- jakie?
2. Obecnie: ...
3. Obecne miejsce pracy (rodzaj szkoły – SP, G, LO ...)
5. Lubię swoją pracę. Tak/ Nie

CZEŚĆ DRUGA:

26. Zazwyczaj używam komputera około godzin dziennie.
27. Używam komputera do pracy i rozrywki w następujących proporcjach:
100% praca 75% praca/25% rozrywka 50% praca/50% rozrywka 25%praca/75%rozrywka 100%rozrywka

28. Używam komputera w następujących celach (proszę wstawić krzyżyk „X” w odpowiednią kratkę):

		nigdy	rzadko	czasami	często	bardzo często
a.	e-mail					
b.	przeglądanie stron WWW					
c.	gry					
d.	przygotowywanie materiałów do zajęć					
e.	wyszukiwanie materiałów do zajęć					
f.	komunikacja z uczniami					
g.	zakupy online					
h.	czytanie literatury z zakresu metodyki nauczania					

29. Brałem/am udział w szkoleniach dotyczących wykorzystania technologii w nauczaniu (ilu? czego dotyczyły?).....

30. Proszę ocenić swoją umiejętność wykorzystania technologii w nauczaniu języka angielskiego.
(1 = minimum, 5= maximum).....

6. SAMOOCENA - dotyczy uczestnictwa w kursie ENHANCING EFFECTIVE TEACHING (proszę wstawić krzyżyk w odpowiednią kratkę)

		ZDECYDOWANIE NIE	NIE	NIE WIEM	TAK	ZDECYDOWANIE TAK
a.	Jestem zadowolony/a ze swojej pracy podczas kursu.					
b.	Myślę, że włożyłem/am dużo wysiłku w zadania wymagane podczas kursu.					
c.	Gdybym miał/a więcej czasu, wykonałbym/abym zadania o wiele lepiej.					
d.	Staralem/am się nauczyć na kursie jak najwięcej, aby być lepszym nauczycielem.					
e.	Uczestniczyłem/am w kursie bo musiałem/am.					
f.	Gdybym miał/a ocenić swoje uczestnictwo w kursie, postawiłbym/abym sobie ocenę					

7. OCENA KURSU „ENHANCING EFFECTIVE TEACHING” (proszę wstawić krzyżyk w odpowiednią kratkę)

		ZDECYDOWANIE NIE	NIE	NIE WIEM	TAK	ZDECYDOWANIE TAK
a.	Kurs był profesjonalnie przygotowany.					
b.	W razie potrzeby można było liczyć na pomoc osoby prowadzącej kurs.					
c.	Zawartość kursu jest ważna dla nauczycieli/przyszłych nauczycieli.					
d.	Kurs pozwolił mi na praktyczne wykorzystanie wiedzy o kursach e-learningowych.					
f.	Gdybym miał/a ocenić kurs, postawiłbym/abym mu ocenę					

Proszę o określenie, w jakim stopniu zgadzacie się Państwo z poniższymi stwierdzeniami poprzez wstawienie znaku „X” w wybraną kratkę oraz odesłanie wypełnionej ankiety na adres: autonomiaek@op.pl . BARDZO DZIĘKUJĘ ZA POŚWIĘCONY CZAS ☺		ZDECYDOWANIE NIE	NIE	NIE WIEM	TAK	ZDECYDOWANIE TAK
9.	Komputery poprawiają jakość kształcenia nauczycieli.					
21.	Kurs był mi pomocny w procesie wdrażania technologii komputerowej w moją praktykę nauczania.					
56.	Dużo pracuję, aby nauczyć się wykorzystywać komputer.					
12.	Cieszę się, że nauczyciele mają możliwość wykorzystania komputera podczas zajęć.					
69.	Większość nauczycieli może z łatwością nauczyć się posługiwać komputerem.					
3.	Uczenie się online sprawia mi przyjemność.					
14	Wykorzystanie komputera na zajęciach odpowiada preferencjom uczenia się współczesnych uczniów.					
39.	Lubię rozmawiać o wykorzystaniu technologii.					
20.	Wiedza o konstruktywizmie zmieniła moje podejście do nauczania i uczenia się.					
32.	Nie czuję się zbyt pewnie w środowisku online.					
		ZDECYDOWANIE NIE	NIE	NIE WIEM	TAK	ZDECYDOWANIE TAK
63.	Myślę, że moi uczniowie nie są/ nie będą dostatecznie przygotowani, aby wykorzystywać technologię.					
68.	Zrozumienie podstawowych sposobów wykorzystania komputera nie jest dla mnie trudne.					
31.	Obawiam się, że podczas zajęć z wykorzystaniem komputera mogą sobie z czymś nie poradzić np. gdy program nie będzie chciał się otworzyć.					
43.	Nauczenie się wykorzystania technologii jest dla mnie ważne, gdyż będę się uważać za bardziej kompetentnego nauczyciela niż ci, którzy tego nie robią.					
65.	Jestem pewien/pewna, że mogę nauczyć się wykorzystywać technologię w nauczaniu języka angielskiego.					
2	Lubię uczyć się online.					
7.	Komputery są bardzo ważne w edukacji nauczycieli.					
18.	Nauczyciele powinni zrozumieć rolę podejścia konstruktywistycznego w swojej pracy.					
55.	Jeśli mam problem ze zrozumieniem czegoś, co jest związane z technologią, staram się poprosić kogoś o pomoc lub sam/a znajduję odpowiedź.					
25.	Wiedza o wykorzystaniu komputera jest dla mnie bardzo ważna.					
		ZDECYDOWANIE NIE	NIE	NIE WIEM	TAK	ZDECYDOWANIE TAK
11.	Gdybym miał/a dostęp do komputera w mojej klasie, pomogłoby mi to być lepszym nauczycielem.					
36.	Raczej niechętnie wyrażam swoje opinie online.					
26.	Chcę nauczyć się jak najwięcej o wykorzystaniu technologii w pracy nauczyciela.					
4.	Dzięki wykorzystaniu e-learningu jestem bardziej zaangażowany/a.					
57.	Raczej trudno się zniechęcam ucząc się wykorzystywać komputer.					
27.	Wykorzystanie przeze mnie komputera podczas zajęć mogłoby sprawić, że czułbym/czułabym się niepewnie.					
33.	Raczej niechętnie zadaję pytania i wysyłam wiadomości w związku z uczestnictwem w kursie online.					
28.	Obawiam się, że moi uczniowie/ przyszli uczniowie wiedzą o wiele więcej o technologii ode mnie.					
6.	Jako nauczyciel/ przyszły nauczyciel uważam, że to ważne, aby nauczyć się o wykorzystaniu technologii komputerowej podczas zajęć.					
15.	Wykorzystanie technologii podczas zajęć sprawia, że nauka angielskiego jest bardziej interesująca dla uczniów.					

		ZDECYDOWANIE NIE	NIE	NIE WIEM	TAK	ZDECYDOWANIE TAK
61.	Nie wiem, jak wykorzystać technologię na lekcji języka angielskiego.					
48.	Istnieją duże oczekiwania społeczne dotyczące wdrożenia technologii na zajęciach w szkole.					
19.	Nauczyciele powinni mieć możliwość zdobycia wiedzy na temat konstrukttywizmu w nauczaniu.					
30.	Sądzę, że trudno nauczyć się wykorzystania technologii komputerowej.					
42.	Nauczenie się wykorzystania technologii jest dla mnie ważne, ponieważ chcę być postrzegany/a jako profesjonalny nauczyciel.					
8.	Komputer jest narzędziem niezbędnym w kształceniu nauczycieli.					
41.	Nauka o wykorzystaniu komputerów w nauczaniu języka obcego to interesujące wyzwanie.					
23.	Chcę nauczyć się o wykorzystaniu technologii na zajęciach tak dużo, jak to tylko możliwe.					
34.	Martwi mnie, że inni uczestnicy zdają się lepiej poruszać w środowisku online.					
59.	Nie mam czasu na myślenie o wprowadzaniu technologii do zajęć.					

		ZDECYDOWANIE NIE	NIE	NIE WIEM	TAK	ZDECYDOWANIE TAK
54.	Staram się być na bieżąco z technologią informacyjną i komputerową.					
67.	Choć nie wiem wszystkiego o wykorzystaniu komputera, nie przeszkadza mi to czuć się pewnie używając go.					
1.	Kursy online są efektywną formą kształcenia.					
29.	Nie czuję się swobodnie wykorzystując technologię komputerową.					
17.	Chciałbym/chciałabym wykorzystać idee konstrukttywizmu w pracy z moimi uczniami/ przyszłymi uczniami.					
40.	Wiedza o tym, jak wykorzystywać komputer jest warta zachodu.					
53.	Staram się dowiedzieć więcej o tych aspektach związanych z wykorzystaniem technologii na zajęciach, które są mi przydatne.					
45.	Fakt, że będę obeznany/a z technologią pomoże mi lepiej zrozumieć świat i problemy moich uczniów.					
46.	Czuję potrzebę wykorzystywania technologii na zajęciach dla własnej satysfakcji.					
13.	Nauczanie z wykorzystaniem komputera ma przewagę nad tradycyjnymi metodami nauczania języka angielskiego.					

		ZDECYDOWANIE NIE	NIE	NIE WIEM	TAK	ZDECYDOWANIE TAK
62.	Nie sądzę, żeby technologia była użyteczna na lekcji języka angielskiego.					
10	Nauczenie się wykorzystania komputerów w nauczaniu jest mi przydatne.					
49.	Umiejętność wykorzystania technologii jest dla mnie ważna, gdyż wielu innych nauczycieli już to potrafi.					
22.	Chciałbym/ chciałabym nauczyć się więcej o wykorzystaniu technologii informacyjnej i komputerowej.					
35.	Nie czuję się pewnie wykonując zadania online.					
37.	Interesują mnie możliwości wykorzystania komputera w pracy nauczyciela.					
52.	Nauczyciele, którzy stosują technologie podczas zajęć mogą liczyć na nagrody finansowe.					
16.	Sądzę, że wiedza o podejściu konstrukttywistycznym jest bardzo ważna dla mnie jako nauczyciela/ przyszłego nauczyciela.					
66.	Czuję się pewnie wykorzystując komputer.					
47.	Myślę, że umiejętność wykorzystania technologii jest dla mnie ważna, ponieważ tego oczekują dyrektorzy szkół.					

		ZDECYDOWANIE NIE	NIE	NIE WIEM	TAK	ZDECYDOWANIE TAK
44.	Umiejętność wykorzystania technologii pozwoli mi lepiej przygotować moich uczniów do ich przyszłej pracy.					
58.	Niedostateczny dostęp do sprzętu i internetu zniechęca mnie/ może mnie zniechęcać do wykorzystania technologii na zajęciach.					
38.	Lubię uczyć się o sprawach związanych z wykorzystaniem technologii.					
24.	Cheć biegle wykorzystywać komputer podczas zajęć.					
5.	Dzięki pracy w środowisku online uczę się więcej.					
51.	Uczniowie oczekują, że nauczyciele będą stosować nowe technologie podczas zajęć.					
60.	Myślę, że lekcja jest zbyt krótka, aby mieć czas na wykorzystanie technologii.					
50.	Umiejętność wykorzystania technologii umożliwia zdobycie lepszej pracy.					
64.	Tradycyjne metody prowadzenia zajęć w zupełności mi wystarczają, nie potrzebuję technologii.					

DZIĘKUJĘ !!!

Elżbieta Koralewska

Appendix I: Achievement measures

Appendix I. Table 1. The frequency of use of constructivist vocabulary items by the participants in Part 4

	1. constructivism, constructivist	2. authentic	3. real-world, real-life	4. reflect, reflective, reflection	5. construct, construction	6. critical	7. independent, independence	8. experience	9. share, exchange	10. meaning, meaningful	11. active, actively	12. negotiate, negotiation	13. autonomy, autonomous	14. conscious, consciousness	15. problem-solving	16. social	17. realistic	18. holistic, holistically	19. multiple	20. collaborative, collaboration, collaborate	21. self-evaluation	Total number of items used
T1	6		1					1	1		3											12
T2	10	2		2	9		1	1	1			1	1			1			2		2	33
T3	2							2	3		1		1			1					1	11
T4	3		2				1	1	1	1			1									10
T5	5				1			3	1	1	1		2								1	15
T6	33		2		14			3	5		1	4	3									65
T7	1									1		1								1		4
T8	2		1					2	1		1	1				1					3	12
T9	5			2				1			1		3	1						1		14
T10			2		1			1	1		2							1			1	9
T11	2	1	1		1			1				2	2		1	4	1			2		18
T12	3								1				1								1	6
T13	7		3	1		1		1	1		2		4							1		21
T14	12		3		1			2	3	1	2	2										26
T15	3		1					3	2													9
T16	4			2				2			2	1	1	1							2	15
T17	1							1														2
T18	11			1	1	1	1	3	1	1			1			1	1					23
T19	5		1		1		2	3	3	4	3				1						2	25
T20	6		2		1			2	2		2	1										16
T21																						0
total	121	3	19	8	30	2	5	33	27	9	21	13	20	2	2	8	2	1	2	5	13	346

	Total number of items used																				
	21. self-evaluation	20. collaborative, collaboration, collaborate	19. multiple	18. holistic, holistically	17. realistic	16. social	15. problem-solving	14. conscious, consciousness	13. autonomy, autonomous	12. negotiate, negotiation	11. active, actively	10. meaning, meaningful	9. share, exchange	8. experience	7. independent, independence	6. critical	5. construct, construction	4. reflect, reflective, reflection	3. real-world, real-life	2. authentic	1. constructivism, constructivist
T22														3	1				3		
T23	3					1			1				3						1		
T24	1								1				1	4				1			
T25	7													1	1						
T26	3						1							2							
T27	5	1					1				4			2				5	1	1	
T28	3													1							
T29	5	2									1				1				1		
T30	1								1				2						1		
T31	7						1				4		1	1			2	3	2	2	
T32	4								1	1			3	1							
T33	2									1				1							
T34	4										2			1	2	1					1
T35	2										2										
T36	3	1												1					3	1	
T37	7													3	4						1
T38	2										2			1	1	2					
T39														1	1	1			2		
T40	4													1	3						
total	63	4	15	8	2	2	10	29	11	0	15	2	5	0	3	1	1	0	0	1	1

Appendix I. Table 2. The frequency of use of constructivist vocabulary items by the participants in Part 4 – a summary

	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13	T14	T15	T16	T17	T18	T19	T20
number of items	12	33	11	10	15	65	4	12	14	9	18	6	21	26	9	15	2	23	25	16
% of the best result = 65	18.46	50.77	16.92	15.38	23.08	100	6.15	18.46	21.54	13.85	27.69	9.23	32.31	40	13.85	23.08	3.08	35.38	38.46	24.62
points, max. 20	3.69	10.15	3.38	3.08	4.62	20.00	1.23	3.69	4.31	2.77	5.54	1.85	6.46	8.00	2.77	4.62	0.62	7.08	7.69	4.92
	T21	T22	T23	T24	T25	T26	T27	T28	T29	T30	T31	T32	T33	T34	T35	T36	T37	T38	T39	T40
number of items	0	7	9	8	9	6	20	4	10	5	21	10	4	11	5	8	15	8	5	8
% of the best result = 65	0	10.77	13.85	12.31	13.85	9.23	30.77	6.15	15.38	7.69	32.31	15.38	6.15	16.92	7.69	12.31	23.08	12.31	7.69	12.31
points, max. 20	0	2.15	2.77	2.46	2.77	1.85	6.15	1.23	3.08	1.54	6.46	3.08	1.23	3.38	1.54	2.46	4.62	2.46	1.54	2.46

Appendix J. Factor analysis

Appendix J. Table 1. The mean scores for the participant's answers in the Attitudes and Motivation Questionnaire

	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13
t1	0	1	0.6	0.8	1	-0.6	-0.4	0.8	0.8	0.75	0.4	-0.5	0.75
t2	1	1	1	1	1.2	-0.2	-1	1	1	1	0.2	-1.17	1.25
t3	0.6	0.6	1	1.2	1	-0.8	-1.2	0.8	0.6	-0.25	0.6	-1	1.25
t4	0.8	1.4	1.4	1.8	1.2	-0.8	-0.8	1	0.6	1	0.4	-1.33	0.5
t5	1.2	2	1.6	2	2	-1.8	-1.6	1.6	1.8	1	1.4	-1.5	1.75
t6	1	1.4	1.4	1	1	-0.8	-1	0.6	1	0.25	0.6	-0.83	1
t7	1.2	1.4	1.4	1.2	1.8	-0.8	-1.2	1.2	1.2	0.75	0.8	-1.33	1.5
t8	1	0.8	1.6	1.4	1.4	-0.6	-0.6	1	1	0.75	1.2	-1	1.25
t9	1	1.6	1.8	1.2	0.8	0	0	0.4	1	1.25	0.6	-1	1
t10	2	2	2	1.8	2	-0.8	-1.2	2	2	1.75	1.8	-1.67	1.5
t11	1.4	1.6	1.6	2	1	-1.8	-1.2	1.4	1.8	1.25	1.4	-1.67	2
t12	1.2	2	1.8	2	2	-1.4	-0.8	1.8	1.6	1.25	1.2	-1.5	2
t13	1	1.4	1.2	1.8	1	-1.2	-1	0.8	1.4	1	0.6	-1	1
t14	1	1.6	1.4	1.8	1.2	0.6	0	0.8	1.2	0.5	0.4	-0.5	-0.5
t15	-0.6	1.6	1.4	1	1	-1.8	-1	0.4	1	0.75	0.4	-1.5	1.5
t16	1	1.2	1.6	1.2	1.4	-0.6	-0.4	1.2	1.2	1	0.4	-0.83	1
t17	0.8	1	1	1	1	-1.2	-0.6	1	0.8	0.75	0.6	-1.17	0
t18	1.2	1.6	0.8	1.6	1.4	-0.2	-1	2	1.6	1.5	1	-1	1.25
t19	1.4	1.2	0.8	2	1.6	-1.4	-1.4	1.4	1.4	0	1.6	-1.33	1.5
t20	1.4	1.8	1.8	2	2	0.4	1	1.8	1	1.5	1.6	-0.33	0.25
t21	0.8	1	1.4	0.8	1	-0.8	-0.2	1	1	0.75	0.4	-0.17	0.75
t22	0.2	0.6	0.8	1	1.2	-1	-1	0.2	1.2	0.25	0.6	-1	0.5
t23	1.2	1.2	1.2	1.4	0.8	-0.4	-0.2	1	1.8	1	0.8	-0.33	1
t24	1	1.2	1.4	1.4	1	-0.6	-0.8	1.2	1.2	0.75	1.2	-1	0.5
t25	1.4	1.4	1.8	2	1.2	-1.8	-1.6	1.4	1.2	0.5	0.4	-1.17	0.75
t26	0.2	0.8	0.4	1	0.4	-0.8	-0.6	0.4	-0.2	-0.25	0.4	-0.33	0.75
t27	1	1.2	1	1.8	1.2	-0.8	-0.8	1	1.4	1.5	0.4	-0.67	0.5
t28	1	1.4	1.4	1.2	1.2	-0.8	-0.8	1.2	1.2	0.75	1.2	-1.17	0.5
t29	0.4	1	0.6	0.6	0.6	-0.4	-0.2	0.4	0.4	0.5	0	-0.83	0.75
t30	0.6	0.8	0.8	1	1	0.2	0	0.8	0.8	0.5	1	-1	0.5
t31	2	1.8	1.6	1.6	1.8	-1	-1	1.2	1.8	2	1.2	-1	0.75
t32	1	1.4	1.4	1.2	1.4	0.8	0.6	1	1.4	1.5	0.8	0	-0.25
t33	1.4	2	1.8	1.6	2	-1.8	-1.4	2	2	1.25	2	-1.5	2
t34	1	1	1	1.2	1	-0.4	-1	0.6	1	1	0.6	-0.83	1
t35	-0.4	1	0.4	1	0.8	-1	-0.6	0.6	0.4	0.75	0.2	-0.33	1.25
t36	1	1	0.8	0.8	0.8	-0.4	-0.2	0.6	1	0.75	0.8	-0.5	1
t37	1.2	1	1.4	1.8	1.2	-0.6	-1	1	1.2	1	1.2	-0.67	0.5
t38	1.8	2	1.8	1.6	2	-1.2	-1.8	2	2	0.75	1.4	-1.83	1.75
t39	-0.4	0.8	0.6	1	1	0.6	1.4	0.2	0.8	0.25	0.6	-1	0.25
t40	1	1.4	1	1	1	-0.6	-1	1	1	1	0.6	-0.67	1

Appendix K: English test

Postgraduate Teacher Training Programme – WSJO

Initial Placement Test

Time: 30 minutes, points available: 50

A Multiple Choice Cloze

Read the test below and decide which answer A, B, C, or D best fits the space.

Bill Gates shows the next big thing

Bill Gates is (1) that you want an alarm clock that knows your schedule and can wake you (2) time for (3) 9 o'clock meeting, taking into account the heavy traffic and slow going (4) to the fog. The alarm clock is a part of a new Microsoft (5) called SPOT, which (6) for Small Personal Object Technology.

Mr Gates introduced his latest (7) during his (8) speech at the annual computer and technology (9) show Comdex in Las Vegas. Even (10) many of the once high-flying tech companies (11) badly hit by the collapse of computer sales, they are desperately looking for the next big product that will (12) the industry from its (13) blues. The small objects initiative is just the latest of Microsoft's (14) to expand its empire (15) the personal computer.

- | | | | | |
|-----|------------|--------------|--------------|--------------|
| 1. | A gambling | B betting | C risking | D checking |
| 2. | A on | B for | C in | D within |
| 3. | A the | B a | C an | D this |
| 4. | A due | B because | C reason | D resulting |
| 5. | A idea | B initiation | C resource | D initiative |
| 6. | A stands | B means | C standing | D meaning |
| 7. | A tool | B gadget | C instrument | D software |
| 8. | A key | B notable | C noted | D keynote |
| 9. | A trades | B trading | C trade | D commercial |
| 10. | A tough | B though | C although | D thorough |
| 11. | A were | B has been | C was | D have been |
| 12. | A rescue | B revive | C safe | D watch |
| 13. | A economic | B economy | C economical | D economics |
| 14. | A afford | B effort | C efforts | D effects |
| 15. | A together | B past | C over | D beyond |

B Word Building

Use the word given in capitals at the end of each line to form a word that fits in the space

in the same line.

- | | |
|---|-----------|
| (1) Jim seems to have ... problems. | FINANCE |
| (2) After ... he started looking for a job. | GRADUATE |
| (3) Visiting Paraguay will be an ... experience. | FORGET |
| (4) ... travellers can go on a trip down the river. | ADVENTURE |
| (5) Measures should be taken to help the ... of crime. | PREVENT |
| (6) The Springs have been used for ... for years. | RELAX |
| (7) Drain the lettuce ..., please. | THOROUGH |
| (8) They were very proud of ... after winning the tournament. | SELF |
| (9) The robbers managed to escape in all the | CONFUSE |
| (10) ... of the project is likely to be delayed due to a lack of funds. | COMPLETE |
| (11) a course in chemical ... sounds interesting. | ENGINEER |

C Word Choice

Fill each blank with the word or phrase which best completes each sentence:

1. It is believed that the forest fires were lit by
A smugglers B shoplifters C arsonists D kidnappers
2. He got a & 100 ... for speeding in the centre of town yesterday.
A sentence B charge C arrest D fine
3. If you have a ... muscle, you should rest it.
A pulled B strained C broken D sore
4. That essay is ... to the one that John wrote.
A identical B matching C alike D the same
5. He was released due to ... of evidence.
A need B lack C point D necessity
6. If you have ..., you have a painful muscle contraction.
A cramp B indigestion C insomnia D sunburn
7. Your body needs time to ... the vitamins and minerals in your food.
A absorb B attract C stock D keep
8. Your energy level is at its ... in the early afternoon.
A top B high C peak D summit
9. We are behind the ... right now but let's hope that we'll complete it by Friday.
A scheme B schedule C timetable D agenda
10. There is no ... medicine against AIDS yet.
A effective B efficient C effectively D affective

11. If he ... the report on time, he wouldn't have to do overtime.
A finished **B** had finished **C** had been finished **D** would have finished
12. Huge waves were ... on the shore.
A cracking **B** crashing **C** jumping **D** dropping
13. Please, confirm your reservation in
A letter **B** words **C** writing **D** wording
14. Anna is always willing to ... an ear when I've got a problem.
A give **B** provide **C** offer **D** lend
15. He put a lot of ... into the project.
A exertion **B** sweat **C** effort **D** struggle
16. ... to office gossip, Tim is going to lose his job.
A Referring **B** According **C** Regarding **D** Attending
17. She became ... as she was waiting for Tom to turn up.
A easy-going **B** exhausted **C** impatient **D** depressed
18. By this time next year, prices in the shops ... by 30%.
A will have increased **B** will increase **C** will be increasing **D** increase
19. He's a good communicator, he knows how to get his message
A around **B** at **C** across **D** along
20. She gives private lessons for a small
A fee **B** money **C** payment **D** receipt
21. How much is the bus ... to the nearest town?
A fare **B** fair **C** fee **D** price
22. I hardly paid anything for it, I got it for
A bananas **B** peanuts **C** beans **D** peas
23. I'm afraid I don't get ... very well with my neighbours.
A in **B** together **C** up **D** on
24. If I ... you, I would threaten to call the police.
A were **B** am **C** will be **D** would be

Appendix L: Methodology test

PODYPLOMOWE STUDIUM DYDAKTYKI JĘZYKA ANGIELSKIEGO
WYŻSZA SZKOŁA JĘZYKÓW OBCYCH im. SAMUEŁA BOGUMIŁA LINDEGO
Methodology Workshops – mgr Elżbieta Koralewska

Please answer the following questions.

1. How to design a constructivist project?
2. Describe and critically analyse the communicative approach.
3. What is the difference between mechanical and meaningful grammar practice?
4. Why is it important to treat writing as a process rather than a product?
5. Give an example of a good pre-reading task.
6. What is the aim of education according to Piaget?
7. What are webquests? What are the advantages/disadvantages of using them?
8. What is a reflective teacher?
9. What are the most important issues you have learnt about from the books you were supposed to read? (Give the title and the author first).
10. Briefly discuss one issue (from the books) connected with teaching English which you find most useful.