

The University of Pardubice
Faculty of Arts and Philosophy

Developing Critical Thinking in English Classes at Elementary School
Master's Thesis

2021

Maria Klechkova

Univerzita Pardubice
Fakulta filozofická
Akademický rok: 2018/2019

ZADÁNÍ DIPLOMOVÉ PRÁCE (projektu, uměleckého díla, uměleckého výkonu)

Jméno a příjmení: **Maria Klechkova**
Osobní číslo: **H19351**
Studijní program: **N0114A300052 Učitelství anglického jazyka**
Studijní obor: **Učitelství anglického jazyka**
Téma práce: **Rozvíjení kritického myšlení žáků v hodinách anglického jazyka na základní škole**
Zadávající katedra: **Katedra anglistiky a amerikanistiky**

Zásady pro vypracování

Tato diplomová práce bude věnována zkoumání potenciálu aktivit ve vybrané učebnici pro výuku anglického jazyka pro rozvoj kritického myšlení u žáků druhého stupně základní školy. V teoretické části bude problematika nahlížena z pohledu širšího kontextu prostřednictvím kurikulárních dokumentů a odpovídající teorie učení, bude vymezena základní terminologie a vzájemná provázanost kritického myšlení, kognitivní zralosti a kontextu výuky anglického jazyka. Diplomandka se bude také zabývat vymezením učebnice jako didaktického prostředku. V praktické části provede studentka analýzu a hodnocení aktivit ve vybrané učebnici anglického jazyka. Na základě kritérií vytvořených v souladu s teoretickou základnou práce bude zkoumat potenciál aktivit pro rozvoj kritického myšlení, případně navrhne modifikace.

Rozsah pracovní zprávy:
Rozsah grafických prací:
Forma zpracování diplomové práce: **tištěná/elektronická**
Jazyk zpracování: **Angličtina**

Vedoucí diplomové práce: **Mgr. Helena Zitková, Ph.D.**
Katedra anglistiky a amerikanistiky

Datum zadání diplomové práce: **30. dubna 2019**
Termín odevzdání diplomové práce: **31. března 2020**

doc. Mgr. Jiří Kubeš, Ph.D.
děkan

Mgr. Olga Roebuck, Ph.D.
vedoucí katedry

V Pardubicích dne 29. listopadu 2019

Seznam doporučené literatury:

- Anderson, W. Lorin, David R. Krathwohl, Peter W. Airasian, Kathleen A. Cruikshank, Richard E. Mayer, Paul R. Pintrich, James Rath, Merlin C. Wittrock. 2001. *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*. Abridged ed. Boston: Addison Wesley Longman, Inc.
- Brown, H. Douglas. 2000. *Principles of Language Learning and Teaching*. 4th ed. New York: Longman.
- Council of Europe. 2018. *Common European Framework of Reference for Languages: Learning, teaching, assessment (CEFR) Companion Volume with New Descriptors*. <https://www.coe.int/en/web/common-european-framework-reference-languages>.
- Fischer, Robert. *Učíme děti myslet a učit se: praktický průvodce strategiemi vyučování*. 1. vyd. Praha: Portál, 1997.
- Grečanová, Helena, Eva Urbanovská, Petr Novotný. 2000. *Podporujeme aktivní myšlení a samostatné učení žáků*. Olomouc: Hanex.
- Harmer, Jeremy. 2004. *How to Teach Writing*. Essex: Pearson Education Limited.
- Hausenblas, Ondřej. 2004. „Strategie a metody KM ve výuce cizímu jazyku.“ *Kritické listy* 16: 8-9.
- Haynes, Anthony. 2010. *The Complete Guide to Lesson Planning and Preparation*. London: Continuum International Publishing Group.
- Kelly, Gerald. 2000. *How to Teach Pronunciation*. Essex: Pearson Education Limited.
- Majstrová, Zuzana. 2011. „O možnostech rozvíjení myšlení.“ *Metodický portál RVP*. <https://clanky.rvp.cz/clanek/s/Z/10347/O-MOZNOSTECH-ROZVIJENI-MYSLENI.html/>.
- MŠMT. 2017. *Rámcový vzdělávací program pro základní vzdělávání*. Praha: MŠMT. <http://www.nuv.cz/t/rvp-pro-zakladni-vzdelavani>.
- Nevyhoštěná, Iveta. 2013. *Využití metod RWCT ve výuce anglického jazyka (RWCT in Teaching English)*. České Budějovice, 2013. Diplomová práce. Jihočeská univerzita. Fakulta pedagogická.
- Pasch, Marvin, Trevor G. Gardner, Georgea Sparks-Langerová, Alane J. Starková, Christella D. Moodyová. 2005. *Od vzdělávacího programu k vyučovací hodině: jak pracovat s kurikulem*. 2nd ed. Praha: Portál.
- Podlahová, Libuše. 2004. *První kroky učitele*. 1st ed. Praha: Triton.
- Richardson, Virginia. 1997. *Constructivist Teacher Education: Building New Understandings*. London: The Falmer Press.
- Scrivener, Jim. 2011. *Learning Teaching: The essential Guide to English Language Teaching*. 3rd ed. Oxford: Macmillan Publishers Limited.
- Thornbury, Scott. 1999. *How to Teach Grammar*. Essex: Pearson Education Limited.
- Thornbury, Scott. 2002. *How to Teach Vocabulary*. Essex: Pearson Education Limited.
- Thornbury, Scott. 2005. *How to Teach Speaking*. Essex: Pearson Education Limited.
- Wilson, J.J. 2008. *How to Teach Listening*. Essex: Pearson Education Limited.
- Woodward, Tessa. 2001. *Planning lessons and courses: designing sequences of work for the language classroom*. Cambridge: Cambridge University Press.
- Zormanová, Lucie. 2012. *Výukové metody v pedagogice*. Praha: Grada Publishing.

Prohlašuji:

Práci s názvem „Rozvíjení kritického myšlení žáků v hodinách anglického jazyka na základní škole“ jsem vypracovala samostatně. Veškeré literární prameny a informace, které jsem v práci využila, jsou uvedeny v seznamu použité literatury.

Byla jsem seznámena s tím, že se na moji práci vztahují práva a povinnosti vyplývající ze zákona č. 121/2000 Sb., o právu autorském, o právech souvisejících s právem autorským a o změně některých zákonů (autorský zákon), ve znění pozdějších předpisů, zejména se skutečností, že Univerzita Pardubice má právo na uzavření licenční smlouvy o užití této práce jako školního díla podle § 60 odst. 1 autorského zákona, a s tím, že pokud dojde k užití této práce mnou nebo bude poskytnuta licence o užití jinému subjektu, je Univerzita Pardubice oprávněna ode mne požadovat přiměřený příspěvek na úhradu nákladů, které na vytvoření díla vynaložila, a to podle okolností až do jejich skutečné výše.

Beru na vědomí, že v souladu s § 47b zákona č. 111/1998 Sb., o vysokých školách a o změně a doplnění dalších zákonů (zákon o vysokých školách), ve znění pozdějších předpisů, a směrnicí Univerzity Pardubice č. 7/2019 Pravidla pro odevzdávání, zveřejňování a formální úpravu závěrečných prací, ve znění pozdějších dodatků, bude práce zveřejněna prostřednictvím Digitální knihovny Univerzity Pardubice.

V Pardubicích dne

14.06.2021

Maria Klechkova _____

ACKNOWLEDGEMENTS

I would like to express my gratitude to my supervisor, Mgr. Helena Zitková, Ph.D., for her valuable advice and guidance while writing this bachelor thesis. I would also like to thank my family and friends for their support and encouragement.

ANNOTATION

This master's thesis aims to explore the potential of a selected textbook to develop critical thinking in learners of a secondary school at English classes. The thesis is divided into theoretical and practical parts. First, the theoretical basis of the constructivism instruction in education is set. The discussion of the connections between critical thinking and constructivism follows. The analysis of the textbook Global Pre-Intermediate constitutes the core of the practical part of the thesis. Based on the results of the analysis, certain modifications of the activities designed as to provide learners with more opportunities to develop critical thinking, are suggested.

KEYWORDS

Critical thinking, EFL, constructivism, textbook analysis, evaluation

NÁZEV

Rozvíjení kritického myšlení žáků v hodinách anglického jazyka na základní škole

ANOTACE

V této diplomové práci je prozkoumán potenciál vybrané učebnice pro rozvoj kritického myšlení žáků druhého stupně základní školy v hodinách anglického jazyka. Práce je rozdělena do teoretické a praktické části. Nejprve je popsán teoretický základ konstruktivismu v edukační sféře, dále následuje rozbor souvislostí mezi kritickým myšlením a konstruktivismem. Praktická část této diplomové práce se věnuje analýze učebnice Global Pre-Intermediate. Na bázi výsledků analýzy jsou předloženy návrhy modifikace aktivit v učebnici, jejichž cílem je rozšířit možnosti žáků v oblasti rozvíjení jejich kritického myšlení.

KLÍČOVÁ SLOVA

Kritické myšlení, angličtina jako cizí jazyk, konstruktivismus, analýza učebnice, hodnocení

Table of Contents

INTRODUCTION	10
THEORETICAL PART.....	13
1. Epistemology behind Constructivism.....	13
1.1. Piaget’s ideas.....	15
1.2. Vygotsky’s Ideas.....	16
1.3. Bruner’s Ideas	18
2. Constructivism and Critical thinking.....	20
2.1. Definition of Critical Thinking	20
2.2. The Bloom’s Taxonomy of Educational Objectives.....	22
2.3. Connection of Critical Thinking and Constructivism.....	24
2.4. Critical Thinking and Cognitive Development.....	28
2.5. Critical Thinking and English as a Foreign Language.....	30
2.6. Critical Thinking in the Context of FEP	33
2.6.1. Objectives of Elementary Education	34
2.6.2. Key Competencies of Elementary Education	35
3. Textbook	37
PRACTICAL PART	39
4. Overall Evaluation of the Textbook.....	39
5. Research Design	42
5.1. Significance of the Study	42
5.2. Research Question.....	42
5.3. Methodology	43
5.4. Instrument	43
5.5. Sampling	44
5.6. Validity.....	44
5.7. Reliability.....	45
5.8. Assessment of the Evaluation category.....	45
6. Analysis of the Data.....	47
7. Exemplary Analysis.....	48
8. Analysis of the Categories	50

8.1. Understand	51
8.2. Apply.....	51
8.3. Remember	52
8.4. Evaluate.....	53
8.5. Analyze	54
8.6. Create	54
8.7. The Metacognitive Dimension.....	55
9. Results of the Analysis	56
9.1. Characteristics of Individual Categories.....	57
10. Discussion.....	58
11. Recommendations.....	59
11.1. Category Analyze	60
11.1.1. Implementation of Analyze Tasks	60
11.1.2. Replacement of Understand Tasks with Analyze Ones	61
11.2. Category Evaluate	63
11.3. Category Create	65
CONCLUSION.....	67
RESUMÉ.....	70
BIBLIOGRAPHY	75
APPENDICES	82

INTRODUCTION

The current world is evolving and changing at a lightning speed, causing emergence of renewed information and ways of obtaining it. Innovation, digitalization, and new technologies, which infiltrate into all spheres of the society, also encourage alterations in the system of education. While earlier a teacher was the one and only source of knowledge to students, nowadays information is widely available. Additionally, the range of knowledge provided in primary and secondary schools had largely been sufficient for students for the rest of their lives. However, modern scientific and technological advancement provides a constant expansion of the scope of knowledge to be obtained, making it impossible for the programmes of compulsory education to meet this requirement. The role of teachers starts to be alternated as well: they are expected to teach their students to work with different sources, be able to analyze those for fallacy or bias, extract the necessary information, evaluate the arguments provided, etc. As Kolář puts it, “from the position of the ‘transmitter’ of the information the teacher is shifted to the role of the interpreter and moderator of group discussions and confrontations of points of view and opinions” (2007, 73; my translation).

One of the most dramatic impacts that rapid scientific and technological development has created is a high speed of information (and disinformation) spread, along with the changing preferences in platforms people use to obtain information. Analyzing the Digital News Report from 2016, we discover that half of the population claimed to use the social media as a source of news every week, with 12% of respondents claiming it to be the main one. For the first time, social media has become more important source of news than television, especially for younger generation. The authors notice that there is an overall tendency of “publishers losing control of distribution, some consumers not noticing where content comes from, and the growing influence of platforms and algorithms” (The Digital News Report 2016, 28).

The pandemic of Covid-19 has exerted a tremendous impact on people’s attitude and use of different sources to obtain information. Mainly, “coronavirus remind[ed] people of the value of traditional news sources” (The Digital News Report 2020, 10). Television news and online sources have experienced significant increase with television, once again, identified as the main source of news. Despite this trend, young people continue consuming news mainly through social media services like Instagram, Snapchat, and TikTok, where the trustworthiness of information

or the bias presented is not anyhow regulated. “Our report shows that younger users, especially those now coming into adulthood, are even less connected with news brands and more dependent on social media” (The Digital News Report 2020, 30). Another interesting finding is that 56% of respondents across 40 countries expressed their concern with mis- and disinformation on the internet news-wise (The Digital News Report 2020, 17). If the channels of misinformation are concerned, for most people social media represents the biggest source of anxiety (The Digital News Report 2020, 19). Given the statistical information provided, we may conclude that the main source of information for youth are different social media platforms which are not the most trustworthy ones. While we may not expect to change this tendency, we may wish to develop the skill of critical thinking in young people, so they can evaluate the information they obtain and possibly choose a more objective source to rely on.

The idea of the need to develop critical thinking starts to be visible in education as well. The Partnership of 21st century skills has created the Framework for 21st Century Learning (Appendix A). “This Framework describes the skills, knowledge, and expertise students must master to succeed in work and life; it is a blend of content knowledge, specific skills, expertise, and literacies” (Partnership for 21st Century Learning 2019, 2). Critical thinking, along with Problem Solving, Communication, Collaboration and Creativity were labelled to be “the essential skills for success in today’s world” (2019, 2). We address this framework in particular, since it is a more detailed publication in comparison with the others and is “more widely adopted than any of the alternatives” (Bellanca 2010, 56).

It is useful to examine the publication by Bellanca further, as the author provides a comparison of different frameworks for 21st century skills there. Along with the Partnership for 21st Century Skills, three other frameworks are consulted: the North Central Regional Education Laboratory (NCREL) and the Metiri Group, the Organisation for Economic Co-operation and Development (OECD), and LEAP – the National Leadership Council for Liberal Education and America’s promise (2010, 55). NCREL and the Metiri Group have included “inventive thinking”, one of the substances of which is “higher-order thinking and sound reasoning”, as a 21st century skill already in 2003 (2010, 57). Critical and creative thinking is also mentioned in LEAP’s framework in 2007 in the section of “intellectual and practical skills” (2010, 58). Bellanca provides the analysis of the framework presented by OECD back in 2005. At that time,

the publication does not mention critical thinking. However, in a Series of Concept Notes of Education and Skills 2030, which is objectively closer to 2020 than 2005, the notion of critical thinking is addressed repeatedly. According to their renewed conception of the skills for 2030, critical and creative thinking, as well as learning-to-learn and self-regulation, encompass cognitive and meta-cognitive skills (OECD 2019, 87). Stating a similar idea that we proposed earlier, when analyzing the data from The Digital News Report, OECD claims that

with a growing wave of “fake news” and digital technologies transforming traditional news media, there are growing demands for schools to develop students’ media literacy – the ability to derive meaning from and assess the credibility of multiple media sources through critical thinking (OECD 2019, 52).

Summarizing the data from the Digital News Reports and four frameworks of 21st century skills, we believe it is self-evident that critical thinking is one of the most desired skills which has to be developed in younger generations to prepare them to function successfully in this rapidly evolving modern world.

In the Czech Republic, the topic of critical thinking had attracted the attention of the majority of educators in the 1990s and is nowadays mainly associated with the programme RWCT or Reading and Writing for Critical Thinking. The main constituent of the programme is a three-part teaching model which was first formulated in 1986 by Estes and Vaughn in terms of Anticipation, Realization and Contemplation (Reading & Writing for Critical Thinking, 2020). The model was updated in 1997 by Steel and Meredith to the phases known as Evocation, Realization of Meaning and Reflection, which is currently used in the programme RWCT (Reading & Writing for Critical Thinking, 2020). Nowadays it offers seminars, lectures and summer courses for educators and also publishes a journal Critical paper (“Kritické listy”) where teachers may find inspiration for the practical application of critical thinking skills in their lessons. With no intent to disparage the importance of the programme, we have paused to consider whether the development of critical thinking skills is possible solely through the incorporation of a new teaching model and activities. For many teachers, inclusion of the mentioned elements in an already tight programme may be troublesome time-wise and in terms of planning. Mostly students work with a textbook and other activities may only be implemented as additional ones. Despite that seemingly old-fashioned approach, modern textbooks for ESL, if chosen wisely, offer a variety of stimulating and thought-provoking activities. Consequently, in this thesis we have opted to explore whether students’ textbooks

already contain activities with the potential for the development of critical thinking and are simply overlooked or whether there is a legitimate need for the incorporation of additional elements in the lessons. The research does not present an overview of several textbooks yet provides a deep analysis of a concrete one. Nonetheless, we believe that the findings of our research may be useful when working with other textbooks as well.

THEORETICAL PART

We are what we think.

All that we are arises within our thoughts.

With our thoughts we make the world.

Buddha

1. Epistemology behind Constructivism

Despite being separated by several centuries, Gautama Buddha and Immanuel Kant have two common features. Both are philosophers and influential figures in the eastern and western philosophical and religious systems respectively. According to some authors, they are also some of the early representators of a constructivist-style thinking (Pritchard and Woolard 2010, 2).

Objectivism has become the epistemological basis for our understanding of the world for centuries. It states that knowledge and meaning exist aside from people's personal experience (Duffy and Jonassen 1992, 2). Moreover, according to objectivism, if people acquire knowledge through their personal experience, they may utterly misinterpret the intended meanings (Duffy and Jonassen 1992, 3). Objectivism instruction, therefore, "strive[s] for the complete and correct understanding" (Duffy and Jonassen 1992, 3). Since knowledge exists outside of our experience, it can be acquired through a closer attention of a learner to "the stimulus events," practice and demonstration of knowledge done from the side of a teacher, being the source of a correct meaning (Duffy and Jonassen 1992, 3). By explaining, practicing and demonstrating, a teacher presents such entities and relations that all learners must know by the end of their studies (Duffy and Jonassen 1992, 3). The assumption striving from such form of instruction is that every

student has acquired the same basic information and may use it further on (Duffy and Jonassen 1992, 3).

Immanuel Kant, on contrary, believed that “the possibility of experience is ... that which gives all of our cognitions *a priori* objective reality” (Kant 1998, 282). Providing an explanation closed to the meaning of constructivism in education nowadays, Kant claims that there is a great difference “between the discursive use of reason in accordance with concepts and its intuitive use through the construction of concepts” (Kant 1998, 633).

Give a philosopher the concept of a triangle, and let him try to find out in his way how the sum of its angles might be related to a right angle ... He can analyze and make distinct the concept of a straight line, or of an angle, or of the number three, but he will not come upon any other properties that do not already lie in these concepts. But now let the geometer take up this question ... through a chain of inferences that is always guided by intuition, he arrives at a fully illuminating and at the same time general solution of the question. (Kant 1998, 630–631).

Construction of knowledge lays in the core of constructivism, as is obvious from the name of this epistemological concept. Although both constructivism and objectivism hold the prerequisite that there is a real world, constructivism proposes that there is no one correct meaning we shall strive for but a variation of meanings of any concept. Constructivist teachers do not anticipate that by the end of instruction learners will have created an equal scope of knowledge, on the contrary, the expectation is that each student will comprehend it differently. “Each has constructed an understanding and revised it as necessary to permit them [students] to come to certain agreements, but this does not suggest that their understandings are identical” (Duffy and Jonassen 1992, 5).

Kant’s ideas concerning constructivism are believed to have influenced Jean Piaget, a twentieth-century psychologist and educator. And while the name of Kant is associated with constructivism as a philosophical approach, the theoretical base of constructivist approach¹

¹ It is important to comment that although there is more or less clear and widely accepted definition of approach as “the theory, philosophy and principles underlying a particular set of teaching practices” (Richard and Schmidt 2010, 30), in literature one can come across different sets of approaches, depending on the core of these theoretical principles or beliefs. If we consider the philosophy behind the acquisition of knowledge by students, we commonly refer to inductive and deductive approaches. When research and theory in educational psychology, pedagogy and linguistics are put into real practice, ending in core principles, techniques and lesson design, we refer to approaches examined by such authors as Richard and Schmidt (2001) and Diane Larsen-Freeman (2000), for example, the Communicative Language Teaching, the Grammar-Translation Method, the Audiolingual Method, etc. Constructivist and instructivist approaches strive from the examination of teacher- and learner- centeredness, as well as the extent of the instruction provided to the students.

to instruction is usually connected with the figures of Jean Piaget, Lev Vygotsky and Jerome Bruner. Their most prominent ideas will be outlined below.

1.1. Piaget's ideas

Jean Piaget was a 20th-century Swiss psychologist, who was examining the way children perceive reality and learn. One of the most prominent issues that Piaget brought to an educational sphere is the four stages of cognitive development.

Piaget claimed that while animals are born with reflexes which control their behavior throughout life, people quickly replace inborn reflexes with “constructed schemes” (Huitt and Hummel 2003, 1). A schema is “a representational model of all of the knowledge that an individual has of any given topic” (Pritchard and Woolard 2010, 10). Schemes are connected with certain themes and are stored in a long-term memory. Existence of schemas “allow us to recall, understand and create expectations”, which aid us to become more and more acquainted with the world (Pritchard and Woolard, 2010, 11). Through the processes of assimilation and accommodation, both linked to the relationship between behavior and environment, schemes become more and more complex, i.e. they are “responsible for more complex behaviors” (Huitt and Hummel 2003, 2). The complex nature of these schemas led to their hierarchical formation, from general to specific ones. Piaget labelled them “stages of cognitive development” and these proceed as following: sensorimotor stage, pre-operational stage, concrete operational stage and formal operation stage. Piaget's theory of stages of cognitive development has left unquestionable impact on educational psychology, although it faced certain criticism. As Driscoll puts it, the main counterevidence that was collected in the recent years basically sheds that it is not all in “black-and-white” terms (2014, 199). As she further explains, it was proved that many children, at certain stages of development, are capable of acquiring more than Piaget had supposed (2014, 199). Furthermore, children in the pre-operational stage are not altogether egocentric and, vice versa, they can be sometimes egocentric after passing the pre-operational stage (2014, 200). Piaget had also claimed that all children, without culture dependence, go through these four stages. More recent researches have proved that the age when children pass from one stage to another is truly culturally dependent (2014, 199–200). The last major issue is the stage of formal operations, which have proved not to be commonly acquired by the majority of adults. “Even in advanced societies, only a minority of adolescents exhibited formal operational reasoning (Siegler, 1986),

and Leahey and Harris (1997) go so far as to argue that scientists do not routinely reason at that level” (Driscoll 2014, 200). Despite this criticism, Piaget’s work is still considered to be one of the most influential inputs to the sphere of child’s psychology and development. The criticism does not target to demean Piaget’s work, but to develop it further, enhanced with deeper and more contemporary research.

Although new theories of cognitive development have gone beyond Piagetian thinking, they all seem to agree with at least the spirit of Piaget’s work that children are spontaneously and actively processing their interactions with the environment in a self-directing manner, using a wide variety of information processing processes to construct a view that is unique to each individual (Flavell, Miller, and Miller 2002, 95).

The problem of attaining knowledge by human beings had troubled philosophers for centuries, as we have pointed out earlier. “For Piaget, the study of children was ... a means of explaining the nature of human knowledge” (Bringuier, 1977/1980 cited in Kamii and Ewing 1996, 260). While he did not deny the comprehension of objects through senses, Piaget argued their positioning in the external reality and claimed that “objects can be known only by assimilation into the schemes that we bring to each situation” (Pritchard and Woolard, 2010, 11). Piaget’s research on how children acquire knowledge enabled him to put forward his own view “that knowledge is constructed in the mind of the learner” (Bodner, 1986, 874). As Huitt and Hummel point out, Piaget’s theory of cognitive development became the base of many pre-school and primary programs (2003, 2). Discovery learning and supporting the developing interest of a child laid a foundation for the emerging constructivist learning. (Huitt and Hummel 2003, 2).

1.2. Vygotsky’s Ideas

Lev Vygotsky was a Soviet psychologist, who worked simultaneously with Piaget, although they have never met. The findings the researches arrived at are, on the whole, alike and have formed the basis of the constructivist approach to education. Two ideas of Vygotsky’s studies are commonly put forward: the key influence of the society for cognitive development and the zone of proximal development.

Vygotsky believed that society plays an ultimate role in a successful cognitive and intellectual development. According to the theorist, human beings are dictated what is valuable to learn through the lens of the society and culture, which they are a part of (Lutz and Huitt 2004, 6).

He also claimed that mental functions that human beings operate with exist on two levels: elementary or lower ones and higher mental functions (Lutz and Huitt 2004, 6). Lower mental functions are “limited to a human’s response and reaction to environmental stimuli” (Johnson 2019, 63), they include reflexes, attention, awareness, visual memory, etc. Higher mental functions encompass “the creation and use of self-generated stimulation” (Galant, 1998) and are such functions as willful memory, problem-solving and language (Lutz and Huitt, 2004 and Johnson, 2019). Vygotsky claimed that human beings learn to operate with higher mental functions through the use of cultural tools and symbols (Lutz and Huitt 2004, 6). Symbols are altered with every change of the culture that creates them, thus, people do not learn in order to interact with the society, but it is through “the internalization of social functions and the conversion of social functions into mental functions” that leads to the cognitive development (Vygotsky, 1981 cited in Driscoll 2000, 250). To use the language of the theorist, every higher function...

appears twice: first, on the social level, and later, on the individual level; first, *between* people (*interpsychological*) and then *inside* the child (*intrapsychological*) ... All the higher functions originate as actual relationship between human individuals (Vygotsky 1978, 57).

As Driscoll explains further, the conversion of social into psychological is not direct but is accomplished through “a tool” or a sign (2014, 251). If we comprehend a tool as “something that can be used in the service of something else”, than a chimpanzee trying to reach to the bananas using a stick, in a well-known experiment, does not use it as a stick but as “a banana-reaching implement” (Driscoll 2014, 251). The conversion of social into psychological depends on the act of mediation – “changing a stimulus situation in the process of responding to it” (Driscoll 2014, 251). Once mediation has become internal and symbolic, a higher mental process is created (Driscoll 2014, 252).

The study of mental functions enabled Vygotsky to articulate the second crucial element of his theory – the zone of proximal development. In an attempt to understand the beginnings of the development of skills, he tried to examine “those functions that have not yet matured but are in the process of maturation, functions that will mature tomorrow but are currently in an embryonic state” (Vygotsky 1978, 86). In pursuing this, Vygotsky revealed the gap “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” (Vygotsky 1978, 86). This gap area was labeled as the zone of proximal development. As can be seen from the quotation, for Vygotsky an interaction with the society plays a vital role in the process of the cognitive development. Learners should be assisted in order to move to a higher level and a successful progress made on this scale is directly depended upon social interaction (Pritchard and Woollard, 2010, 13–14). Such support became to be known as “scaffolding”, and in the context of a classroom it is commonly the teacher who occupies this role (Pritchard and Woollard 2010, 14).

The characteristics of a scaffold define the characteristics of an ideal instructor. An instructor should neither present information in a one-sided way nor shape successive approximations to some goal behavior. Rather, an instructor should provide the guidance required for learners to bridge the gap between their current skill levels and a desired skill level (Greenfield 1984, 120).

1.3. Bruner’s Ideas

Bruner on the whole agrees with the mentioned educators and yet presents some crucially contrasting points. As Piaget and Vygotsky, he “is concerned with the sequence of representation (the stages), ... [and] is equally concerned with the role of culture on cognitive development” (Lutz and Huitt 2004, 7).

Along with Piaget, Bruner marked three stages “by which people structure their understanding of the world”: enactive, iconic and symbolic ones (Driscoll 2014, 252). Enactive representation is “a mode of representing past events through appropriate motor response” (Bruner 2006, 69). This include such actions in which we rather know how to operate through muscles than through mind work. Examples of such activities provided by Bruner are bicycle riding, tying the knots or certain aspects of driving (2006, 69). Driscoll draws an example with an orientation: “young children, for example, may not be able to tell you directions to the store from their house, but they can take you there by way of a route previously traveled” (2014, 229). Iconic representation already enables certain level of arbitrariness, it “summarizes events by the selective organization of percepts and of images, by the spatial temporal, and qualitative structures of the perceptual field and their transformed images” (Bruner 2006, 69). Expanding the example with the route from the house to the store, Driscoll explains that a child who is able to function in an iconic representation stage would be able to draw a map depicting this route (2014, 229). The last stage, the symbolic representation, encompasses the biggest part of remoteness and arbitrariness, it is

the encoded information, such as language, for “a word neither points directly to its referent here and now, nor does it resemble it as a picture” (Bruner 2006, 69).

Piaget believed that a certain stage should be completed before a child may proceed to another one. Bruner claimed that although traditionally children proceed from enactive representation stage to iconic and, lastly, symbolic, children at any stage of development may be taught effectively, if the knowledge is adjusted to their level (2006, 47). “Whereas Piaget might speak of the cognitive readiness of the learner to understand the logical operations inherent in a subject matter, Bruner would ask whether ... the subject matter [has] been structured so as to match the internal, cognitive structure of the learner” (Driscoll 2014, 230). In connection with that, Bruner was the first to put forward the idea of a spiral curriculum: “a curriculum ought to be built around the great issues, principles, and values that a society deems worthy of the continual concern of its members” (Bruner 2006, 56). Such a curriculum enables a student to get back to already learned knowledge and enlarge it by building upon the knowledge that was obtained before (Pritchard and Woolard 2010, 15).

Similar to Piaget, Bruner also believed in the process of discovery as of a factor significantly contributing to an intellectual development (Driscoll 2014, 234). Discovery, in Bruner’s understanding, “include[s] all forms of obtaining knowledge for oneself by the use of one’s own mind” (Bruner 2006, 57). In a classroom environment, the student may be encouraged to discover certain principles and knowledge by the teacher. “The role of the teacher is to help in the process of transforming whatever information is to be learned into a format which is appropriate to the learner’s current state of understanding” (Pritchard and Woolard 2010, 15–16). In a way, that intersects with Vygotsky’s ideas of scaffolding. The social interaction is the key element for a successful learning process in Bruner’s opinion as well (Pritchard and Woolard 2010, 15).

As it was shown above, Piaget, Vygotsky and Bruner are three most noteworthy educators who have contributed to the genesis of constructivism as an educational approach. The main idea of constructivist teaching concerns the process of obtaining knowledge: “individuals construct their own understanding of the world around them by accumulating information and interpreting it in relation to previous experiences” (Pritchard and Woolard 2010, 19). Social constructivism, being influenced by Vygotsky and Bruner, emphasizes the role of the environment and social contact in a way of constructing such knowledge. Piagetian constructivists, on contrary, believe

that the individual is all-together responsible for the process of constructing meaning. No matter if Piagetian or social constructivism is put forward, “all constructivists support a pedagogy that promotes teaching techniques which build upon knowledge and concepts which learners already know or understand” (Pritchard and Woolard 2010, 47). Furthermore, constructive approach favors learner-centered environment and the importance of the context in relation with the knowledge obtainment. The implications of constructivist theory on instructions are brilliantly summarized by Duffy and Jonassen:

specific content and outcomes cannot be prespecified although a core knowledge domain may be specified; types of learning cannot be identified independent of the content and the context of learning; learning outcomes should focus on the process of knowledge construction and the development of reflexive awareness of that process; learning goals should be determined from authentic tasks with more specific objectives resulting from the process of solving the real-world task; the processes of learning should be modeled and coached for students with unscripted teacher responses; and learners should be able to construct multiple perspectives on an issue, that is, see an issue from different viewpoints. (1992, 6–7).

2. Constructivism and Critical thinking

In the previous chapter, the main ideas of constructivism in education were formulated. Further on, the connection between critical thinking and constructivism will be examined.

2.1. Definition of Critical Thinking

Thinking as such is “a cognitive process we use in the attempt to gain knowledge or to understand something, as distinct from our emotional responses to things” (Kelley 2014, 1). *Critical*, added to thinking, implies a certain filter through which the process of understanding goes, or through which the knowledge is gained. John Dewey, the father of a modern critical thinking tradition, describes critical thinking as an “active, persistent, and careful consideration of a belief or supposed form of knowledge in the light of the grounds which support it and the further conclusions to which it tends” (Dewey 1909, 9 cited in Fisher 2011, 2).² This definition already implies a certain constructivist touch: active thinking is anticipated instead of the passive information gaining. Thus, the development of critical thinking requires a student-centered approach, where the student is an active constructor of his or her knowledge (Topolovčan and Matijević, 2017, 51). *Persistent* and *careful* in Dewey’s definition is understood by Fisher as

² Dewey himself referred to such thinking as reflective one; these terms are, however, commonly used as synonymous ones.

a deliberate act of stopping oneself from jumping at a conclusion right away and considering some issue with more careful thought instead (2011, 2–3). Robert Ennis, one of the most useful contributors to the topic of critical thinking, defined it as a “reasonable, reflective thinking that is focused on deciding what to believe or do” (Cf. Norris and Ennis, 1989, cited in Fisher 2011, 2). This definition states more explicitly that decision-making is a part of critical thinking (Fisher 2011, 4). According to Fisher and Scriven, critical thinking is “skilled and active interpretation and evaluation of observations and communications, information and argumentation” (Fisher and Scriven 1997, 21). The word “skilled” is of interest here, as it implies that critical thinking has certain standards to meet, consequently, people may be less or more skilled in it (Fisher 2011, 10). Therefore, critical thinking as such may be regarded as a skill or a set of skills. It is useful to delimit a skill as “an *acquired* ability to perform an activity well, usually one that is made up of a number of coordinated processes and actions” (Richards and Schmidt 2010, 532). Topolovčan and Matijević state that this is one of the approaches to the conceptualization of critical thinking; the other one defines critical thinking as a predisposition, thus, an *innate* tend to think critically (2017, 51). In this thesis, critical thinking will be treated from a more pedagogically positive approach, therefore, as a skill, which can be improved and developed.

In order to measure how well critical thinking skills are evolving, multiple tests were developed. One of the most prominent one is The Watson-Glaser Critical Thinking Appraisal constructed in 1964. This test aims to measure whether a candidate is able to draw inferences, recognize assumptions, deduce, interpret and evaluate arguments (Pearson TalentLens, 2020). The measured abilities tally with some of the action verbs used by Benjamin Bloom in his Taxonomy of Educational Objectives. This is not a coincidence: according to the conception of skills, critical thinking is a higher-level thinking activity which involves activities corresponding to the last three process categories of the Bloom’s Taxonomy as revised by Anderson: Analyze, Evaluate and Create (Wright 2002, 140).³ “Although it is known that critical thinking has a long tradition in European didactics, in this respect [didactic one], it is based on the known taxonomy of the cognitive goals of B.S. Bloom” (Topolovčan and Matijević 2017, 50).

We may trace disguised connections with the Bloom’s taxonomy in other definitions of critical thinking. For example, Paul and Elder (2014, 6) describe it as “a mode of thinking ... in which

³ Further one, when referring to the “Bloom’s Taxonomy”, we will imply a version revised by Anderson in 2001.

the thinker improves the quality of his or her thinking by skillfully analyzing, assessing, and reconstructing it”, the verbs match last three process categories of the Bloom’s taxonomy respectively. The process of deciding what to believe, as implied by Ennis, includes elements of analysis and evaluation, which are also comprehended as higher-order thinking skills. A similar trend of not stating the connection with the Bloom’s work overtly can be seen in other definitions of critical thinking which construct their argumentation on the enumeration of what critical thinking is Not. For instance, the Glossary of Education Reforms states that critical thinking “go[es] beyond the memorization and recall of information and facts”, which correspond to the lower process categories of the Bloom’s taxonomy – Remember and Understand (The Glossary of Education Reforms, 2013). David Klooster also starts his six-pages explanation of critical thinking listing types of thinking which are *not* critical: memorization, comprehension and intuition (Klooster 2001, 1–2). Evidently, even if the definitions do not intend to refer to the Bloom’s taxonomy blatantly, they still imply it. For that reason, and also because we incline to perceive critical thinking as a skill rather than a predisposition, in this thesis critical thinking will be comprehended from the conception of skills and, consequently, with the connection to the top three categories of the Bloom’s taxonomy. We will also narrow our understanding of critical thinking as to the process of learning which happens in guided learning environments (i.e. at school), due to the focus of the analysis on a textbook activities. The definition of critical thinking should be therefore stated as: *a thinking mode which involves activities aimed at the highest categories of the Bloom’s taxonomy: Analyze, Evaluate and Create*. Not only does this simplified definition precludes confusion, it will also be valuable for the further analysis of the student’s books activities, which will also be conducted with the aid of the Bloom’s Taxonomy. Also, for this kind of analysis accessory factors, such as students’ predispositions or the environment in which the learning occurs, are not essential as these may not be observed, neither manipulated, nor altered.

2.2. The Bloom’s Taxonomy of Educational Objectives

Given the fact that in this thesis we comprehend critical thinking as a mode in which the students perform the activities which tally with the top categories of the Bloom’s Taxonomy, it seems adequate to devote ourselves to the discussion of the taxonomy as such.

The taxonomy was first published as a “Taxonomy of Educational Objectives: The Classification of Educational Goals. Handbook 1: Cognitive domain” in 1956 by a committee of college and university examiners with Benjamin S. Bloom as the head and the editor of the work. In the course of time the name of Bloom was put forward and the taxonomy has become commonly referred to as “the Bloom’s taxonomy”. The authors have decided to present this taxonomy in order to fill in the communication gaps that occurred between the educators when the descriptive terms such as “understand” were used (Bloom et al. 1956, 1). The second goal the creators of the taxonomy set was to help curriculum builders specify objectives clearer and, so, to ease their preparation of learning experiences and evaluation devices (Bloom et al. 1956, 1). The taxonomy itself contains three domains: cognitive, affective and psychomotor, however, as the original publication referred to the cognitive domain only, it is also quite common to refer to “the Bloom’s taxonomy” as to the cognitive domain of the complete taxonomy. The cognitive domain “includes those objective which deal with the recall or recognition of knowledge and the development of intellectual abilities and skills” (Bloom et al. 1956, 7). Bloom additionally highlights that the cognitive domain is central both for the curriculum content, school educational programs and test developments (Bloom et al. 1956, 7). The original taxonomy contained six major classes: Knowledge, Comprehension, Application, Analysis, Synthesis and Evaluation and some subclasses in each of the categories (Bloom et al. 1956, 18). The taxonomy has proven to become one of the most influential publications in the educational sphere, becoming “a basis for test design and curriculum development not only in the United States but throughout the world” (Chung 1994, Lewy and Bathory 1994, and Postlethwaite 1994 cited in Anderson 2001, xxi).

In 2001, Lorin W. Anderson, David R. Krathwohl and other educators have come with the revised version of the Bloom’s Taxonomy. The first reason for the revision was the “refocus [of] educators’ attention on the value of the original Handbook” (Anderson 2001, xxi). There was also a need to incorporate new, changed knowledge, which has occurred in the course of 40 years (Anderson 2001, xxi–xxii). In the revised taxonomy⁴, the unidimensionality of the framework was solved by forming a noun and a verb aspects of the objectives now forming two separate categories (Krathwohl 2002, 213). The noun provided the basis of the Knowledge dimension

⁴ It is not our intent to enumerate all changes which appeared in the revised taxonomy, but only to highlight those alterations which have a direct impact on our analysis.

while the verb aspect formed the Cognitive Process dimension (Krathwohl 2002, 213). The Metacognitive Knowledge was also included in the revised taxonomy, providing “knowledge about cognition in general as well as awareness of and knowledge about one’s own cognition” (Krathwohl 2002, 213). Although the original number of categories was preserved, the names were changed from noun to verb forms, “to fit the way they are used in objectives” (Krathwohl 2002, 213). The categories in the revised taxonomy are therefore following: *Remember, Understand, Apply, Analyze, Evaluate and Create*.⁵ The scope of the category *Understand* was considerably extended and original *Synthesis*, renamed *Create*, changed its places with *Evaluation*, becoming the top category. All in all, nineteen specific cognitive processes within these six categories were established (Appendix B).

The revised taxonomy seems to have satisfied the authors’ expectations: the interest and use of the taxonomy was renewed and deepened, resulting in the taxonomy becoming one of the basic documents on the educational sphere and a common instrument teachers, curriculum and test designers refer to when planning learning outcomes of their students.

2.3. Connection of Critical Thinking and Constructivism

The connection between constructivism and critical thinking has already been partially indicated in the subchapter dedicated to the definition of critical thinking. However, it is important to define this link more precisely.

Driscoll labels critical thinking, along with problem solving, reasoning and the active and reflective use of knowledge as learning goals of the constructivist instruction (Driscoll 2014, 394). From the position of this author, therefore, the link between critical thinking and constructivism is inseparable. Gandimathi and Zarei promote a similar idea, stating that “constructivist principles engage student in the classroom with effective interaction, scaffolding and encouraging critical thinking among students” (2008, 3). Pritchard considers critical thinking to be one of the constituents of constructivism, along with motivation, learner independence, feedback, dialogue, language, explanation, questioning, learning through teaching, contextualization, experiments and/or real-world problem solving (2010, 48).

⁵ Hereafter we will highlight the names of certain categories of the Bloom’s taxonomy and cognitive processes connected with them in italics. We believe this will ease orientation in the thesis since the verbal form of names may sometimes violate the structure of the sentences and make comprehension more difficult. Moreover, Anderson (2001) himself highlights categories and cognitive process alike.

According to Kwan, there are several researches (Ernst and Monroe 2004, Beach 2007, Dill 2003, Hung 2002 cited in Kwan 2015, 70) who have proved that a constructivist learning environment has a positive effect on the student's development of critical thinking. Nevertheless, most of such studies are quite limited, due to the qualitative nature of the research and/or a rather small sample size (Kwan 2015, 70). As follows, the link between constructivist learning environment and critical thinking was not drawn definitely. We will make an attempt to define connection of critical thinking and constructivism by analyzing instructional principles for constructivist learning as formulated by Driscoll (2014, 394–402).

1. Embed learning in complex, realistic, and relevant environments.

Most constructivist authors believe that “students cannot be expected to learn to deal with complexity unless they have the opportunity to do so” (Driscoll 2014, 394). Constructivists therefore argue that oversimplifying of tasks does not make students capable of solving complex problems in real-life environment. On the contrary, the students should learn how to cope with complex situations, and they are expected to do so by developing the skill of problem-solving. Although problem-solving is sometimes stated separately from critical thinking, in this thesis we will regard it as a component of one. As Jonassen puts it, problem-solving is “the synthesis of other rules and concepts into higher-order rules ... which would require a combination of analysis and synthesis skills” (1997, 65). Both *Analyze* and *Create* are the higher-order categories of the Bloom's taxonomy, therefore they help to enhance critical thinking skills.

2. Provide for social negotiation as an integral part of learning.

The second principle refers to collaboration as a critical feature of a constructivist learning environment. It has already been highlighted that both Vygotsky and Bruner believed that social contact is vital in constructing knowledge by learners. Brown (1989, 37) also suggests that collaboration enables the students to work as a team, exchange their ideas and, as a result, to find an effective solution to the problem. Cunningham also highlights that collaboration enables students to have a variety of different, rather than their own, perspectives (Cunningham 1992, 185–186). This consequently enables learners “to judge the quality of their own solutions and to learn perhaps more effective strategies for problem solving” (Driscoll 2014, 398). As it was pointed earlier, problem-solving is considered to be a component of critical thinking skill. Critiquing itself (also known as *Judging* – the cognitive process of the category *Evaluate*) “lies at

the core of what has been called critical thinking” (Anderson 2001, 84). To summarize, an opportunity to exchange ideas with their classmates enables learners to judge their own solutions and ideas, therefore executing critical thinking skill.

3. Support multiple perspectives and the use of multiple modes of representation.

This principle strives from the Cognitive Flexibility Theory developed by Spiro et al. (1991). The main idea lies in the usage of multiple modes of representation, or so-called hypermedia, which is believed to aid for a more complex knowledge acquisition. “Revisiting the same material, at different times, in rearranged contexts, for different purposes, and from different conceptual perspectives is essential for attaining the goals of advanced knowledge acquisition” (Spiro et al. 1991, 26). If we compare these ideas with those stated by Anderson (2001), we discover that alternative viewpoints are constitutes of the category *Create*. When *generating* (one of the cognitive processes of *Create*) the students are trying to find multiple useful solution to solve a problem. In contrast to *Understand*, where the goal is to find one correct answer, the goal of *Create* is divergent, therefore the students are pushed to arrive at various possibilities.

4. Encourage ownership in learning.

The ownership of learning should be understood more like the students’ ability to manage their own learning, “determining their own learning needs and how those needs can best be satisfied” (Driscoll 2014, 400). The process of determining is connected with the categories *Analyze* and *Evaluate*, already linking it to the higher-order thinking skills. Besides, the element of self-reflection links this principle with the metacognitive knowledge dimension, which is “(1) knowledge about cognition and (2) control, monitoring, and regulation of cognitive processes” (Anderson 2001, 43). Since the metacognitive knowledge is the highest and most abstract of all dimension presented in the Bloom’s taxonomy, it is rather predictable that higher-order skills will be implemented. Much more solid argument, however, is that Anderson himself links that to constructivism:

the emphasis on making students more aware of and responsible for their own knowledge and thought ... cuts across different theoretical approached to learning and development from neo-Piagetian models, to cognitive and information processing models, to Vygotskian and cultural or situated learning models (Anderson 2001, 55)

Multiple research examining the influence of metacognition on critical thinking also support this claim. Proving a hypothesis that metacognition functions as a predictor of critical thinking,

Magno found that “higher use of metacognitive skills results in better critical thinking” (2010, 149). The results of a qualitative analysis of metacognitive strategy use during on-going critical thinking processes conducted by Ku, K. Y. L. & Ho, I. T. revealed that the learners who use metacognitive strategies are more successful when performing their critical thinking (2010). Summarizing these two and several other studies, Cummings believes that it is generally accepted in educational literature “that metacognition can positively impact critical thinking and academic achievement” (2015, 69).

It is also interesting to consider the tasks of *Evaluation* category, which can be connected with metacognition, if the learners are asked for their opinion or has to evaluate their own performance. According to the description provided by Anderson, these should be assessed with a clearly defined set of criteria (2010, 83). This feature differentiates *Evaluate* from other categories of the Bloom’s taxonomy. Naturally, in the beginning phase, these criteria are set by a teacher and the students should be assisted in order to follow them. A set of criteria and guidance is also needed when it comes to metacognition. As Clarks mentions (1982, 97), the students may be not the best judges of their own learning needs, as they tend to choose the quickest and easiest way when solving a problem, regardless of whether it is beneficial for their learning needs. In order to help them, the teacher should consult traditional methods of scaffolding or coaching (Driscoll 2014, 400). Thus, the constructivist principle of managing the students’ own learning mirrors the categories of *Analyze* and *Evaluate* and knowledge dimension of metacognition in the Bloom’s taxonomy and can be aided through constructivist ways of scaffolding.

5. Nurture self-awareness of the knowledge construction process

The last principle is very similar to the previous one, as it once again refers to the process of self-awareness. Analyzing it, Driscoll herself draws the parallel between awareness and metacognition: “awareness of one’s own thinking and learning processes is a capability cognitive information-processing theorists have commonly called metacognition” (2014, 401). Subsequently, Driscoll straightforwardly highlights the critical element in connection with self-awareness: “with reflexivity, a *critical* attitude exists in learners, an attitude that prompts them to be aware of how and what structures create meaning” (2014, 401).

To summarize, in this subchapter we have tried to articulate the links between critical thinking and constructivist learning. Critical thinking has been stated by theorists as one of the learning goals of constructivism, the connection between two is therefore inseparable. We have also managed to find certain relations through the analysis of the constructivist instructional principles. Most of them considered problem-solving skill, which may be viewed upon as a component of critical thinking skill, and self-reflection, which constitutes metacognitive knowledge dimension and was linked to critical thinking both by Anderson and Driscoll and proven by several presented researches.

2.4. Critical Thinking and Cognitive Development

A quick scroll through academic literature concerning an implementation of critical thinking skills in a classroom shows that a vast majority of experiments and studies were conducted in at least higher school, much more often – with post-graduate students. Research of critical thinking in the students of primary and secondary school is scarce yet an understandable reason for it exists.

As it has been pointed out, Piaget was one of the most influential theoreticians in educational sphere concerning constructivism and, subsequently, critical thinking. Piaget's stages of development are of interest here, with the last one, of formal operations, being commonly associated with critical thinking (Keating 1988, 7). Piaget claimed that at this stage, that is, during adolescence and adulthood, "intelligence is demonstrated through the logical use of symbols related to abstract concepts" (Huitt and Hummel 2003, 2). He also noted that the number of adults capable of formal thinking is far from one hundred percent, mainly ending around fifty. This claim led many educators following Piaget's ideas to believe that "young children are incapable of formal operations (abstract reasoning), which are required for critical thought" (Lai 2011, 23). However, more contemporary research prove that young children are capable of undergoing the same cognitive process that adults do and, consequently, are capable of critical thinking (Lai 2011, 23).

First of all, it is important to note that "today it is widely recognized that logic is not an adequate model for the cognitive abilities of children, nor is it adequate for adults" (Morra et al. 2008, 31). Morra et al. continues his argument, claiming that Piaget himself recognized that logic was too tied to the operational theory in his final works around 1980s, yet the author was not able

to develop his ideas further (2008, 31). Even if we hold on to logical problems, research shows that much younger children, than is expected by Piaget's developmental theory, are capable of solving "logically equivalent versions of the standard tasks", if these are adapted as to reduce memory load, provide a more familiar content, etc. (Keating 1988, 11). If we proceed from logic to broader critical-thinking related tasks, research also proves that the belief that children are incapable of critical thinking is fallacious. Koenig and Harris examined critical thinking in children as young as three and four years old and find out that they were capable of differentiating the credibility of the information sources (2005). "In particular, 4-year-old children appeared to prefer the judgments of adult participants who had a history of being correct over those who were purposefully inaccurate" (Lai 2011, 25). The research done by Lutz and Keil (2002) showed that children of the same age are aware of the difference of the expertise and may choose a better one when needed: specifically, a car mechanic's expertise of a car trouble was found more credible than that of a doctor's. Analyzing a problem caused by overgeneralized understanding of Piaget's ideas, Keating claims that "there is no persuasive evidence of fundamental constraints on the ability of early adolescents to engage in critical thinking" (1988, 5). While it is true that the ability to think critically improves with time and age, this does not imply that instruction targeting critical thinking skills should not be implemented with children at primary or secondary school, as cognitive development is not an obstacle in this case. It seems very practical to mention here Bailin et al. who enumerates what students at the primary grade levels may learn with the help of developed critical thinking:

respect others in discussion, being open-minded, and being willing to look at issues from other's points of view ... can learn a variety of critical concepts, such as those necessary for distinguishing between definitions and empirical statements; they can learn a number of heuristics, such as asking for examples when the meaning of a term is unclear and reminding themselves to double-check claims before accepting them as fact; and they can learn principles, such as trying to think of alternatives when deciding what is the best thing to do. (Bailin et al. 2010, 298)

To summarize, cognitive development is not an obstacle that should prevent educators from incorporating critical thinking skills instruction into primary curriculum. The researches mentioned above prove that even pre-school children are capable of critical thinking, if the tasks are altered as to match their age, background knowledge, etc. As an ability to think critically improves with time and age, students of lower secondary education, at whom this thesis is focused, have even more potential to develop this skill.

2.5. Critical Thinking and English as a Foreign Language

Another question that should be addressed is whether critical thinking skill can be incorporated into the subject of English as a Foreign Language (further on – EFL). What are the requirements, anticipated pitfalls, if any, or, on contrary, possible benefits of it? In this thesis we are implementing the basic difference between EFL and ESL in terms of the environment. EFL is “the learning of a nonnative language in the environment of one’s native language” while ESL refers to “the learning of a nonnative language in the environment in which that language is spoken” (Gass and Selinker 2008, 7). Since this thesis analyzes activities in the student’s book used at lower secondary school environment in the Czech Republic, the term EFL is more appropriate than ESL and, therefore, will be use throughout the thesis.

It has to be mentioned in the very beginning that by analyzing the possibility of the implementation of critical skill in the curriculum of the English language subject we narrow ourselves to one of two possible approaches of instruction – an imbedded one. In the imbedded instruction, “critical thinking skills [are] woven into the content matter”, while in the explicit instruction the lessons are led as to directly target critical thinking skills (Marin and Halpern 2011, 1). Both approaches have their pros and cons, for instance, imbedded instruction is vaster and easier to design compared to a specific critical thinking course. Explicit instruction is commonly limited to a group of students and is “less common for minority and disadvantaged secondary students” (Marin and Halpern 2011, 2). The drawback of an imbedded instruction is that it does not always enable the students to transfer their critical thinking skills to another discipline or to everyday situations (Marin and Halpern 2011, 2). Nevertheless, both explicit and imbedded instructions lead to the students’ increasing ability to think critically (Marin and Halpern 2011, 7).

An overall problem with the incorporation of critical thinking in EFL curriculum strives from the core of the subject as such. In an EFL classroom, English functions both as a subject matter and a medium of instruction. To be more exact, EFL is “the only subject where effective instruction requires the teacher to use a medium the students do not yet understand” (Borg 2006, 5). Researches (Wu 2006, Wong 2010, Chang 2010 cited in Ratna 2017, 58) prove that using English as a sole medium of instruction improves students’ English proficiency, especially developing their listening skill due to a bigger exposure to a language input. However, a foreign

language being used as a medium of instruction may also cause certain complications and function as a stress factor. Wu (2006, 78) found that at the lessons where English was a sole medium of instruction it was more difficult for the students to understand the course content, express themselves in class and interact with other students and professors. The question that should be therefore tackled is how critical thinking skills may be incorporated, if even simpler topics and less cognitively demanding activities may be troublesome due to the limitations of the learners' foreign language proficiency?

In the previous chapter we have argued that critical thinking, if executed correctly and at a suitable to learners' level, is not an obstacle in the connection with the cognitive maturity of the students. However, the use of L2 may become an obstacle, since communicating in a foreign language is a much more multiplex process than it may appear. Lin et al. points out that participation in discussions is a cognitively complex task for most L2 learners as it includes "multiple processing" (2016, 3). The learners should be able to judge what is being presented and react accordingly. If we split the process in steps, while engaging in a discussion a student needs to understand the points presented by other speaker and to choose the most important ones; hold the information in memory to process it further; plan the answer in terms of the appropriate vocabulary and grammar control, and all that with little up to no time to do so. "Therefore, 'don't know what to say' might not be solely due to linguistic deficiency, but to the cognitive complexity of the tasks as well as effective and efficient management of the use of limited cognitive resources" (Lin et al. 2016, 3). On the contrary, Snider believes that discussions led with the focus on critical thinking skills may help the learners relent themselves and shift from the desire of producing purely grammatically correct language to focus on the topic as such, which on the whole "may help learners negotiate the language with less self-consciousness" (2017, 10).

Luk and Lin (2015) examined how successful students are in maintaining a critical talk in English. The students with low English proficiency were separated into small groups to review an advertisement and consequently present their ideas in front of the class.⁶ "The students were allowed to conduct the discussion in their L1, Cantonese, but the subsequent presentations in front of the class had to be in English" (2015, 76). The oral presentations were conducted

⁶ This task was conducted as a part of the course Learning English Through Popular Culture promoting students' (inter)cultural awareness and critical thinking.

a few days after the group discussions were held and the students could have used the notes they had prepared. The experiment showed that while the students were able to think critically during discussions conducted in L1, their presentations in L2 “were reduced in content and limited in lexico-grammatical structures” (2015, 86). It has to be noted that the teacher did not spoke the students’ L1, thus, she was not able to aid the students in translating their ideas from L1 to L2. Luk and Lin believe that a bilingual teacher would be more beneficial in helping the students to maintain a critical talk, as she would be able to help the students restate their ideas in L2. The role of the teacher in that case is to “seek ways to help ESL learners bridge the communicative resource gaps between their L1 and L2” (2015, 87). This problem, thus, seems to be easily solved in the context of the Czech Republic, where the majority of English teachers are non-native English speakers.

Yang and Gamble (2013) provide an eminently useful and positive research examining whether an incorporation of critical thinking-enhanced activities leads to an improvement in an overall English proficiency. The researchers compared two EFL classes, while both were taught by the same teacher and with the help of the same textbook context, one class (experimental group) was taught with the use of critical thinking-enhanced activities and the other one (control group) without activities targeting the development of critical thinking. In 12 weeks not only did the experimental group improved their critical thinking skill level, it had also “significantly outperformed the control group in terms of overall English proficiency” (2013, 405). The experiment therefore proved that critical-thinking enhanced instruction “can be integrated into regular course activities without detracting from academic performance” (2013, 406). The activities which were used for fostering critical thinking skill were mainly debates, argumentative writing and jigsaw group presentations.⁷

We believe that elements of challenge, engagement, and dialogical thinking led to significant improvements in course content acquisition. We believe the challenge of finding a variety of related research materials and critically evaluating sources led to a higher level of engagement with the course materials resulting in both higher-order thinking and knowledge retention (Reed and Stavreva op.cit.). Furthermore, dialogical CT, involving the exploration and debate of different perspectives, can be extremely useful in second language classes (Benesch

⁷ “Jigsaw presentations involve collaboration by groups of learners who present smaller sections of a lesson to their classmates, fostering responsibility for constructing and presenting information logically and convincingly, skills applicable to both CT and oral proficiency” (Yang and Gamble 2013, 400).

op.cit.), leading to improved academic and target language performance (2013, 408).

If the two researches are compared, it seems that there are two main features explaining inefficiency of the students' performance in Luk and Lin's experiment and the success of Yang and Gamble's students. The first concerns the level of the students' proficiency: Luk and Lin worked with low-proficiency group, while Yang and Gamble had students of upper-intermediate level. This, however, could be supposedly overcome if a bilingual teacher aided the learners in the process of reformulating their ideas from L1 to L2, as was stated by Luk and Lin before. The second problem rises from the students' unawareness of how to transform their thinking as to be critical. Luk and Lins' students were not able to do so without guidance, while Yang and Gambles' students succeeded presumably because they were led. Some of the instructional foci used for the experimental group are: critical reading, critical reflection and sharing, debate preparation and group debate and evaluation, argumentative writing and peer critique (Yang and Gamble 2013, 401).

Summarizing all that has been stated, we may suppose that, if executed correctly (that is, at the level appropriate to the one of the students, on the topic that students have or obtained background information of, with vocabulary, phrases and grammar needed to formulate an argument, guided through and given time to prepare a performance), critical thinking activities may be executed with the students of lower level of English proficiency as well.

2.6. Critical Thinking in the Context of FEP

In the beginning of the thesis it was stated that critical thinking is considered to be one of the needed skills of 21st century. Nevertheless, this statement is too general and while we do not underestimate its importance and relevance, the position of critical thinking in education in the context of the Czech Republic has to be defined more clearly. In order to do this, the Framework Education Programme for Elementary Education was addressed (further on – FEP). FEPs are crucial documents as they represent the state level of curricular documents, based on which School Education Programmes are then created. The objectives, standards and the expected level of education is formulated in FEPs, as well as up-to-date educational trends. Below we will examine this curricular document in order to discover whether a critical thinking skill is expected or even required to be acquired by the students of elementary education.

2.6.1. Objectives of Elementary Education

Objectives of elementary education define those desired outcomes in terms of general education and the development of key competencies which all students are expected to acquire by the end of the elementary education (Research Institute of Education 2007, 10).⁸

One of the objective of elementary education is “to stimulate creative thinking, logical reasoning and problem solving in pupils” (Research Institute of Education 2007, 10). Previously we have discussed that while problem solving is sometimes treated as a separate skill, in this thesis we regard it to be a component of critical thinking. Logical reasoning is connected directly to critical thinking, as it requires an analysis of the data or their evaluation based on certain criteria, which correspond to the *Analyze* and *Evaluate* categories of the Bloom’s Taxonomy. As for creative thinking, Bailin states that the goal of teaching creative thinking is for the learners “not simply to reproduce old patterns but to respond productively to new situation, to generate new and better solutions to problems, and to produce original works” (1987, 23). As for the features of creative thinking, the author lists constructive, generative and imaginative characteristics (Bailin 1987, 23). Later, analyzing the dichotomy between critical and creative thinking that prevails in some educational theorists, Bailin claims that there are certain analytic features that are commonly associated with critical thinking which help the learners be more generative while creating something but also “imaginative, inventive aspects to being critical”, and that it is almost impossible to separate these two kinds of thoughts (Bailin 1987, 24). We agree with this concept as well, and it does not seem to be a coincidence that the last category of the Bloom’s Taxonomy, the most challenging in terms of cognition which implies the production of an original product following *Generate* process, is labeled as *Create*. In another study the relationship between creative thinking and critical thinking skills of university students of different departments was examined. The results have shown that the success of the students of Visual Arts or Religion & Ethics Education department raised from their habit of using non-routine problem-solving processes, which influenced a significant relationship between creating and critical thinking. The authors suggest that “the use of non-routine problem-solving processes plays a vital role in the significant correlation between creative thinking and critical thinking skills of students”, thus

⁸ Although we have cited FEP EE from the year 2007, the information which we include in the thesis was checked in the newest FEP EE 2021, thus, the data is relevant. If the information in the FEP EE 2021 differs or there are additions which are important for our research, these are mentioned with the subsequent quotation of FEP EE 2021. We use FEP EE 2007 only for the sake of a high-quality, accredited translation.

biding all three processes together as rather inseparable and having mutual positive effect on each other (Ülger 2016, 695).

Another objective that seems to be closely related to the concept of critical thinking is stated as following:

to help the pupils to become familiar with and develop their own abilities according to their realistic possibilities and to utilise them along with their acquired knowledge and skills when making decisions on their own life and profession orientations (Research Institute of Education 2007, 10).

Familiarity and development of the abilities is connected with metacognition, which focuses on the knowledge of the student's personal cognitive process and their regulation and fostering. Formerly in the thesis we have argued that the development of metacognitive skills has positive effect on the student's performance of critical thinking skills. As for the decision-making process, it is commonly associated with the ability to think critically, as it involves the analysis of possible solutions and a subsequent choice of the best one based on specific criteria. A qualitative research showed that critical thinking and decision-making skills are mutually beneficial: "critical thinking is an important requirement for individuals to make better decisions, while various decision-making techniques also contribute positively to the quality of critical thinking of individuals" (Turan, Fidan and Yıldırım 2019, 1).⁹

In the newest FEP EE version of 2021 the last objective concerns the students' orientation in the digital world. It is stated that the learners should be encouraged to use digital technologies in a critical and creative way, both for the purposes of education and their free time activities (MŠMT 2021, 9). Here we may observe that the authors of FEP EE consider critical and creative thinking to be closely connected, thus proving our point that was stated in the previous paragraph and also observe the same threat of disinformation coming from different media sources, as was commented in the introduction to the thesis.

2.6.2. Key Competencies of Elementary Education

Key competencies are defined as "a set of knowledge, skills, abilities, attitudes and values which are important for the personal development of an individual and for the individual's participation

⁹ It is interesting to note that many researches examining the connection between critical thinking and decision-making was conducted examining nurses, since they are required to perform both critical thinking and decision-making for the sake of qualified clinical expertise.

in society” (Research Institute of Education 2007, 10). These are delimited in accordance with the current values of the society and their acquisition is thought to be a prerequisite of a successful life and participation in society.

The most obvious key competency connected with critical thinking is the competence to solve problems. One of the abilities underlying this competency is straightforwardly noted as critical thinking – “an elementary-school graduate ... thinks critically; makes prudent decisions and is able to defend them; realises the responsibility for his/her decisions; is able to evaluate the results of his/her decisions” (Research Institute of Education 2007, 12). We may point out here that the authors of the FEP EE seem to also recognize problem-solving as an inseparable element of critical thinking.

Other traits of critical thinking skills can be identified in the learning competency, where the students are expected to “select[] and employ[] suitable procedures, methods and strategies for effective learning; plan[], organise[] and manage[] [their] learning” – another link to the metacognition is drawn or, as straightforwardly stated later, “to assess[] critically the results of his/her learning process and [be] able to discuss them” (Research Institute of Education 2007, 11). Critical thinking skill is likewise implied in the professional key competency, where the use of knowledge and decision-making are once again noted (Research Institute of Education 2007, 14). Following an added objective of FEP EE, in the 2021 version one comes across a new digital competency. According to it, the learners should be able to gather, seek and critically evaluate the information from the world web (MŠMT 2021, 13). To summarize, in four out of seven key competencies critical thinking is either straightforwardly labeled as a desired skill or is implied by enumerating the cognitive processes which correspond to the higher-order thinking based on the Bloom’s Taxonomy.

The key competencies are intended to be developed in all educational areas, one of which is Foreign Language. As FEP EE states, “the objectives of the educational area specify towards what the pupil is guided by means of the educational content so as to acquire gradually the key competencies” (Research Institute of Education 2007, 15). Therefore, critical thinking, which underlies specific key competencies and is also expressed in the overall objectives of elementary education, is expected to be developed in the lessons of EFL as well. Besides, on the of the objectives of Language and Language Communication educational area is the learner’s ability

to “obtain[] information independently from various sources and master[] work with language and literary sources and with the texts of various specialisations” (Research Institute of Education 2007, 18). As it was stated before in the areas of elementary education objectives, as well as the added digital competency, the accessibility of information in modern world makes it crucial that the students develop their critical skills in order to be able to choose appropriate sources.

As can be seen, the skill of critical thinking is interwoven with the general objectives of elementary education and key competencies in the Czech Republic. Sometimes this skill is mentioned directly, or it is implied through the connection of the desired skills with the highest categories of the Bloom’s Taxonomy. This proves the relevance of our further analysis and overall significance of critical thinking in elementary education.

3. Textbook

Having stated the most important elements of critical thinking in the connection of EFL, we may proceed to discuss main points linked with a textbook, as it will be the target of our subsequent analysis. If we refer to the pedagogical dictionary by Průcha, Walterová and Mareš, their definition of a textbook is “a type of a publication the subject matter and structure of which was adapted for the means of didactic communication” (2003, 258; my translation). Simultaneously, the authors list two basic functions of a school textbook: (1) a part of the curriculum, that is, the representation of the planned content of education and (2) one of didactic means, i.e. the source of information for both learners and the teacher (Průcha, Walterová and Mareš 2003, 258; my translation).

Kalhous and Obst et al. (2002, 143; my translation) provide a similar definition: a textbook can be defined as a specification of a project of a didactic system for a concrete subject, thus, being a part of a curriculum. Another interpretation suggests that a textbook is the basic teaching and learning means which specifies the objectives of education¹⁰, delimits the scope and the content of subject matter and forms the basis for the development of intellectual and practical abilities which are formulated in the curriculum (Kalhous and Obst et al. 2002, 143; my translation). The authors also highlight the textbook’s ability to communicate the subject matter to the students or to the teacher. Among the functions of a textbook Kalhous and Obst list

¹⁰ Here the meaning of “education” in the original translation refers to both “vzdělání” and “výchova”.

didactic (with an imbedded informational one here), formative, methodological and organizational ones (2002, 143; my translation). The didactic function implies the communication of information concerning the subject matter to the learners. The meaning of the formative function indicates the process of transmitting acquired systems of knowledge and abilities as to become the learners' intrinsic values. The aim of the methodological function is to help the students acquire the methods of cognition. Lastly, the organizational function comprises planning and also motivational, managing, control and self-control functions (Kalhous and Obst et al. 2002, 143; my translation). Citing Wakefield, the authors also mention that a good textbook should set tasks which challenge different levels of cognitive thinking, however, not many teachers choose the textbooks which meet such a requirement. (Kalhous and Obst et al. 2002, 144; my translation).

Průcha states similar basic functions of a textbook, that is, (1) a curricular one, (2) a source of the content of education for learners and (3) a didactic means for teachers (1997, 273; my translation). He also mentions that all three functions are mutually complementary (Průcha 1997, 273; my translation). The author devotes his attention to the classification of textual material used for instruction of foreign languages in schools. The first category consists of textbooks which are used both by learners and a teacher, then methodological manual designed for teachers and finally all types of supplementary didactic means such as dictionaries, magazines in foreign languages, collections of games, idioms, sayings, etc. (Průcha 1997, 277; my translation; Appendix C). Such categorization is useful for our research as we will proceed to the analysis of a textbook as delimited in the first category – a textual material used by both learners and a teacher. Due to the small scope of our research, methodological manual in a form of a teacher's book will not be addressed.

Průcha also states that textbooks are “the main resource the teachers use for the lesson planning” (Průcha 1997, 294; my translation). The results of the research conducted by Průcha in the 1980s show that the percentual frequency of using a textbook as an informational source by teachers was the highest among other types of documents. As for the amount of time a textbook is used in different subject, foreign languages are absolute winners with 91,2% of the lesson dedicated to work with a textbook (Průcha 1997, 295; my translation). The study conducted by Sigurgeirsson in 1996 reveal similar results: in a foreign language class 96,8% of teaching

time was devoted to a textbook, which is the highest in comparison with other languages (Průcha 1997, 296; my translation).

To summarize, a textbook is considered to be an inseparable part of an education process. The main functions of a textbook usually constitute it being a part of the curriculum, providing information and aiding in organization of a teaching process. The researches mentioned in the chapter reveal that foreign language teachers use a textbook the most in comparison with teachers of other subjects. That proves the relevance of our research targeting the analysis of a textbook.

PRACTICAL PART

4. Overall Evaluation of the Textbook

There are two approaches to the evaluation of a textbook: an impressionistic one, which is more general and is connected with highlighting the pros and cons of a textbook, and an in-depth evaluation aiming to examine a set of more specific items (Cunningsworth 1995, 1–2). Cunningsworth states that the first approach is “particularly appropriate when doing a preliminary sift through a lot of coursebooks before making a shortlist for more detailed analysis” (1995, 1). Given that we will opt for a matrix adapted from the Bloom’s taxonomy to analyze critical thinking activities later in the thesis, only a general overview of the textbook will be presented below. It is loosely based on the checklist for evaluation and selection of a textbook presented by Cunningsworth (Appendix D), with some of the entries omitted, such as the cost of a textbook or an overview of a teacher’s book, as these are not of the interest of our research. We will also not examine the connection between the textbook and the aims of the school programme or other issues directly connected to the classroom experience, since no practical application of the textbook is designed to be a part of the thesis.

The textbook which was selected for the analysis is “Global Pre-Intermediate”, published by Macmillan in 2010. The choice of the coursebook was influenced by the fact this particular textbook was used by a teacher in a lower-secondary school where the author of this thesis conducted a year-long teaching practice. Initially, the final part of the thesis was planned to include a practical application of certain activities developing critical thinking in a classroom in the course of the teaching practice. Nevertheless, dramatic changes connected with

the Covid-19 situation has made such intervention impossible. For that reason, we have adapted our analysis to focus on the analysis of the textbook solely. More will be featured in the section concerning the methodology of our study.

“Global Pre-Intermediate” represents a part of a six-level adult course. The ‘adulthood’ of the book is reflected in the choice of the topics and textual materials. For example, in the unit “Eating & Drinking” the students learn about the people who have inspired the names of some popular drinks, like “cappuccino” or “Guinness” (Clandfield 2010, 23). Readings also often includes extracts from famous English novels, like “Dracula” by Bram Stoker or “Frankenstein” by Mary Shelley. This yet seems to be of interest to students of secondary lower education as well, offering a nice contrast to well-known and repeating topics in other textbooks. As it is stated on an official Macmillan website, “the authors deliberately avoided media-familiar people and topics in order to differentiate themselves from other adult English textbooks” (Macmillan 2021). Additionally, being direct witnesses of this book being used in a secondary lower-education class, we may safely say that, with some adjustments, the textbook may be used with younger learners as well.

The textbook consists of 160 pages divided into 10 units, with each unit divided in six two-page parts. A quick scan through the table of contents shows that each unit encompasses parts dedicated to Grammar, Reading, Listening, Vocabulary and Speaking and Pronunciation. These parts form the core of the unit. In the end of each unit, sections Function Globally, Global English, Writing, Review and Study skills are included, forming a part of additional materials. Therefore, the textbook targets all four skills connected with foreign language learning. The sections in each unit contain similar tasks, however the sequence of parts differ. This feature seems to represent a compromise between a fixed structure of the textbook and loose arrangement of tasks which provides a certain security for the learners and yet prevents boredom.

Reading section comprises texts that are visually separated from the rest of the unit, easing the orientation. Also, in the majority of the reading tasks the students are suggested to read and listen to some extract, biding the visual and listening senses and therefore aiding comprehension. Grammar section provides a short grammar explanation and two or three exercises after, designed as to enable the students to apply these rules. Insertion of this element in the textbook gives it some characteristic of a workbook, which is a praised feature nowadays. Listening exercises

are often accompanied with pictures, providing the learners with more content. In the end of the book the audioscripts are provided and learners are sometimes offered to read those in order to check their answers or analyze the extracts more deeply. Pronunciation section is included in every unit and focuses on a variety of topics, such as pronunciation of endings of regular verbs in a past tense, the connection between spelling and sounds, stress of individual words, etc. The section Function Globally comprises “frequency functional and situational language that is immediately useful outside the classroom” (Watkins & Clandfield 2010, xii). Global English section includes additional reading part with the texts about the English language written by David Crystal. In the section Global Voices, the learners find unscripted and authentic recording of both native and non-native speakers, designed as to “expose learners to real English as it is being used around the world today” (Watkins & Clandfield 2010, xii). Study Skills section includes an analysis of the students’ study skills and strategies done by themselves, therefore enlarging their metacognitive knowledge. Writing section provides learners with an opportunity to develop their writing skills by first analyzing someone else’s writing, correcting it, and finally writing their own piece. The authors claim that work with a model writing text develops learners’ critical ability (Watkins & Clandfield 2010, xiii). Development of critical thinking skills is also claimed to be happening when learners reflect on a reading tasks by answering the questions connected with it.

To summarize, Global Pre-Intermediate textbook offers a well-balanced coursebook. The outline is comprehensible and offers an easy orientation in the textbook. The visuals provided are clear and colorful, however, they do not overload the pages; all in all, the textbook has pastel, appealing colors. Each unit contains activities developing the four skills and also some additional information. The topics seem to be entertaining, as they offer interesting facts and insights to be discovered. Reading texts encompass authentic information about the real world; both reading and listening section contains information about real people. Grammar is claimed to be highly contextualized and meaningful (Watkins & Clandfield 2010, ix). Incorporation of authentic and meaningful activities has been proved to arise the interest and involvement of the students long ago. Coupled with clear outline, we believe the textbook would be both interesting and useful for learners.

5. Research Design

5.1. Significance of the Study

As it was already stated, critical thinking is considered to be one of the desired skills for 21st century, along with being an expected outcome of basic education in the Czech Republic. Nevertheless, an incorporation of critical thinking in the curriculum may be troublesome for teachers, as the topic itself is rather vague and there is not a universally agreed-upon syllabus or any other form of the instruction available. When eager teachers try to refer to the world web wondering how to start fostering critical thinking in their classes, they are often offered some extra activities to be incorporated in the lesson, for example a Vein diagram or a mind map. We wonder if this supplementation of activities is needed or whether a good-quality textbook, possibly with certain alteration from the side of a teacher, is enough. Our hypothesis is that the textbook *Global Pre-intermediate* already contains activities which have the potential for the development of critical thinking.

5.2. Research Question

In a theoretical part, when drawing connections between the main ideas of constructivism and critical thinking, we have observed that there are many crucial conditions to be followed in order for the critical thinking to happen. Following the condition of a small-scale research and also the changes brought to the educational sphere due to the pandemic of Covid-19, in the thesis the emphasis was put only on a constant variables independent of the community, such as tasks in the selected textbook. The general aim of the research is, therefore, to examine *if the textbook Global Pre-Intermediate has the potential for the development of critical thinking in learners*. In the theoretical part of the thesis we have argued that the tasks which are ample for the development of critical thinking correspond to the three highest categories of the Bloom's Taxonomy – *Analyze, Evaluate* and *Create*. These can also be labeled as higher-order thinking activities, as opposed to lower-thinking ones, which are categories *Remember, Understand* and *Apply*. Subsequently, the research question is stated as: *does the textbook Global Pre-Intermediate contain higher-order thinking activities?*

5.3. Methodology

There are two broad categories of educational research: qualitative and quantitative research. While quantitative research is usually connected with numeric data which are collected in order to test predetermined hypothesis, qualitative research examines the perspective of human participants and may not begin with a hypothesis but result in formulating one, after the analysis of the collected data is conducted (Ary et al. 2010, 22). Our research seems to have the features of both quantitative and qualitative research. Quantitative research often involves testing of a pre-determined hypothesis and objective data gathering (Ary et al. 2010, 23). In case of our research, the hypothesis and research questions are stated before the data are gathered, their analysis data aids to prove or contradict the hypothesis and answer the research questions. Contrarily to that, narrative description and interpretation are listed by Ary et al. as features of a qualitative analysis (2010, 25). The interpretation of numeric data is presented in our study in a form of the summary commentaries on the tasks of each category of the Bloom's Taxonomy. Additionally, document analysis is considered to be one of the most widely used qualitative approaches (Ary et al. 2010, 29), however, "content analysis is sometimes quantitative, such as when one investigates middle school science textbooks to determine the extent of coverage given to the achievements of minority scientists." (Ary et al. 2010, 30). Given the interconnectedness of certain features of both quantitative and qualitative research, we incline to state that our analysis is a mixed methods research.

5.4. Instrument

The content analysis was conducted in a quantitative research framework, "with variables that are specified a priori and numbers that are generated to enable the researcher to draw conclusions about these specified variables" (Ary et al. 2010, 458). The variables we are working with are higher-order thinking activities, which are subsequently analyzed with the help of the numeric data. The measurement instrument comprises a coding sheet, which enables both a facilitation of the categorization and "counting of specific, predetermined behaviors as they occur" (Ary et al. 2010, 217). The coding system was not specifically constructed for the purposes of this study. Instead, the six categories of the cognitive process dimension by Benjamin Bloom in a revised version by Anderson were adapted as mutually exclusive coding categories. Each task was also labelled as to fit a specific cognitive process, thus, resulting in 19 possible categories for a task

to tally with. The schema of the Bloom's taxonomy used as an instrument of this study is provided in the Appendix B. It is also important to note that although one of the main changes that were introduced in the renewed taxonomy is its two-dimensionality, the vertical axes of four Knowledge dimensions (Factual, Conceptual, Procedural and Metacognitive) were not implemented in our analysis. Knowledge dimensions are not commonly referred to when the explanation of what critical thinking encompasses is presented, nor it seems crucial, since only the Metacognitive dimension of knowledge is distinctively related to critical thinking. The tasks referring to the Metacognitive dimension which were found in the course of the analysis are presented in a separate subchapter. As for the other categories, critical thinking may and will occur in all of them, thus, the only strong reason for classification of objectives in the knowledge dimension would be for the sake of the numeric data. Therefore, the tasks were grouped and classified using the renewed Anderson taxonomy but in a simplified one-dimensional form.

5.5. Sampling

Since only one textbook was the core of our analysis, no sample of data was drawn. Instead, all instances of a population of activities were analyzed, therefore creating a so-called perfect induction. According to Ary et al., that gives us an opportunity to base our conclusions and some generalizations about the population with bigger confidence (2010, 148).

5.6. Validity

One of the main problems of educational research is that "most instruments ... are designed for measuring hypothetical constructs ... such as intelligence, creativity, anxiety, critical thinking..." (Ary et al. 2010, 225). The measurement of such hypothetical constructs is done through the use of an operational definition. This is done "by selecting specific sets of observable tasks believed to serve as indicators of the particular theoretical construct" (Ary et al. 2010, 225). In the first part of the thesis, we have basically done that while formulating the definition of critical thinking. The analysis is possible to be conducted since in this thesis we regard critical thinking not in its great complexity, with many variables which have to be satisfied, but as an observable task which tally with one of three highest categories of the Bloom's Taxonomy. Although such definition may appear to be too narrow, it seems to be more than adequate concerning that the focus of this analysis is the examination of tasks presented in the textbook and other dimensions are not concerned. As for the Bloom's Taxonomy as such, its validity was proven by a number of

researches conducted. It has also stated the test of time, becoming a basis for lesson planning and evaluation in education. One possible contra-argument that could arise is that the taxonomy was created to help the teachers state the educational objectives of their lessons and it is therefore not valid for the purposes of analysis. However, as Anderson himself states it, “our analysis of cognitive processes is intended to help educators (including test designers) broaden their assessments of learning” (2001, 91). Therefore, the taxonomy may be used by assessors as successful as by teachers.

5.7. Reliability

To put it simply, the measuring instrument is reliable when it measures what it was implied to measure. One of the steps of content analysis listed by Ary et al. (2010, 458) is “training the coders”, which implies that the coders will be able to apply the coding scheme consistently and reliably. Since master’s thesis implies individual work and the number of tasks is rather high, this step could not be taken. Instead, the reliability of the research was checked through a test–retest format – “administering the same test some time after the first” (Bell 2005, 117). All tasks in the textbook were observed and classified with the help of the coding sheets twice with a time interval of a week. The results of classification were then compared and if the evaluation of some tasks was not consistent, the taxonomy was addressed once again to put forward the most important argument for the decision making. The results of the two rounds of analysis were alike, differing only in one percent if the categories are compared, thus proving that the analysis is reliable.

5.8. Assessment of the Evaluation category

As it was stated, two rounds of coding of the activities was conducted in order to enhance the reliability of the research. This has proved to be useful, as the secondary categorization showed that the measurement tool has to be adapted for the assessment of the tasks hypothetically suitable for the *Evaluate* category, as there seems to be a certain disagreement between authors.

If we refer to the Bloom’s Taxonomy without a connection to EFL, then many of the tasks labeled during the first round of assessment as those corresponding to the category *Evaluate* may not be suitable for it. As Anderson puts it, when evaluating the students are “making judgements

based on criteria and standards. The criteria most often used are quality, effectiveness, efficiency, and consistency” (Anderson 2001, 83). In many tasks of the textbook where the students are asked to provide their opinion on a subject, there are no criteria presented, neither the students themselves are creating these. In the same vain, Wright is arguing that while there are activities which prompt the students to give their opinion in student’s books, there are “no criteria provided to adjudicate between mere opinion and sound opinion” (Wright 2002, 140). Consequently, these activities do not meet the criteria to fall into the category of *Evaluate* but, instead, into the category of *Understand* (process *Exemplifying*) and does not make such activities ample for development of critical thinking. However, when it comes to the application of the Bloom’s taxonomy in EFL classes, it is rather usual to come across opinions that tasks prompting learners to share their personal experience and viewpoints correspond to higher-order thinking activities. For instance, Judie Haynes argues that when fulfilling tasks targeting *Evaluation* category, intermediate-level EFL students “can learn to give opinions, evaluate the work of an author, or make judgements about events in history” (2007, 41). The questions given as an examples are “What would you do if a friend asked you to make your house a stop on the Underground Railroad?” or “What do you think would have happened if Lincoln had lost the election” (Haynes 2007, 41). Although the questions prompt students to give their opinion, no further criteria for evaluation for their answers is established. Haynes claims that when solving higher-order thinking level tasks students need certain scaffolding from the side of the teacher as they may lack needed vocabulary to express themselves. Probably this “drawback” of EFL as a subject, concerning communication channel being a challenge, prompts many EFL theorists to ease on the categorization of certain tasks in the *Evaluation* category.

If the two approaches are compared, it seems like there are two ways of approaching the category *Evaluate* in EFL. The first argues for a full reliance on the Bloom’s Taxonomy, pleading for a criteria to be formulated and articulated when assessing students’ answers. According to the second, “less strict” option, a student’s opinion accompanied with some evidence, even from personal life, is enough to be regarded as a process of evaluating, thus, the one developing critical thinking. An interesting categorization was provided by Mike Gershon in a publication “How to use the Bloom’s Taxonomy in the classroom” (TSL Education Ltd 2013, 7). There the author suggests addressing an issue of differentiation by splitting up the lesson objective into three outcomes: what (1) all, (2) most and (3) some students will be able to do in the end of the lesson.

One way to perform that is by connecting each group with a different level of the taxonomy, for example, all will be able to *Apply*, most – to *Synthesize* and only some – to *Evaluate*. The second option is “to select a key word from one of the top two levels of the taxonomy and then modify this to create increasingly complex demands” (Gershon 2013, 7). Thus, all students will be able to *Evaluate* at the end of the lesson, most – to *critically Evaluate* and only some will be able to “critically evaluate with reference to evidence, examples and reasons” (Gershon 2013, 7). Such differentiation seems to be a perfect compromise in our case. Following Gershon’s model, we suggest considering activities where the students are expected only to give their opinion as those falling in the *Evaluate* category and a beginning phase of a critical thinking process. Our task is to find activities which have the potential of critical thinking development, thus, if the activities mentioned are enhanced with criteria, they will completely tally with the *Evaluation* category as understood by “stricter” followers of the Bloom’s taxonomy and thus will be ample to develop critical thinking of the learners.

6. Analysis of the Data

The last phase of a content analysis mentioned by Ary et al. is the analysis of data (2010, 458). According to the authors, it may be rather concise and concern the percentages in the various categories or be involved in a more descriptive accounts. In our research, following its mixed method approach, we have incorporated both types of the analysis.

In order to evaluate which activities in the textbook have the potential to develop students’ critical thinking, all the activities had to be analyzed and classified as to match the categories of the cognitive process dimension as presented by Bloom. As Anderson himself puts it, “critical thinking and problem solving tend to cut across rows, columns, and cells of the Taxonomy table” (Anderson 2001, 269). An illustration of the analysis is presented further on an example of the first part of unit 1. Each task will be categorized as to fit a specific category and a cognitive processes connected to it, and arguments for such classification will be presented. At the results section, percentual comparison of the specific categories is presented in a form of a table. The number of tasks in lower-order and higher-order dimensions is also compared.

After the exemplary analysis of unit 1, the section with a description of the tasks in each category, its characteristics and possible grouping of the activities is reflected upon in a more

narrative-style manner, typical for a qualitative type of analysis. Both lower-order and higher-order categories are analyzed, as this offers a more vivid contrast to the tasks of higher-order thinking skills, and also provides an additional explanation for the classification of certain tasks in the respective categories. For instance, when commenting upon the category of *Apply* the crucial criterion for the differentiation between *Apply* and *Create* is explained. We expect that referring to both quantitative and qualitative types of analysis will enrich the results of our analysis.

7. Exemplary Analysis

In order to illustrate a train of thoughts involved in the process of the analysis of the tasks and their classification, an exemplary analysis of the first part of unit 1 will be provided (for the textbook's content see Appendix E). The categories and cognitive processes are highlighted in italic to make it more visual.

In the first task the students are asked to match the words (glasses, mobile phone, umbrella, etc.) to the pictures. This task may be categorized as the one fitting both a category of *Remember* and *Understand*. If the students already know the presented vocabulary and are just retrieving it from their long-term memory through picture match, then the cognitive process involved is *Recognizing*, a category of *Remember*. Moreover, as Anderson himself puts it, one of the main methods of assessing a recognition task is precisely matching (2001, 69). However, if the words are new to the students, then they are engaged in the cognitive process of *Interpreting* – converting information from a representational form of words to the one of pictures (2001,70). In that case, they are creating connections between the new knowledge and the previous one, which is the essence of a category *Understand* (2001, 69). In a real-life classroom the students are probably undergoing both processes at the same time: some words are already known thus they are retrieving them, and some are new, and those words are being interpreted. For our research it is not of the highest importance to decide whether the process is of *Remember* or *Understand*, as both are considered to be lower-order thinking activities. In the second vocabulary task the students are prompted to tell their partner if they have these things with them today. Here we suggest that the task involves the cognitive process of *Exemplifying*, a category of *Understand*, as the students are providing a specific, real-life example of the object they have

already learned about. We may also add that by doing so the students are once again creating connection between new knowledge (real-life objects) and prior knowledge (words and pictures).

The section of reading consists of three tasks. In the first one the students are asked to read the text about an identity card and find out “what kind of information about an individual can [they] find on an identity card?” (Clandfield 2010, 6). As the information is easily retrievable from the text, to answer the question the students should involve in the process of *Exemplifying* (category *Understand*). In the second task the students have to find examples of certain types of information, consequently, this is also the category of *Understand*, the cognitive process included is *Exemplifying*. In the final task the students are asked to reflect whether their country has identity cards and what information they contain. The first question – whether the country of the students use identity cards – concerns simplistic *Recalling* of the information (category *Remember*). The second question targets the category of *Understand*. The cognitive process underlying it may be once again interpreted as *Exemplifying*, as the students search for the information only using an authentic example instead of a text, or as *Comparing*, because the learners contrast the information which is put on identity cards by English-speaking countries and their, in our case, European ones. To summarize, all three reading tasks fall into the category of *Understand* with one question in the last task tallying with the category of *Remember*.

The grammar section includes three tasks that refer to the structure of questions in Present Simple and Past Simple. Before the exercises there is a table with basic grammar rules and sentence examples. Therefore, the students are presented with a schema they may use in order to perform an exercise or solve a problem. Here we should notice that an exercise is “a task for which the student already knows the proper procedure to use, so the student has developed a fairly routinized approach to it” (Anderson 2001, 77). A problem, however, is “a task for which the student initially does not know what procedure to use, so the student must locate a procedure to solve the problem” (Anderson 2001, 77). Whether or not the students are familiar with the procedure, they are capable of solving the task because they have a scheme to base themselves upon. Because of that, the first exercise where the students are asked to put wh-question words or verbs in the right place in a sentence refers to the category of *Apply*. In the second task the students are matching these questions with the topics like Name, Address, Date of birth, etc. As they begin with a specific instance and are asked “to find a general concept

or principle” (Anderson 2001, 72), this process refers to the process of *Classifying*, category *Understand*. In the last exercise the students have to ask each other five questions from the exercise one. The cognitive process associated with that is probably *Interpreting*, category *Understand*, as the students transform information from a written form to an oral one. Yet they are also required to understand the questions when asked by their classmates and to answer respectively. We suppose that the students already know how to answer these questions, since there is no example they can help themselves with. Thus, when the students ask the question and comprehend an answer, they are involved in the process of *Interpreting*, the category of *Understand*, however, when they produce an answer, they are already *Applying* their skills, (the category of *Apply* and the process of *Executing*). To summarize, in three exercises there are actually five tasks, with four of them referring to the category of *Understand* and one to *Apply*.

The last section of the part one is focused on pronunciation. To begin with, the students listen to people spelling personal information and write down what they hear. In this case they are actively converting the information from a listening mode to a written one, once again, they perform an activity of *Interpreting* (category of *Understand*). In the second activity the students spell three pieces of personal information to each other. Once again, we presume that the students already know the letters of the English alphabet and know how to spell (that is also given by their level – A2). Thus, they are performing a fairly familiar routine, which tally with a process of *Executing* of the category *Apply*.

Altogether, in part one there were eleven tasks, yet two of them actually required two cognitive activities referring to different categories. Most of the activities, seven, referred to the category of *Understand* (with the first one also possibly fitting *Remember*), two are presented in the category *Apply*.

8. Analysis of the Categories

In the next part individual categories will be examined and commented upon. All six categories will be analyzed, both lower-order and higher-order ones. This will provide a more visible contrast between the two and give a subsequent explanation of classification of certain tasks into a specific category. The sequence of the categories to be analyzed is from the one with the highest number of tasks to the one with the lowest.

8.1. Understand

If the categories are compared, the category of *Understand* is the most widely used one – almost half of all activities (355) of the book target it. This data corresponds with the Anderson’s observation, according to which *Understand* is “the largest category of transfer-based educational objectives¹¹ emphasized in schools and colleges” (Anderson 2001, 70). *Understand* is incorporated in the activities developing the four basic language skills: reading, listening, writing and speaking. This category seems to be the basis of all other cognitive processes to happen. For example, almost all the activities on page 87 (unit 7, Global English) constitute the activities aiming *Understanding*. The students are reading a text by David Crystal about the changes that happened in the English language throughout history. Then several activities encouraging better understanding follow: the students complete a timeline (cognitive process of *Classifying*), choose the option with the best meaning comparing numbers (clearing out the understanding of the time expressions) and find reasons why number four, given in a title, is important (*Summarizing* process). After that is done, the students can proceed to *Evaluation* category, where they try to measure whether their mother tongue has any influence on other languages, think of examples of how they language has changed overtime, etc. In each case, they are supposed to make a statement and justify it by providing clear arguments and examples. This exercise could be possibly done without the preceding understanding activities; however, it seems to be much more likely to be successful when following the activities of lower-order skills, as the students have obtained the content matter, required vocabulary and phrases to use and an example of such analysis to base their own answer on.

8.2. Apply

The second biggest category with 261 tasks presented is *Apply*. We have observed that it is often used at grammar activities when the students are presented with a rule and sentence examples of it and then are asked to apply this rule in a gap-filling activity. For instance, in the unit 6 (p.67) the students are shown three sentences where comparative form of adjectives and adverbs is highlighted using bold (e.g. “Lots of money doesn’t make you happier”.) After that, a short explanation of the rule concerning forming of comparative form of adjectives and adverbs

¹¹ There is only one knowledge category which does not require any form of transfer and that it *Remember*, the goal of which is to promote retention. Thus, by emphasizing the importance of transfer, Anderson compares *Understand* to the other four cognitive processes: *Apply*, *Analyze*, *Evaluate* and *Create*.

follows. In the following task the students are asked to complete the text with the comparative form of the adjectives in the brackets. Thus, the students are given an algorithm they need to use in order to complete a task: decide if an adjective is a short or a long one and then add -er or more + adjective respectively. Since the procedure follows a fixed order of steps and the result is predetermined, this activity corresponds to the process of *Executing* (category *Apply*). *Apply* was also assigned to the activities where the students had to produce a short text (written or oral one) but were given a prompt to do so. Such tasks could be easily confused with a category of *Create*. The criteria for differentiating that was applied strives from Anderson's notes. Comparing *Create* with other categories, he claims that when creating the students are working with information from many sources and that they reorganize it into new, not clearly presented before, structure (Anderson 2001, 84–86). In accordance to that, if the students are given a set of elements to work with and the structure is predictable or predetermined, the task probably follows the category of *Apply*. The second criterion that was put into consideration is that *Create* is often seen as a more complex process which consists of three phases, while *Apply* is more of a one-phase procedure. As Anderson puts it, “the creative process can be broken into three phases ... it is not surprising, then, that *Create* is associated with three cognitive processes: generating, planning, and producing” (2001, 85–86). To give an example, in the second task of unit 3 (p. 30) the students are asked to describe the pictures working in pairs. Description can be a rather difficult task for some learners, as it includes retrieving of a suitable vocabulary and phrases, grammatical and syntactical thinking-through as well as, ideally, certain coherence of the whole message. However, the students are instructed to use the vocabulary they have already retrieved in the previous exercise and also useful phrases presented after (e.g. “this picture shows...”, “it looks as if + clause...”). Since the students are given a specific collection of items to work with, the task was categorized as the one of the category *Apply*.

8.3. Remember

The third category with the biggest number of tasks is *Remember* (94 tasks). Activities corresponding with this category are usually situated at the beginning of the units or its parts in order to retrieve the vocabulary from the students' long-term to working memory to operate with it throughout a unit. To give an example, in the first part of unit 2 (p. 24) the students are asked to name parts of the body in English by completing the words (e.g. _rm, elb_w). By doing so,

the students are searching in their long-term memory for a match in the presented information, in this case, a set of words, functioning as a sort of prompt. Once the task is done and the needed vocabulary is retrieved, the student may move on to classifying which body parts are located inside a human body and which are outside (task 2, the process of *Classifying*, category *Understand*) or comparing the words from the first exercise with a picture presented (task 3, partially processes of *Comparing*, *Interpreting* and *Exemplifying*, category *Understand*).

8.4. Evaluate

The highest number of tasks in higher-order level tally with the category *Evaluate* (71). During the analysis we have come to a possible rough categorization of these tasks into two categories. The first one refers to “simpler” tasks, where the students are asked for their opinion (e.g. “What kind of films do you like?” (unit 3, Function Globally, p. 38, ex. 3) or “What is a good starting salary in your opinion?” (unit 5, part 1, p. 54, ex. 2)). According to the given instructions, no argumentation nor exemplification is required. The second category would include tasks where the students are asked to provide some arguments proving their opinion. Such tasks usually come after a reading exercise targeting category *Understand*. For example, in unit 6 (p. 73, ex. 3) after reading a text about the Luddites (an anti-technology movement in 19th century England), the students are first asked to read the statements and mark those which are true for them and then to discuss their opinions in pairs and “try to give reasons for [their opinions]” (Clandfield 2010, 73). An example of such reasoning is also provided: “I agree that modern technology makes us work harder. In my job, I have to answer lots of emails and messages, and I have to do it more quickly than before” (Clandfield 2010, 73). A similar reaction to a reading extract can be seen in unit 6 (p. 69, ex. 2). After having listened to an extract from a novel “Frankenstein” by Mary Shelley, the students are asked to discuss this question: “One of the themes of Frankenstein, and of many science fiction stories, is *dangerous knowledge*. Do you think scientific knowledge can be dangerous? Think of some examples” (Clandfield 2010, 69).

As it was explained in the methodological part of the analysis, we have applied the model by Gershon, according to which the lesson objective is split into three categories connected with the complexity of the demands. Consequently, even activities which do not ask for reasoning or explanation in the instructions were categorized as those falling into the category *Evaluate*, as those may be easily modified to meet stricter *Evaluate* criteria.

8.5. Analyze

The number of tasks targeting the category *Analyze* is surprisingly scarce – only 46 activities are presented in the textbook. That is roughly half of the activities from *Evaluate* category and only 5 percent of all the tasks.

Once again, a rough division of the tasks into two groups is possible. The first one comprises activities where the learners are engaged in the process of *Attributing* – they are expected to determine the author’s point of view. For example, right in the first unit (task 4, p. 12) the students are asked to find two arguments in favour and two against the use of CCTV cameras. The text itself is not composed as an essay, where argumentation is put as a separate paragraph, but represents a mix of several extracts of readers’ responses. The answer is not on a surface and requires a more complex deducing from the side of the students. Similarly, in unit 3 (task 3, p. 37) the learners are asked to listen and read to the extract from the novel “High Fidelity” by Nick Hornby and define how does pop music makes the writer feel. Certain clues are already given in the text (e.g. “Did I listen to music because I was miserable?”). However, in the next task the students are prompt to discuss whether the author is being serious or funny. A possible presence of irony is therefore included, which certainly implies the students’ reading between lines.

The second group of activities includes tasks suggesting learners to analyze certain linguistic elements in the sentences. To give an example, in a task concerning the usage of the word “just” the students are prompted to put the word in the sentences (e.g. “Be quiet, please) and then to determine the function of just – emphasis or meaning “only” or “exactly” (section “Extend you vocabulary – using just, p. 37). The students are therefore required to recognize how this new element fits into a coherent structure and what change does it trigger. Another example is a grammatical task where the students are required to determine a subject in a sentence or propose what other verbs can go before the -ing form. (task 1, unit 5, p. 59).

8.6. Create

The last category to be considered is the highest in the Bloom’s taxonomy – *Create*. The tasks are situated towards the end of the units, mostly in the section “Writing”, however, some may also appear in “Grammar” or “Global Voices”. The biggest number of *Create* tasks per unit is 5, in the Unit four, but mostly 2 activities per unit are presented. Despite their scarce present, the tasks

are well thought out and follow at least two of three cognitive process mentioned by Anderson. To illustrate that, we will examine four sequential tasks in the Writing section of unit 6. In the first task the students are asked to choose one of the topics (clocks, mobile phones, satnavs and television). After that, the learners should make a list of the advantages and disadvantages of the chosen item. By doing so, they are getting involved in the process of *Generating*, the first of three cognitive processes of the category *Create*. In the next two tasks the students are prompted to plan what they are going to put in the first and in the last paragraphs. Some ideas of what could be included in the paragraphs are also given (e.g. “how and where the invention is used” or “what is your conclusion?”). The cognitive process involved is *Planning*, which is aided by supporting questions. In the last exercise the students are asked to write an essay consisting of four paragraphs using their notes and some useful phrases. After ideas have been *generated* and the *planning* has been completed, the students are *producing* a desired product. A similar procedure is followed with speaking exercises when the students are given time to prepare their answer. For example, in the end of the first part of unit 2 concerning Eating and Drinking, the students are asked to describe a dish they like to a partner. Before they do that, the learners have to make notes about it using headings like “Ingredients” or “Who usually prepares it”. Earlier in the thesis we have argued that when the prompt is given, the task is categorized as the one of the category *Apply*. Here, however, the process is going through required *Create* phases – *generating* with an embedded *planning* and *producing*. The students are not provided with the information right away, but they are generating it by themselves in a form of the notes. Moreover, despite the headings provided, there is no one, convergent result the students are expected to arrive to. Due to the mentioned reasons, the task was classified as the one following the Create category.

8.7. The Metacognitive Dimension

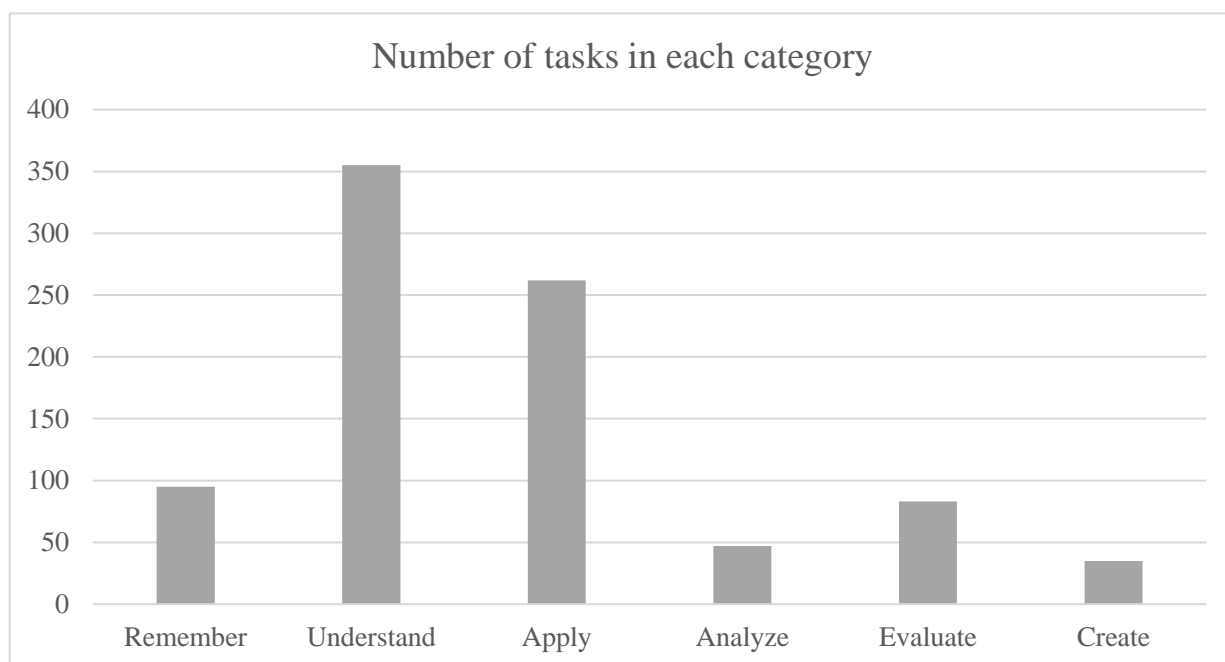
Earlier in the thesis we have repeatedly singled out metacognition as a concept which is closely connected to the notion of critical thinking. Since the effect of metacognition has been proven to be significant, it is important to discuss a special section in the textbook which comprises the tasks targeting this knowledge dimension. This section is situated at the very end of every unit and is labeled as “Study Skills”. It comprises from two to six activities, which are designed to drag the students’ attention to the strategies of their language learning. For instance,

the students rate themselves as language learners by filling a questionnaire (unit 1, p. 17), decide on the time and place they will meet with their language partner in order to practice speaking (unit 3, p. 41) or compare different ways of recording new words and phrases in their notebooks and choose the one most useful for them (unit 5, p. 65). The classification of the tasks in the categories of the taxonomy revealed that all in all 40 tasks were included in this section. Most of the tasks comprised the *Apply* category (16), *Understand* holds the second place (10 tasks), separated from *Evaluate* by only one activity (9 tasks). The tasks of *Apply* category usually suggested the students to try to implement new metacognitive knowledge into their language learning practice. For example, in the fourth exercise of the second unit the students are instructed to describe their language abilities connected with specific areas (Grammar, Vocabulary, Reading, etc.) and make suggestions about how to improve it. As the learners have been provided with the vocabulary, phrases and an exemplary language ability evaluation, this task was categorized as the one fitting the *Apply* category. The tasks targeting the category *Understand* commonly comprise short texts, on the basis of which other tasks follow. *Evaluate* category is presented in its “simplified” version: the learners’ opinion is of interest but no criteria for the evaluation of their point of view is provided. For instance, in the first task of unit 7 the students are asked to answer the questions about their study time (e.g. When do you study best? (a) in the morning, (b) in the afternoon or evening, (c) late at night). However, it does not seem reasonable to include any judging elements here, since metacognition is a cognitively challenging and rather abstract section on its own. Besides, by answering such questions the students are exploring their own learning experience and environment, thus, in such a highly subjective sphere no evaluation criteria are of need. This is another argument explaining why we have acceded to a comprising, two-dimensional comprehension of the *Evaluate* category.

9. Results of the Analysis

All in all, 877 tasks were analyzed. This number may differ from the number of the tasks presented in the book, as some of them actually constitute several activities. For instance, in the task 3 of unit 5 (p. 58) the students are asked to look at the chart showing how Americans spend their leisure time and answer two questions: whether there is anything that surprises them [the students] and if it is similar to their way of spending their leisure time. Thus, the students are required to comprehend the data presented in the table, then compare the results with their own

experience and evaluate whether there is an element of surprise there, resulting in three tasks united in one. In such cases, all three tasks were coded and subsequently categorized. Some tasks are also not visually labelled as tasks but are imbedded in the grammar rule or a text presented. The same procedure of classifying those as separate tasks was conducted. 712 tasks correspond to the lower-order categories of the Bloom's Taxonomy, that is, *Remember*, *Understand* and *Apply*, and 165 tasks tally with higher-order categories of *Analyze*, *Evaluate* and *Create*. Thus, activities of higher-order level count for approximately one fifth of all tasks presented in the student's book. In contrast, 81% of all activities embody lower-order thinking activities. As for the comparison of the categories, the category with the biggest number of tasks is *Understand* and the category with the least is *Create*. A table visualizing the number of tasks in each category is presented below.



9.1. Characteristics of Individual Categories

In this section a summary commentary emerging from the analysis of lower-order and higher-order thinking activities will be presented. The tasks of different categories have certain common characteristics and, as the analysis have already shown, may be grouped together. *Remember* activities are situated in the beginning of parts of the units and commonly use a visual prompt in a form of scrambled words or pictures to activate recognition. The tasks of *Understand*

category comply the biggest part of all activities in the book (40 %) and function with all language skills. A set of subsequent tasks targeting *Understanding* is especially common when working with a text through reading or listening. Grammar tasks involving gap-filling are usually solved through the process of *Executing* (category *Apply*). New words and phrases are also trained with the help of *Implementation* process (category *Apply*), when the students apply a procedure in an unusual task, for example, by producing a short written or oral text using a given set of phrases. Activities targeting *Analyze* category represent either search for the author's opinion by reading through the lines or the analysis of linguistic elements in the given sentences. *Evaluation* activities often ask the students to provide their point of view, with and without giving examples or arguments. Following Gershon's schema of dividing lesson objective into three outcomes, we still consider such activities as tallying with the category *Evaluate*, even when criteria for evaluation are not formulated. More elaborated tasks of *Evaluate* category include reasoning of some utterance which usually follows a reading exercise. Tasks targeting the category *Create* are common to be found at the end of the units, especially in the section of writing. They follow a three-phase structure as proposed by Anderson, including all cognitive processes, even if the second one, *Planning*, is not set as a separate task but is done by the students covertly in the course of other *Create* tasks.

10. Discussion

The analysis which was conducted aimed to examine which activities of the textbook Global Pre-Intermediate have the potential to develop critical thinking of the students. Quantitative analysis has shown that higher-order activities correspond to only 20% of all the activities of the book. The proportion between the categories is also not even: the number of tasks in the *Evaluate* category is almost identical to the number of tasks in both *Analyze* and *Create* categories. Qualitative analysis has shown that some of the tasks of *Evaluate* category have little potential for the development of critical thinking, as they lack well-formulated criteria or standards based on which the students are expected to make judgements or criticize some product.

It is troublesome to undoubtedly state which ratio of lower-order to higher-order activities is adequate and has to be followed. An equal distribution does not seem possible, since higher-order activities are both more cognitively challenging and require better command of

the language, which is vital in EFL. Besides, although both lower-order and higher-order activities are important, lower-order activities often function as a prerequisite for a higher-order ones to happen, they lay a basis to build upon. Thus, we cannot imagine a drastic cut of the lower-order activities to be done for the sake of balancing the proportion of the two types.

There is not much theory to base our image of the distribution of lower-order to higher-order activities upon. The closest to our study was the research examining lower-order and higher-order reading questions in another Pre-Intermediate EFL textbook. The authors claim that the lower-level questions are dominant in the textbook with the percentage of 82% (Frehat and Smadi, 2014). The authors conclude that such ratio of lower-order questions is excessive and recommend textbook developers to incorporate more higher-order questions to balance the scale. One of their arguments is that the textbook is used at the end of high school stage or “at the beginning of the university life which needs higher levels of thinking” (Frehat and Smadi 2014, 1812). In the theoretical part of the thesis we have argued that even pre-school children are capable of solving tasks requiring critical thinking. The explanation of Frehat and Smadi therefore does not justify the 20 to 80 ratio in our case, where the textbook is used at the of lower secondary school. Still, given that the ability to think critically improves with age (thus, older students would probably find it easier to involve in critical thinking) and the students need to have a good command of English, we may ease the expectations of the ratio a bit. Summarizing all conditions which were mentioned, we believe that higher-order thinking activities could constitute approximately 30% percent of all the activities in the textbook.

11. Recommendations

In this section we will try to put forward concrete ideas on how the ratio of higher-order activities could be improved. Each higher-thinking category will be examined separately, however, if the incorporation of one tasks triggers the emergence of the subsequent task targeting a different category, it will be also included, as to show the progression of the activities. Examples of additional tasks that could be incorporated in the textbook will be presented, as well as the enhancement of some activities as to fit the connected category better or to comprise more of its characteristics.

11.1. Category Analyze

It was stated that the category of *Evaluate* comprises as many tasks as both *Analyze* and *Create* in total. For this reason, we suggest that there could be more tasks targeting *Analyze* category included in the textbook. Anderson states that analyzing should be considered not as a separate category but more “as an extension of *Understanding* or as a prelude to *Evaluating* or *Creating*” (2001, 79). Following this claim, in the first part we will propose several activities targeting *Analyze* category which would either follow the category of *Understand* or come before *Evaluate* or *Create*. In the second part we will suggest that certain tasks of *Understand* category may be altogether substituted with *Analyze* tasks, thus also aiding to the balancing of the higher-order activities in contrast to lower-order ones.

11.1.1. Implementation of Analyze Tasks

One of the abilities underlying an umbrella term of “learning to analyze” that Anderson mentions is “distinguish fact from opinion” (2001, 79). The task targeting this ability may be incorporated in the reading section of unit 3. We have already analyzed it in this thesis as an example of *Evaluate* category: the students are supposed to read an extract from the book by Nick Hornby and to determine how does pop music make the writer feel. An analysis activity could be incorporated as an antecedent to this evaluation task. That would also correspond to the hierarchy of categories in the Taxonomy. The students would have to read the text once again and detect which utterances in the text are the facts and which are the writer’s opinion. Answering the evaluation question in the next task would then be eased as the students could base their answers on the previously chosen utterances describing the author’s opinion. This also enhances the evaluation activity, as the students would be capable of reasoning their answer.

Another possible task is the one expanding *Evaluation* category. Having distinguished facts from opinions, the students may continue to rate whether the facts that author presents are solid. For example, after having read an utterance “nobody worries about kids listening to thousands – literally thousands – of songs about broken heart and rejection and pain and misery and loss” (Clandfield 2010, 37), the learners may analyze their own playlists (and compare the results with those of their classmates) or refer to the world web to either support this fact or contradict it with concrete data. They would therefore be involved in the cognitive process of *Checking*, which consists of detection of inconsistencies in the statements.

A similar differentiating activity could be incorporated as the one following *Understand* task in unit 5. After having read a text called “Profile of an Indian call centre worker”, the students are asked to answer what does Rajeshwari says about “(1) her feelings about the job, (2) the hours she works and (3) the people she talks to” (Clandfield 2010, 54-55). Here, the students are involved in the process of *Exemplifying* as they refer to the text to answer the question. Subsequently, the students could be asked to determine whether, in their opinion, Rajeshwari is happy at her job. To answer this questions the students would have to analyze all of the issues Rajeshwari has mentioned in the text, thus, to “determine how ideas are related to one another” and “connect conclusions with supporting statements” – another abilities underlying the ability to *Analyze* (Anderson 2001, 79–80). An *Evaluation* task could then follow. The students could have rate which of the facts would be more and less important to them for being happy at their work or interview their parents at home and present their findings at class. Subsequently, the learners could have been asked to reason their answer when comparing it to the answers of their classmates. We may finish working with this text with the three-phase *Create* process. First, the students could have been asked to choose some of the issues mentioned by Rajeshwari in the text and list all possible positive and negative consequences of them. Then they could plan which of these generated consequences they would include in a friendly letter the purpose of which would be to support Rajeshwari at her difficult job by highlighting positive consequences of it. Writing of the letter would have been a final task corresponding to the process of *Producing* (category *Create*).

To summarize, we have proposed two activities which correspond to the category *Analyze* and the process of *Differentiating*. The tasks seem to fit into the canvas of the lesson well and, moreover, they trigger other activities of higher-order thinking to follow – in both cases *Evaluation* task was either introduced or expanded so that the students could reason their answers, and the last task was also enhanced with a three-phase *Create* task.

11.1.2. Replacement of Understand Tasks with Analyze Ones

Another option which may help to balance the ratio of higher-order to lower-order activities is replacing certain *Understand* task with *Analyze* ones. Contrasting these two categories, Anderson highlights that *differentiating* (cognitive process of the category *Analyze*) differs from *comparing* (cognitive process of the category *Understand*) “in using the larger context to determine what is relevant or important and what is not” as well as focusing on the structural organization of

the sentences (Anderson 2001, 80). When the task is ‘two-staged’ and involves the learners in the process of identifying important elements and then determining the overall structure withing these elements fit, we talk about *differentiating* process followed by *organizing* one (Anderson 2001, 81). The process of *attributing* (category *Analyze*) comprises the determination of the author’s intentions. When the task involves the category *Understand*, the students can quite easily find the evidence in the text presented, but “*attributing* involves an extension beyond basic understanding to infer the intention or point of view underlying the presented material” (Anderson 2001, 82).

The tasks of *Understand* may be most easily substituted with the activities of *Analyze* category if we examine a chain of consecutive *Understand* tasks. For instance, the first part of unit 2 comprises seven such activities. First, the students are asked to write the words (e.g. bitter, breakfast, cook) in the correct categories presented, such as “food verbs, kinds of meals and describing food”. This tasks targets the cognitive process of *classifying* (category *Understand*), as “a student recognizes that something ... belongs to a certain category” (Anderson 2001, 72). An easy way of modifying this activity is by putting the table at the end of the book, therefore hiding it from the students, and offering them create their own classification. By doing so the learners will “determine how ideas are related to one another”, which comprises one of the objectives of *Analyze* (Anderson 2001, 80). They could create the classification on their own or in a pair or group and their compare it with the ideas of their classmates. If the students are invited to compare the classification tables and to decide which one fits the words the best, they are also involved in the process of *Evaluate*, especially if they justify their opinion with the use of some criteria. The same procedure may be established with the second activity of the Reading section, where the students, having read the text about comfort food, have to “make notes about each king of comfort food under the headings name, country and ingredients” (Clandfield 2010, 18). The learners are invited to do that so they can tell each other about the four kinds of comfort food presented in the text. If the students are informed they are going to tell their partner about the food, they may decide on their own which notes they are going to make. Once again, they will analyze the material, this time “distinguishing dominant from subordinate ideas” (Anderson 2001, 80). Besides, such an activity would make the learner more autonomous and independent in terms of holding responsible for their performance. A similar chain of consecutive *Understand* tasks is presented in part 2 of unit 6. There the students listen to two people talking about their

jobs, then are asked to listen again and fill in the missing information and, as a last exercise, express their opinion on whether these jobs are bad or not. Before the *Evaluate* activity, the students could have been asked to listen to the audio again and try to decide whether the people like what they did or not. The activity would target *attributing* process, in which the students are asked to infer the point of view of an author, not clearly presented in the text. The speakers present both positive and negative aspects of their jobs, therefore the students would have to evaluate the arguments and decide which ones are more convincing, therefore “ascertain the unstated assumptions involved in what is said” (Anderson 2001, 80). Finally, to cover the *Organizing* process, we suggest the students write an outline after reading the text about places in North America or produce a matrix including the name of the place, its geographic location, population and an interesting fact about it. This matrix could be used for a *Create* task where the students would have to produce a text in which they would argue for a visit of one of all the places by providing arguments to do so.

To recapitulate, we have suggested 4 activities which could have replaced *Understand* activities and a subsequent one activity of Evaluate and one of Create category. The emergence of additional activities targeting other categories once again proves Anderson’s claim that the categories of *Understand*, *Analyze*, *Evaluate* and *Create* are interconnected. Therefore, by introducing one element of a higher-order thinking skills, others are rather possible to appear as well.

11.2. Category Evaluate

The category Evaluate comprises 83 tasks, which is the highest in the higher-order thinking activities. For that reason and given the dual comprehension of this category we have presented earlier in the thesis, we incline to enhance the activities rather than present additional ones. Besides, supplementary activities targeting the category *Evaluate* have been already proposed while examining the *Analyze* tasks.

The critique for incorporation of some activities in *Evaluate* category strives from the lack of criteria or standards helping to assess the students’ performance. In a way, the deliberate way of turning a blind eye on this factor which, according to Anderson, differentiates *Evaluate* category from all the others involving some type of judgement, is possibly done by ESL teachers due to the nature of such tasks. The students are asked to state their opinion, and since it is highly

subjective, it simply does not seem right to put any kind of further judgement upon. For that reason, standards should not be established on the questions concerning the students' stating their point of view or sharing a personal experience. Their performance only should be evaluated with the help of standards instead.

In the fourth part of unit 2 (p. 12–13), students learn about CCTV cameras through a range of activities. The reading part includes a compilation of different people stating their opinion about CCTV cameras. In order to engage in the process of critiquing, the students may analyze these extracts and evaluate who states his/her opinion most reasonably. To do that, first the students would have to *check* the utterances for truthiness or any form of bias (*Checking* – one of the two process of *Evaluate* category). An additional research to either support or contradict someone's opinion may also follow. Alternatively, the students may be challenged to contradict the arguments presented in the extracts. The students themselves would therefore be involved in creating standards when *checking* if someone's opinion is solid or not. Lastly, although more time-consuming yet one of the most successful in terms of Evaluate task could be presented – a debate. To make the task closer to students, they could be asked to imagine that there is a proposition to put CCTV cameras in school halls and/or classrooms. The students would then be separated in two teams, one voting for CCTV cameras and another – against. During the preparation phase the students would put together arguments, supported with reasoning, as to make their claims more solid than those of another team. When one team presents its arguments, the task of the other is to note the arguments down and then *check* the arguments for fallacies or *critique* them by providing a contra-argument. Alternatively, in a bigger class, three groups could have been created, with two debating and the last one evaluating which team presented more solid arguments and, therefore, wins.

To provide another example of turning opinion-based activities into debating conquests, we may examine a reading exercise of unit 6 (p. 66). The learners read an article “The science of happiness” which focuses on the connection between money and climate and happiness and also presents three things which commonly make people happy (having close relationships; believing in something; having objectives in life). The students may be asked to choose one of the mentioned aspects and write an essay or prepare a speech arguing why this element is the most important and superior to others. Then the students would have to discuss their findings

with others and try to evaluate whose opinion is more solid. To prevent conflicts arising, the students who have chosen the same aspect may compare their notes, therefore, they would cooperate and through *critiquing* each other's work may come to an enhanced version of the essay, with more solid and coherent argumentation.

It seems that debating is a perfect way to develop activities based on the students' stating their personal opinion into 'pure' *Evaluate*-type tasks, including reasoning, argumentation, checking and critiquing. It does not always imply dividing students into two contrasting teams, the students may join their forces in order to enhance their argumentation, as we suggested in the second examples. Besides, debates provide a great opportunity for teamwork and language development in terms of vocabulary, grammar, syntax and overall coherence, thus, it would be a great contribution to ESL as a subject.

11.3. Category Create

The number of tasks of *Create* category is the lowest of all – 36. Despite that, the activities are evenly distributed throughout the lessons and represent a logical consummation of the learners' work throughout the unit. This is once again theoretically grounded – Anderson claims that “the processes involved in *Create* are generally coordinated with the student's previous learning experiences” (2001,84–85). Moreover, the tasks presented in the textbook are comprised of three cognitive processes of *Generating*, *Planning* and *Producing* as presented by Anderson. Subsequent completion of these is both time-consuming and cognitively challenging. For the reasons mentioned, we believe that not many tasks of *Create* category should be additionally incorporated in the textbook.

It seems more rationale to formulate the second phase, *Planning*, as an independent task. Anderson believes that planning is often skipped by the teachers, however, this does not indicate that this process does not take place. On the contrary, it is carried out by the students covertly, prior to the product constructing. (Anderson 2001, 87). For example, in the writing section of the unit 5 the learners are expected to write their CV. At the stage of *Generating*, they are asked to make notes on what they would write under certain CV headings, such as “IT literate” or “Basic first aid”. After that, the task of *producing* follows. Although the structure is rather clear from the presented examples earlier and some of the information gathered during the *Generating* phase, the students could have also planned the CV structure more. We can imagine the students planning and noting which of the headings from the reading exercise and *Generating* task they

would include in their CV. A search on other examples from the Internet may be also possible at this stage.

There could be more *Create* activities incorporated in speaking exercises. In such cases, the students have to be given time to generate all the needed vocabulary and do grammatical and syntactic planning. Note-taking could also be a part of this process, as long as the students are creating the notes by themselves. Part 4 of the unit 4 concerns fears the people have because of the climate change. There are three tasks comprising the Speaking section of this part. In the first task the students are asked to read the questions and think about their answers (e.g. “Do you buy things with lots of packaging? What?”) (Clandfield 2010, 49). Next, the students are instructed to discuss these questions in pairs. If the student’s partner answers the question positively, he should be subsequently asked a follow-up question. In the final speaking exercise, the learners are instructed to study the table and tell each other how much carbon they will save if they undertake certain changes, such as “walk instead of driving”. As a subsequent *Create* task we propose the students are given a specific number of carbon savings (e.g. 1200 kg per year) and have to decide which of the actions they will undertake in order to do so. Their answer should be based on the answer from the first task and the changes should be possible and realistic (thus, if the person does not have a car, the solution of “walk instead of driving” is not adequate). The students should be also encouraged to look for other solutions, not only those listed in the table. The final product will constitute a short talk describing what changes to a fixed routine the learner will undertake in order to save 1200 kg of carbon in a year. An example of such speech is provided:

I already save some carbon. For example, all light bulbs in my house are energy-saving and I also try my best to recycle paper and plastic. To help the planet even more, I could walk to school more instead of taking bus. I could also ride a bike because bikes do not produce carbon. My school is two kilometers away from my house, so if I go through this route twice a day five times a week around 60 weeks I will save precisely 1200 kg of carbon! I think I could also plant a tree with my family in our yard and so save around 2000 kg of carbon.

This could be moved even further and be done as a part of a project. For example, after a month/half a year/a year the students would compare their plans with their real actions and see how successful they were in saving carbon. Each student then could present the results of their research.

CONCLUSION

The core of the presented master's thesis was the examination of a potential of activities in a selected textbook to develop critical thinking in students at EFL classes of lower-secondary school. The thesis was traditionally divided in two parts: theoretical and practical ones.

The theoretical background on the basis of which the research was further conducted had been formulated in the first part of the thesis. In the first chapter the basis of constructivism as an epistemological concept was put forward, explaining the core of constructivism connected with the comprehension and obtainment of knowledge. After that, the fundamental features of constructivism in education were explored through a discussion of the main ideas formed by Piaget, Vygotsky and Bruner. The chapter was closed with the list of implications of constructivist theory on educational instruction. The second chapter examined the connections of constructivism and critical thinking. The definition of critical thinking being used in this thesis was formulated through a comparison of various sources. The Bloom's taxonomy of Educational Objectives was also introduced, as it was later used as an instrument of the analysis.

The rest of the chapters of the first part were more closely connected with the notion of critical thinking and an English language as a subject. The possibilities of incorporation of critical thinking learning in EFL were discussed, with several researches exploring the pros and cons of such inclusion provided. Given the age of the learners for whom the activities in the textbook would have been used, we have also commented upon the linkage between critical thinking and cognitive development, trying to contradict certain myths and misconceptions associated with it. As the research was conducted in the educational environment of the Czech Republic, curricular documents of this country were analyzed in order to find the expectations connected with the implementation of critical thinking at the level of basic education. The last chapter explored the theoretical concerns connected with textbooks as such.

The first chapters of the practical part of the thesis introduced the research design. Significance of the study, research questions and methodology issues were reflected upon. The alterations of the instrument of the analysis, the need of which was revealed during the analysis, had been also given attention to. In order to find the activities that have a potential to develop critical thinking of the learners, all of the tasks in a textbook had to be analyzed and classified. To make this process clear, an exemplary analysis of the first part of unit 1 was provided. Then, prominent

features of tasks in all six categories were reflected upon. Such characteristics as a common type of exercises, the arrangement of the tasks in the unit or its part, or the linkage of the tasks of one category to another were explored. Altogether, 877 activities were analyzed; the analysis was conducted twice in order to rise the reliability of the research. The numeric data were presented in a form of a table and also percentagewise. The results of the analysis revealed that lower-order thinking skills constitutes 80 to 81% of all the activities presented in a textbook. The distribution of the activities across the categories is also uneven, for example, tasks of the category *Understand* account for 40% of all the activities, while activities of the category *Create* – only 4%. In the section of Discussion and Recommendations we have attempted to propose certain measures that would aid balancing the ratio of lower-order to higher-order activities. All three categories which tally with higher-order thinking skills were explored: *Analyze*, *Evaluate* and *Create*. The biggest changes were suggested with the activities of *Analyze* category. We have proposed both an implementation of new tasks of the category and replacement of the activities targeting the category *Understand* with those of *Analyze*. In the section *Evaluate*, besides several new tasks to be included, it was also suggested to incorporate debates as a way of elaborating evaluate tasks with criteria for assessment, which exploits the potential of such activities to develop critical thinking. Since the activities in the category *Create* are well thought out, the main alterations we submitted do not concern an incorporation of new activities but a more visible formulation of the cognitive process of *planning*. Although the recommendations were divided into corresponding categories, tasks of other categories then the one being discussed were also included, if their emergence and sequence was logic and connected. This showed that once one a task of a higher-order skill is presented others can easily follow.

The research has shown rather contradictory results. The obtained numeric data revealed the imbalance of lower-order to higher-order thinking activities. We nevertheless believe that if certain alterations, similar to those we have proposed, are introduced, this ratio may change and give the students more opportunity to develop their critical thinking skills at EFL classes. The changes are rather minor and, therefore, may be easily done by EFL teachers who use this textbook in their classes.

If a further research is conducted, we would propose following the recommendations presented in the thesis by applying them in a real-life classroom. The amount, time and type of the activities

with the potential to develop critical thinking could have been recorded through the means of direct observations, interviews, etc. We would also consider expanding the scope of the analysis and examining the potential of tasks to develop critical thinking in other EFL textbook. It could also show whether certain features and the ratio of lower-order to higher-order activities are alike across different textbooks. If this hypothesis is confirmed, the results and recommendations of our research could have been generalized and be practical without a direct linkage to a specific textbook.

RESUMÉ

Diplomová práce se zabývá konceptem kritického myšlení v hodinách anglického jazyka na základní škole. Kritické myšlení bylo prohlášeno za jednu z klíčových dovedností dvacátého prvního století a tato skutečnost se odráží i v současném RVP ČR. Učitelům ale nebývá poskytnut jednoznačný návod, jak zařadit výuku kritického myšlení do stávajícího plánu hodin. Jako jedno z možných řešení se jeví revize již používaných didaktických prostředků, například učebnic. Cílem této práce je zjistit, jestli vybraná učebnice anglického jazyka disponuje aktivitami, které mají potenciál rozvíjet kritické myšlení žáků, a případně navrhnout modifikace, které by tento potenciál podpořily.

Práce je tradičně rozdělena do dvou základních částí – teoretické a praktické. Teoretická část shrnuje v rámci třech kapitol problematiku kritického myšlení ve vzdělávání, praktická část se věnuje analýze učebnice a návrhu modifikací aktivit.

První kapitola teoretické části představuje epistemologické koncepty objektivismu a konstruktivismu, které objasňují možné způsoby chápání zdrojů znalostí a jejich získávání. V podkapitolách jsou uvedeny hlavní myšlenky pedagogů, kteří jsou považováni za zakladatele konstruktivismu v edukační sféře – Piageta, Vygostkého a Brunera. Jsou zde zahrnuty pro jasnější představu základních rysů konstruktivistické teorie ve vzdělávání, jimiž jsou aktivní poznávání světa žáky prostřednictvím individuální konstrukce reality, interakce s prostředím jakožto důležitý prvek kognitivního vývoje, a také koncepty stádia kognitivního vývoje a zóny nejbližšího vývoje.

Druhá kapitola zkoumá spojitost mezi konstruktivismem a kritickým myšlením z různých pohledů, které jsou uvedeny v šesti podkapitolách. Nejprve je uvedena definice kritického myšlení, používaná v této diplomové práci. Analýza sekundárních zdrojů dokazuje, že i když autoři uvedených definic nemají v úmyslu přímo odkazovat na Bloomovu taxonomii, stále to naznačují použitím slov, která korespondují s tzv. akčními slovesy. Z tohoto důvodu, a také v důsledku zaměření práce na analýzu aktivit v učebnici, je definice kritického myšlení stanovena jako způsob myšlení, zahrnující aktivity, zaměřené na nejvyšší kategorie Bloomovy taxonomie, kterými jsou Analyzovat, Hodnotit a Tvořit. Následně je představena samotná taxonomie kognitivních cílů od Benjamina Blooma, která je později aplikována jako výzkumný nástroj.

V třetí podkapitole je podrobněji definována spojitost kritického myšlení a konstruktivismu prostřednictvím analýzy principů výuky v konstruktivistickém pojetí. Dále je popsán vztah mezi kritickým myšlením a kognitivní zralostí, a jsou uvedeny nejčastější mýty a mylné představy s nimi spojené, například neschopnost dětí mladšího věku myslet kriticky. Pátá podkapitola zkoumá přednosti i úskalí zapojení aktivit pro rozvoj kritického myšlení do výuky anglického jazyka. Analýza je podpořena krátkým rozborem dvou empirických výzkumů, ve kterých byly aktivity podporující kritické myšlení zařazeny do výuky anglického jazyka. Poslední podkapitola zkoumá aktuální začlenění konceptu kritického myšlení do kurikulárních dokumentů ČR. Stopy kritického myšlení jsou patrné v několika klíčových dovednostech a také cílech základního vzdělávání podle RVP ČR. Třetí kapitola teoretické části je věnována učebnici jakožto didaktickému prostředku. V ní jsou okomentovány definice, základní funkce a charakteristické rysy používání učebnice v hodinách anglického jazyka.

Praktická část práce se věnuje analýze učebnice anglického jazyka Global Pre-Intermediate. Tato učebnice byla zvolena jako předmět výzkumu z toho důvodu, že byla použita při výuce anglického jazyka na základní škole, kde autorka této diplomové práce prováděla pedagogickou praxi. Na začátku se počítalo s aplikací získaných poznatků do praxe. Avšak drastické změny způsobené výskytem pandemie Covid-19 a souvisejícím nepravidelným zavíráním škol neumožnily provedení tohoto kroku. Výzkum byl proto omezen na analytický rozbor učebnice a navržení případných modifikací. V návaznosti na poslední teoretickou kapitolu je praktická část zahájena celkovým hodnocením učebnice, kde je popsán její sylabus, počet lekcí, design a základní prvky. Další velká kapitola představuje výzkumný plán, ve kterém jsou okomentovány následující prvky: významnost výzkumu, jeho metodologie, nástroj analýzy, výběr vzorku, validita a reliabilita.

Vzhledem k použití jak numerického, tak i narativního typu dat, tento výzkum byl označen za výzkum smíšeného typu – kvantitativního i kvalitativního. Nástrojem analýzy je Bloomova taxonomie kognitivních cílů v revidované verzi Andersona, avšak v dřívější, jednorozměrné formě. Kritické myšlení nemá přímou souvislost s dimenzemi znalostí, kromě metakognitivní, ale prolíná se skrze všechny. Z tohoto důvodu byly analyzované aktivity zařazeny do jedné z šesti možných kategorií: Pamatovat si, Rozumět, Aplikovat, Analyzovat, Hodnotit, Tvořit. Dále byl také ke každé kategorii přiřazen jeden z devatenácti kognitivních procesů. Předpokládáme,

že podobná konkretizace klasifikace zvyšuje reliabilitu našeho výzkumu. Dalším elementem přispívajícím k reliabilitě výzkumu je provedení tzv. test-retest formátu, což znamená, že analýza a klasifikace aktivit byly provedeny dvakrát, s týdenním časovým odstupem. Validita výzkumu je objasněna předešlým zúžením pojetí kritického myšlení na aktivity odpovídající jedné ze třech nejvyšších kategorií Bloomovy taxonomie. Validita využití taxonomie jakožto nástroje analýzy je prokázána faktickou skutečností, že se taxonomie stala rozšířenou a uznávanou osnovou pro plánování výuky, kurikula a jejich následujícího hodnocení. Jelikož se jedná o výzkum malého rozsahu, nebyl proveden výběr vzorku pro následující analýzu, místo toho byly všechny aktivity v učebnici roztríděny. Celkový rozsah analýzy tak činí 877 aktivit.

Poslední podkapitola věnovaná výzkumnému plánu představuje modifikace požadavků pro začlenění aktivit do kategorie *Hodnotit*. Potřeba této změny je objasněna rozlišnou úrovní požadavků pro začlenění aktivit do zmíněné kategorie v rámci anglického jazyka a jiných předmětů. Z publikací zaměřených na použití taxonomie pro výuku anglického jazyka je patrné, že sdělování názorů žáky je považováno za dostačující pro začlenění aktivity do kategorie *Hodnotit*. Nicméně podle popisu uvedeného v taxonomii aktivita spadá do kategorie *Hodnotit* jedině tehdy, pokud disponuje určitými kritérii, na jejichž základě probíhá stanovení názorů žáky. K vyřešení této překážky byla použita metoda Mike Gershona, v níž dochází k rozdělení cíle vyučovací jednotky na tři části: na to, co budou schopni dělat všichni žáci, co někteří a co jen pár z nich. Pokud je toto rozdělení aplikováno na aktivity kategorie *Hodnotit*, ke konci hodiny by měli být všichni žáci schopni něco ohodnotit, část z nich kriticky ohodnotit, a jenom pár žáků kriticky ohodnotit s použitím argumentů a příkladů. Toto rozdělení umožňuje zahrnovat více aktivit do kategorie *Hodnotit*. Zároveň to nenarušuje cíl našeho výzkumu, jímž je zjistit, jaké aktivity mají *potenciál* k rozvíjení kritického myšlení.

V další kapitole je představena samotná analýza výzkumu. V úvodu je ukázka analýzy na příkladě první části první lekce učebnice. V ní jsou znázorněny myšlenkové postupy autorky při kategorizaci aktivit s vysvětlením a argumentací zařazování každé aktivity. Dále je každá kategorie odpovídající Bloomově taxonomii okomentována, včetně charakteristických prvků aktivit a jejich počtu. Pokud je to možné, je provedeno i další seskupení aktivit v rámci jedné kategorie. Poslední kategorii zahrnují aktivity metakognitivní znalostní dimenze. Jak bylo

vysvětleno v třetí kapitole teoretické části, metakognice je úzce a vzájemně propojena s kritickým myšlením.

Devátá kapitola představuje výsledky provedené analýzy. Nejprve jsou uvedeny výsledky odpovídající kvantitativní stránce výzkumu: číselné a procentuální údaje, sumarizované v tabulce. Kvalitativní stránka výzkumu odpovídá následujícímu shrnutí charakteristických rysů aktivit každé kategorie a okomentování získaných numerických dat. Bylo zjištěno, že aktivity, které mají potenciál k rozvíjení kritického myšlení, tvoří dvacet procent z počtu veškerých aktivit v učebnici. Kromě toho, distribuce těchto aktivit není vyvážená, neboť počet aktivit kategorie *Hodnotit* téměř odpovídá počtu aktivit ze dvou kategorií *Analyzovat* a *Tvořit* dohromady. Oproti tomu výskyt aktivit kategorie *Rozumět* činí čtyřicet procent všech aktivit učebnice. Vzhledem k neuspokojujícím zjištěním analýzy, poslední kapitola praktické části představuje modifikace, cílené na vybalancování aktivit vyšších a nižších myšlenkových úrovní. Modifikace byly navrženy pro každou z kategorií (*Analyzovat*, *Hodnotit*, *Tvořit*) a zahrnovaly jak návrhy nových aktivit, tak i změny stávajících.

Nejvíce nových aktivit bylo předloženo pro kategorii *Analyzovat*. Při jejich vytváření bylo vycházeno z komentáře Andersona, který tvrdí, že aktivity této kategorie by měly být koncipovány jako pokračování kategorie *Rozumět*, nebo úvod do kategorie *Hodnotit*. V důsledku toho, navržené aktivity buď navazovaly na aktivity kategorie *Rozumět*, nebo předcházely kategorii *Hodnotit*. Další modifikací byla výměna aktivit kategorie *Rozumět* za kategorii *Analyzovat*, a to hlavně přenecháním zodpovědnosti za vytvoření tabulek pro klasifikaci slov žákům, namísto představení jim tabulek v hotovém stavu.

Jelikož byl počet aktivit kategorie *Hodnotit* v porovnání s jinými kategoriemi dostačující, zaměřili jsme se na modifikaci stávajících aktivit namísto vytváření nových. Hlavním kritickým bodem aktivit kategorie *Hodnotit* je nedostatek kritérií nebo standardů, na jejichž základě je stanoven názor žáků. Jednou z možných modifikací předložených v práci, je zapojení žáků do hodnocení názorů v představených textových materiálech učebnice. Používáním argumentů by žáci buď podporovali názor autora, nebo jemu odporovali. Dále jsou představeny debaty, které se zdají být tou nejpřínosnější technikou pro zvýšení potenciálu rozvoje kritického myšlení v aktivitách kategorie *Hodnotit*. Během debat se žáci zapojují do obou kognitivních procesů kategorie *Hodnotit* – *kontrolování* a *kritizování*. Žáci kontrolují informace při vytváření vlastních

argumentů a později při náslechu argumentů opoziční skupiny. Následně kritizují argumenty představené protější grupou. Pokud atmosféra ve třídě nebo jazykové znalosti žáků nejsou dostačující pro provedení debaty, lze ji nahradit vzájemným porovnáváním odpovědí žáků. Po samostatném vytvoření seznamu argumentů by se žáci, zajímající se o stejné stanovisko (pro nebo proti), zapojili do vzájemného kontrolování uvedených důvodů ve dvojici nebo skupině. Výsledkem spolupráce by byl obnovený a vylepšený seznam argumentů. Tato aktivita by se dala zároveň vnímat jako příprava před zahájením debat.

Aktivita kategorie *Tvořit* představují několik propojených a na sebe navazujících úloh, což odpovídá třífázovému modelu popsanému Andersonem. Autor také uvádí, že kognitivní proces plánování je učiteli často opomíjen, avšak nedochází tím k jeho nenaplněnosti. Místo toho se žáci zapojují do procesu plánování jaksi „skrytě“, před samotným vytvářením konečného produktu. V důsledku toho, v rámci písemných úloh není doporučeno doplňování nových aktivit, ale zdůraznění kognitivního procesu plánování jako oddělené aktivity, předcházející tvoření. Nové aktivity kategorie *Tvořit* by mohly být realizovány prostřednictvím ústních aktivit, během nichž by žáci dostávali časovou rezervu pro promyšlení slovní a gramatické skladby jejich odpovědí. Příklad takové aktivity, s možností jejího přetvoření do dílčí projektové činnosti, je uveden v závěru práce.

Bylo navrženo celkem devatenáct možných modifikací aktivit nejvyšších kategorií Bloomovy taxonomie. Modifikace zahrnovaly jak tvorbu nových aktivit, tak i pozměňování stávajících. Nejednou implementace jedné aktivity vyšší kategorie vyvolala organický vznik další. Věříme, že předložené modifikace nejsou složité, a mohou tak být rovnou použity učiteli, pracujícími s touto učebnicí. Provedený výzkum ukazuje, že rozvíjení kritického myšlení žáků nemusí vyžadovat začleňování nových materiálů a pomůcek. Mírné pozměnění aktivit v již používané učebnici pro výuku anglického jazyka může výrazně zvýšit její potenciál pro rozvíjení kritického myšlení žáků. Toto řešení se zároveň jeví jako nejrychlejší a nejjednodušší cesta ke přizpůsobení se novým požadavkům na výuku ve dvacátém prvním století.

BIBLIOGRAPHY

- Anderson, W. Lorin, David R. Krathwohl, Peter W. Airasian, Kathleen A. Cruikshank, Richard E. Mayer, Paul R. Pintrich, James Ratha, Merlin C. Wittrock. 2001. *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*. Abridged ed. Cambridge: Addison Wesley Longman, Inc.
- Ary, Donald, Lucy Cheser Jacobs, Chris Sorensen and Asghar Razavieh. 2010. *Introduction to Research in Education*. 8th ed. Wadsworth: Cengage Learning.
- Bailin, Sharon, Roland Case, Jerrold R. Coombs and Leroi B. Daniels. 1999. "Conceptualizing critical thinking." *Journal of Curriculum Studies* 31 (3): 285–302.
- Bailin, Sharon. 1987. "Critical and Creative Thinking." *Informal Logic* 9 (1): 23–29.
- Beach, Glenell McKinnon. 2007. "An examination of factors contributing to critical thinking and student interest in an on-line college-level art criticism course." PhD diss., University of North Texas, Denton, Texas. Available at: <https://digital.library.unt.edu/ark:/67531/metadc4005/>.
- Bell, Judith. 2005. *Doing your Research Project: A guide for first-time researches in education, health and social science*. 4th ed. Berkshire: Open University Press.
- Bellanca, A. Hames and Ronald S. Brandt. 2010. *21st Century Skills: Rethinking how Students Learn*. Indiana: Solution Tree Press.
- Berube, T. Clair. 2001. "A Study of the Effects of Constructivist Based vs. Traditional Direct Instruction on 8th Grade Science Comprehension." PhD diss., Old Dominion University, Norfolk, Virginia. Available at: https://digitalcommons.odu.edu/urbanservices_education_etds/12/.
- Bloom, S. Benjamin, Max D. Engelhart, Edward J. Furst, Walker H. Hill and David R. Krathwohl. 1956. *Taxonomy of Educational Objectives: The Classification of Educational Goals. Handbook 1: Cognitive Domain*. Michigan: David McKay Company, Inc.
- Bodner, George M. 1986. "Constructivism: A Theory of Knowledge." *Journal of Chemical Education* 63 (10): 873–878.
- Borg, Simon. 2006. "The Distinctive Characteristics of Foreign Language Teachers." *Language Teaching Research* 10 (3): 3–31.
- Bringuier, Jean-Claude. 1980. *Conversation with Jean Piaget*. Chicago: University of Chicago press.

- Brown, H. Douglas. 2000. *Principles of Language Learning and Teaching*. 4th ed. White Plains, NY: Addison Wesley Longman, Inc.
- Brown, John Seely, Allan Collins and Paul Duguid. 1989. "Situated Cognition and the Culture of Learning." *Educational Researcher* 18 (1): 32–42.
- Bruner S. Jerome. 2006. *In Search of Pedagogy: The selected works of Jerome S. Bruner*, vol. 1. New York: Routledge.
- Chang, Yu-Ying. 2010. "English-medium instruction for subject courses in tertiary education: Reactions from Taiwanese undergraduate students." *Taiwan International ESP* 2 (1): 55–84.
- Chung, B. M. 1994. "The taxonomy in the Republic of Korea." In *Bloom's taxonomy: A Forty-year retrospective. Ninety-third Yearbook of the National Society for the Study of Education*, edited by Lorin W. Anderson and Lauren A. Sosniak, 76–78. Chicago: University of Chicago Press.
- Clandfield, Lindsay. 2010. *Global Pre-Intermediate Coursebook*. Hong Kong: Macmillan Ltd.
- Clark, E. Richard. 1982. "Antagonism Between Achievement and Enjoyment in ATI Studies." *Educational Psychologist* 17 (2): 92–101.
- Cummings, Chris. 2015. "Engaging New College Students in Metacognition for Critical Thinking: A Developmental Education Perspective." *Research and Teaching in Developmental Education* 32 (1): 68–71.
- Cunningham, J. Donald. 1992. "Beyond educational psychology: Steps toward an educational semiotic." *Educational Psychology Review* 4 (2): 165–194.
- Cunningsworth, Alan. 1995. *Choosing your Coursebook*. Oxford: Macmillan Publishers Limited.
- Čáp, Jan and Jiří Mareš. 2001. *Psychologie pro učitele*. Praha: Portál.
- Dewey, John. 1909. *How We Think*. 1st ed. New York: Dover Publications.
- Dill, Janice Carla. 2003. "Student perceptions of critical thinking skills development in an online learning environment" PhD diss., Texas A&M University-Commerce, Commerce, Texas. Available at: <https://www.tamuc.edu/academics/colleges/educationHumanServices/departments/HigherEducationLearningTechnology/graduatePrograms/dissertationsHiEd20002004.aspx>.
- Driscoll, Marcy P. 2014. *Psychology of Learning for Instruction*. Harlow: Pearson Education Limited.

Duffy, Thomas M. and David H. Jonassen, ed. 1992. *Constructivism and the Technology of Instruction: A Conversation*. New Jersey: Lawrence Erlbaum Associates, Inc.

Ernst, Julie and Martha Monroe. 2004. "The effects of environment-based education on students' critical thinking skills and disposition toward critical thinking." *Environmental Education Research* 10 (4): 507–522.

Fisher, Alec. 2011. *Critical Thinking: An Introduction*. 2nd edition. Cambridge: Cambridge University Press.

Fisher, Alec and Michael Scriven. 1997. *Critical Thinking: Its Definition and Assessment*. Edgepress and Centre for Research in Critical Thinking, University of East Anglia.

Flavell, H. John, Miller H. Patricia, and Scott A. Miller. 2002. *Cognitive development*. 4th ed. Upper Saddle River, NJ: Prentice-Hall.

Freahat, M. Nasser and Oqlah M. Smadi. 2014. "Lower-order and Higher-order Reading Questions in Secondary and University Level EFL Textbooks in Jordan". *Theory and Practice in Language Studies* 4 (9): 1804–1813.

Galant, Michelle. 1998. "Vygotsky's cultural/cognitive theory of development." *Educational Psychology*. Portland, OR: Cortland College. Retrieved from <http://facultyweb.cortland.edu/~ANDERSMD/VYG/VYG.HTML>

Gandimathi, A. and Nafiseh Zarei. 2018. "The Impact of Critical Thinking on Learning English Language." *Asian Journal of Social Science Research* 1 (2): 1–10.

Gass, M. Susan and Larry Selinker. 2008. *Second Language Acquisition: An Introductory Course*. 3rd ed. New York: Routledge.

Glossary of the Education Reforms. 2013. "Critical Thinking" Last modified August 29, 2013. <https://www.edglossary.org/critical-thinking/>.

Greenfield, Patricia Marks. 1984. "A theory of the teacher in the learning activities of everyday life." In *Everyday cognition: Its development in social context*, edited by B. Rogoff and J. Lave, 117–138. Cambridge, MA: Harvard University Press.

Haynes, Judie. 2007. *Getting Started with English Language Learners: How Educators Can Meet the Challenge*. Alexandria: Association for Supervision and Curriculum Development.

Huitt, William G. and Stacey T. Hummel. 2003. "Piaget's theory of cognitive development." *Educational Psychology Interactive*. Accessed March 4 2021, <http://www.edpsycinteractive.org/topics/cognition/piaget.html>

- Hung, Yuk-Yee. 2002. "Using computer mediated communication to enhance students' critical thinking." PhD diss., The University of Hong Kong, Pokfulam, Hong Kong.
- Johnson, P. Andrew. 2014. *Education Psychology: Theories of Learning and Human Development*. La Mesa: National Social Science Press.
- Jonassen, H. David. 1997. "Instructional Design Models for Well-Structured and Ill-Structured Problem-Solving." *Educational Technology Research and Development* 45 (1): 65–94.
- Kamii, Constance and Janice K. Ewing. 1996. "Basing Teaching on Piaget's Constructivism." *Childhood Education* 72 (5): 260–264.
- Kant, Immanuel. 1998. *Critique of Pure Reason*. Translated and edited by Paul Guyer and Allen W. Wood. Cambridge: Cambridge University Press.
- Keating, P. Daniel. 1988. "Adolescents' Ability to Engage in Critical Thinking." [Information Analyses]. Madison: Wisconsin Center for Education Research.
- Kelley, David. 2014. *The Art of Reasoning: An Introduction to Logic and Critical Thinking*. 4th ed. New York: W. W. Norton & Company.
- Klooster, David. 2001. "What is Critical Thinking?" *Thinking Classroom* (4): 36–40.
- Koenig, A. Melissa and Harris L. Paul. 2005. "Preschoolers Mistrust Ignorant and Inaccurate Speakers." *Child Development* 76 (6): 1261–1277.
- Kolář, Zdeněk and Renata Šikulova. 2007. *Vyučování jako dialog*. Praha: Grada Publishing.
- Krathwohl, R. David. 2002. "A Revision of Bloom's Taxonomy: An Overview." *Theory Into Practice* 41 (4): 212–218.
- Ku, Kelly Y. L. and Irene T. Ho. 2010. "Metacognitive strategies that enhance critical thinking." *Metacognition Learning* 5: 251–267.
- Kwan, Yee Wan and Angela F. L. Wong. 2015. "Effects of the constructivist learning environment on students' critical thinking ability: Cognitive and motivational variables as mediators." *International Journal of Educational Research* 70: 68–79.
- Lai, Emily R. 2011. "Critical Thinking: A Literature Review." Pearson Research Report [online]. Available at <https://www.pearsonassessments.com/large-scale-assessments/research.html>.

Larsen-Freeman, Diane. 2000. *Techniques and Principles in Language Teaching*. 2nd ed. Oxford: Oxford University Press.

Lewy, A. and Bathory Z. 1994. "The taxonomy of educational objectives in continental Europe, the Mediterranean, and the Middle East." In *Bloom's taxonomy: A Forty-year retrospective. Ninety-third Yearbook of the National Society for the Study of Education*, edited by Lorin W. Anderson and Lauren A. Sosniak, 146–163. Chicago: University of Chicago Press.

Lin, Mei, Anne Preston, Ahmed Kharrufa and Zhuoran Kong. 2016. "Making L2 learners' reasoning skills visible: The potential of Computer Supported Collaborative Learning Environments." *Thinking Skills and Creativity* 22: 300–322.

Luk, Jasmin and Angel Lin. 2015. "Voices Without Words: Doing Critical Literate Talk in English as a Second Language." *TESOL Quarterly* 49 (1): 67–91.

Lutz, Donna J. and Frank C. Keil. 2002. "Early Understanding of the Division of Cognitive Labor." *Child Development* 73 (4): 1073–1084.

Lutz, Stacey T. and William G. Huitt. 2004. "Connecting Cognitive Development and Constructivism: Implications from Theory for Instruction and Assessment." *Constructivism in the Human Sciences* 9 (1): 67–90.

Macmillan. 2021. "Course Information". Catalogue. Accessed May 5, 2021. <https://www.macmillanenglish.com/catalogue/courses/adults-and-young-adults/global/course-information>.

Magno, Carlo. 2010. "The role of metacognitive skills in developing critical thinking." *Metacognition and Learning* 5 (2): 137–156.

Marin M. Lisa and Diane F. Halpern. 2011. "Pedagogy for developing critical thinking in adolescents: Explicit instruction produces greatest gains." *Thinking Skills and Creativity* 6: 1–13.

Morra, Serio, Camilla Gobbo, Zopito Marini and Ronald Sheese. 2008. *Cognitive Development: Neo-Piagetian Perspectives*. New York: Taylor & Francis Group.

MŠMT. 2021. *Rámcový vzdělávací program pro základní vzdělávání*. Praha: MŠMT. Available at: <http://www.nuv.cz/file/4982/>.

Norris, P. Stephen and Ennis H. Robert. 1989. *Evaluating Critical Thinking*. New Jersey: Lawrence Erlbaum.

P21 Network – Battelle for Kids. "Partnership for 21st Century Learning." Accessed April 24, 2021. <https://www.battelleforkids.org/networks/p21>.

Paul, Richard and Linda Elder. 2014. *Critical Thinking: Tools for Taking Charge of Your Professional and Personal Life*. 2nd ed. New Jersey: Pearson FT Press.

Pearson TalentLens. "Watson-Glaser Critical Thinking Appraisal." Accessed January 17, 2021. <https://www.talentlens.com/uk/assessments/watson-glaser-critical-thinking-appraisal.html>

Postlethwaite, T. N. 1994. "Validity vs. utility: Personal experiences with the taxonomy." In *Bloom's taxonomy: A Forty-year retrospective. Ninety-third Yearbook of the National Society for the Study of Education*, edited by Lorin W. Anderson and Lauren A. Sosniak, 174–180. Chicago: University of Chicago Press.

Pritchard, Alan and John Woollard. 2010. *Psychology for the Classroom: Constructivism and Social Learning*. New York: Routledge.

Průcha, Jan. 1997. *Moderní Pedagogika*. Praha: Portál.

Průcha, Jan, Eliška Walterová and Jiří Mareš. 2003. *Pedagogický slovník*. 4th ed. Praha: Portál.

Ratna, S. Anne. 2017. "Controversy behind Applying EMI (English as the Medium of Instruction) among EFL Students." *Advances in Social Science, Education and Humanities Research* 82: 58–63.

Reading & Writing for Critical Thinking. "Program Čtením a psaním ke kritickému myšlení". Accessed April 24, 2021. <https://kritickemysleni.cz/o-programu/>.

Research Institute of Education (VÚP). 2007. *Framework Education Programme for Elementary Education*. Available at: <https://rvp.cz/informace/dokumenty-rvp/rvp-zv>.

Reuters Institute Digital News Report. 2016. *Reuters Institute for the Study of Journalism*. Available at: <https://reutersinstitute.politics.ox.ac.uk/our-research/digital-news-report-2016>.

Reuters Institute Digital News Report. 2020. *Reuters Institute for the Study of Journalism*. Available at: <https://www.digitalnewsreport.org>.

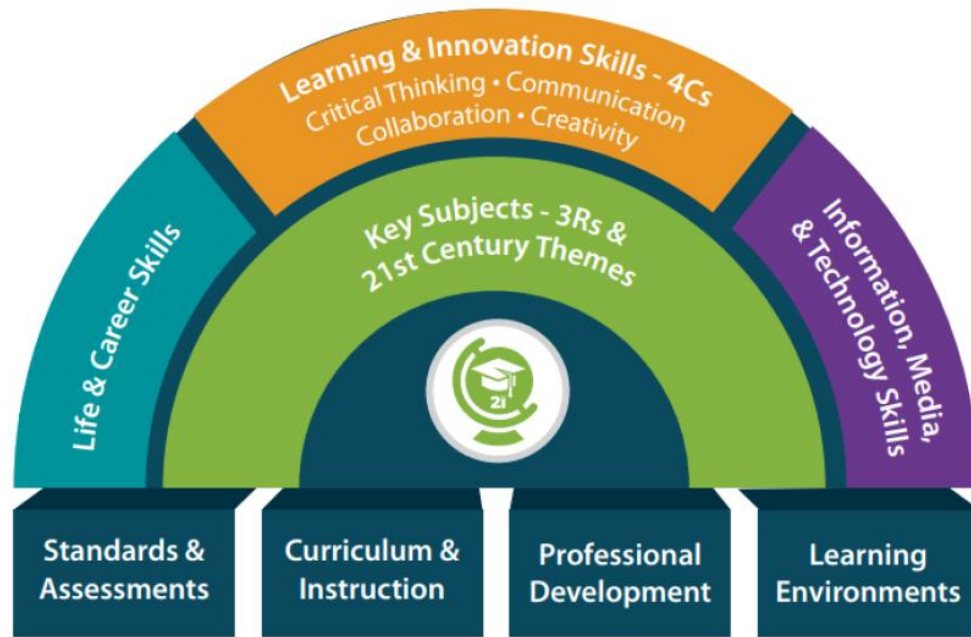
Richards, Jack C. and Richard Schmidt. 2010. *Longman Dictionary of Language Teaching and Applied Linguistics*. 4th ed. Harlow: Pearson Education Limited.

Snider, Daren. 2017. "Critical Thinking in the Foreign Language and Culture Curriculum." *The Journal of General Education* 66 (1–2): 1–16.

- Spiro, J. Rand, Paul J. Feltovich, Michael J. Jacobson and Richard L. Coulson. 1991. "Cognitive flexibility, constructivism, and hypertext: Random access instruction for advanced knowledge acquisition in ill-structured domains." *Educational Technology* 31 (5): 24–33.
- Tobias, Sigmund and Thomas M. Duffy. 2009. *Constructivist Instruction: Success or Failure?* New York: Routledge.
- Topolovčan, Tomislav and Milan Matijević. 2017. "Critical Thinking as a Dimension of Constructivist Learning: Some of the Characteristics of Students of Lower Secondary Education in Croatia." *Center for Educational Policy Studies Journal* 7 (3): 47–66.
- Turan, Uğur, Yahya Fidan and Canan Yıldıran. 2019. "Critical Thinking as a Qualified Decision-Making Tool." *Journal of History Culture and Art Research* 8 (4): 1–18.
- Ülger, Kani. 2016. "The Relationship between Creative Thinking and Critical Thinking Skills of Students." *H. U. Journal of Education* 31 (4): 695–710.
- Vygotsky, Lev. 1978. *Mind in Society: The Development of Higher Psychological Processes*. Cambridge: Harvard University Press.
- Watkins, Frances and Lindsay Clandfield. 2010. *Global Pre-Intermediate Teacher's Book*. London: Macmillan Publishers Limited.
- Westwood, Peter. 2008. *What teachers need to know about teaching methods*. Camberwell, Victoria: ACER Press.
- Wong, M. H. Ruth. 2010. "The effectiveness of using English as the sole medium of instruction in English classes: student responses and improved English proficiency." *Porta Linguarium* 13: 119–130.
- Wright, Ian. 2002. "Critical Thinking in the Schools: Why Doesn't Much Happen?" *Informal Logic* 22 (2): 137–154.
- Wu, Wen-Shuenn. 2006. "Students' attitudes toward EMI: Using Chung Hua University as an example." *Journal of Education and Foreign Language and Literature* 4: 67–84.
- Yang, C. Ya-Ting and Jeffrey Gamble. 2013. "Effective and practical critical thinking-enhanced EFL instruction." *ELT Journal* 67 (4): 398–412.

APPENDICES

Appendix A – The P21 Framework for 21st Century Learning



© 2019, Battelle for Kids. All Rights Reserved.

Appendix B – the categories of the cognitive domain of the Bloom’s Taxonomy in the revised version by Anderson used as an instrument of the textbook analysis

3.3 THE SIX CATEGORIES OF THE COGNITIVE PROCESS DIMENSION AND RELATED COGNITIVE PROCESSES*

PROCESS CATEGORIES	COGNITIVE PROCESSES AND EXAMPLES
1. REMEMBER —Retrieve relevant knowledge from long-term memory.	
1.1 RECOGNIZING	(e.g., Recognize the dates of important events in U.S. history)
1.2 RECALLING	(e.g., Recall the dates of important events in U.S. history)
2. UNDERSTAND —Construct meaning from instructional messages, including oral, written, and graphic communication.	
2.1 INTERPRETING	(e.g., Paraphrase important speeches and documents)
2.2 EXEMPLIFYING	(e.g., Give examples of various artistic painting styles)
2.3 CLASSIFYING	(e.g., Classify observed or described cases of mental disorders)
2.4 SUMMARIZING	(e.g., Write a short summary of the events portrayed on videotapes)
2.5 INFERRING	(e.g., In learning a foreign language, infer grammatical principles from examples)
2.6 COMPARING	(e.g., Compare historical events to contemporary situations)
2.7 EXPLAINING	(e.g., Explain the causes of important eighteenth-century events in France)

3. APPLY—Carry out or use a procedure in a given situation.

3.1 EXECUTING (e.g., Divide one whole number by another whole number, both with multiple digits)

3.2 IMPLEMENTING (e.g., Determine in which situations Newton's second law is appropriate)

4. ANALYZE—Break material into constituent parts and determine how parts relate to one another and to an overall structure or purpose.

4.1 DIFFERENTIATING (e.g., Distinguish between relevant and irrelevant numbers in a mathematical word problem)

4.2 ORGANIZING (e.g., Structure evidence in a historical description into evidence for and against a particular historical explanation)

4.3 ATTRIBUTING (e.g., Determine the point of view of the author of an essay in terms of his or her political perspective)

5. EVALUATE—Make judgments based on criteria and standards.

5.1 CHECKING (e.g., Determine whether a scientist's conclusions follow from observed data)

5.2 CRITIQUING (e.g., Judge which of two methods is the best way to solve a given problem)

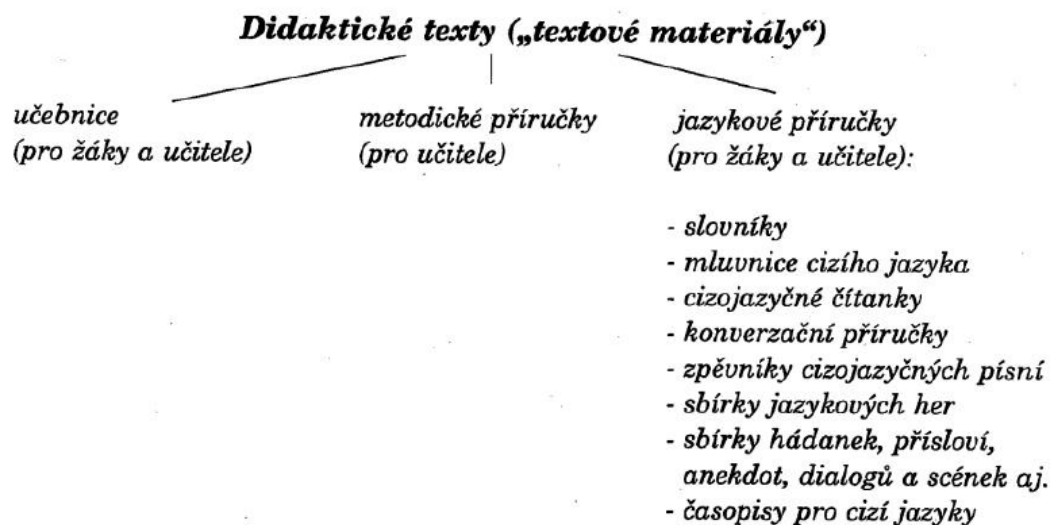
6. CREATE—Put elements together to form a coherent or functional whole; reorganize elements into a new pattern or structure.

6.1 GENERATING (e.g., Generate hypotheses to account for an observed phenomenon)

6.2 PLANNING (e.g., Plan a research paper on a given historical topic)

6.3 PRODUCING (e.g., Build habitats for certain species for certain purposes)

Appendix C – the classification of the textual materials



Průcha, Jan. 1997. *Moderní Pedagogika*. Praha: Portál.

Appendix D – a checklist for evaluation and selection of a textbook

Quick-reference checklist for evaluation and selection

Aims and approaches

- Do the aims of the coursebook correspond closely with the aims of the teaching programme and with the needs of the learners?
- Is the coursebook suited to the learning/teaching situation?
- How comprehensive is the coursebook? Does it cover most or all of what is needed? Is it a good resource for students and teachers?
- Is the coursebook flexible? Does it allow different teaching and learning styles?

Design and organization

- What components make up the total course package (eg students' books, teachers' books, workbooks, cassettes, etc)?
- How is the content organized (eg according to structures, functions, topics, skills, etc)? Is the organization right for learners and teachers?
- How is the content sequenced (eg on the basis of complexity, 'learnability', usefulness, etc)?
- Is the grading and progression suitable for the learners? Does it allow them to complete the work needed to meet any external syllabus requirements?
- Is there adequate recycling and revision?
- Are there reference sections for grammar, etc? Is some of the material suitable for individual study?
- Is it easy to find your way around the coursebook? Is the layout clear?

Language content

- Does the coursebook cover the main grammar items appropriate to each level, taking learners' needs into account?
- Is material for vocabulary teaching adequate in terms of quantity and range of vocabulary, emphasis placed on vocabulary development, strategies for individual learning?
- Does the coursebook include material for pronunciation work? If so what is covered: individual sounds, word stress, sentence stress, intonation?
- Does the coursebook deal with the structuring and conventions of language use above sentence level, eg how to take part in conversations, how to structure a piece of extended writing, how to identify the main points in a reading passage? (More relevant at intermediate and advanced levels.)
- Are style and appropriacy dealt with? If so, is language style matched to social situation?

Skills

- Are all four skills adequately covered, bearing in mind your course aims and syllabus requirements?
- Is there material for integrated skills work?
- Are reading passages and associated activities suitable for your students' levels, interests, etc? Is there sufficient reading material?

- Is listening material well recorded, as authentic as possible, accompanied by background information, questions and activities which help comprehension?
- Is material for spoken English (dialogues, roleplays, etc) well designed to equip learners for real-life interactions?
- Are writing activities suitable in terms of amount of guidance/control, degree of accuracy, organization of longer pieces of writing (eg paragraphing) and use of appropriate styles?

Topic

- Is there sufficient material of genuine interest to learners?
- Is there enough variety and range of topic?
- Will the topics help expand students' awareness and enrich their experience?
- Are the topics sophisticated enough in content, yet within the learners' language level?
- Will your students be able to relate to the social and cultural contexts presented in the coursebook?
- Are women portrayed and represented equally with men?
- Are other groups represented, with reference to ethnic origin, occupation, disability, etc?

Methodology

- What approach/approaches to language learning are taken by the coursebook? Is this appropriate to the learning/teaching situation?
- What level of active learner involvement can be expected? Does this match your students' learning styles and expectations?
- What techniques are used for presenting/practising new language items? Are they suitable for your learners?
- How are the different skills taught?
- How are communicative abilities developed?
- Does the material include any advice/help to students on study skills and learning strategies?
- Are students expected to take a degree of responsibility for their own learning (eg by setting their own individual learning targets)?

Teachers' books

- Is there adequate guidance for the teachers who will be using the coursebook and its supporting materials?
- Are the teachers' books comprehensive and supportive?
- Do they adequately cover teaching techniques, language items such as grammar rules and culture-specific information?
- Do the writers set out and justify the basic premises and principles underlying the material?
- Are keys to exercises given?

Practical considerations

- What does the whole package cost? Does this represent good value for money?
- Are the books strong and long-lasting? Are they attractive in appearance?
- Are they easy to obtain? Can further supplies be obtained at short notice?
- Do any parts of the package require particular equipment, such as a language laboratory, listening centre or video player? If so, do you have the equipment available for use and is it reliable?

Appendix E – Part 1 of the unit 1 of the Global Pre-Intermediate textbook used for an Exemplary Analysis

UNIT 1 Individual & Society

Part 1

Vocabulary

Everyday objects

Reading

The Identity Card

Grammar

Word order in questions

Pronunciation

The alphabet


Vocabulary

1 Look at the pictures and read the information. Match each object to a word in the box. There are three words you do not need.

chewing gum credit card glasses
key ring lipstick mobile phone
pen umbrella

2 Do you have any of these things with you today? Which ones? Tell a partner.

Reading

1  **1.01** Read and listen to the text on page 7 about another everyday object: the identity card. What kind of information about an individual can you find on an identity card?

2 Read the text again and find examples of ...

- 1 a historical reason for ID cards.
- 2 countries with no ID cards.
- 3 a material used in ID cards.
- 4 information on an ID card.
- 5 biometric information on an ID card.

3 Does your country have identity cards? What information do they contain?

Surprising origins and facts: Everyday objects

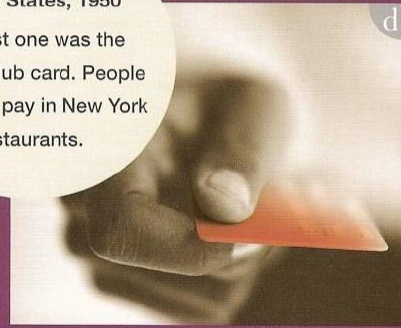
Origin:
Egypt, more than 5000 years ago
Cleopatra used one made from dead insects.



Origin:
United States, 1973
The first model weighed 0.79 kg and measured 25cm.



Origin:
United States, 1950
The first one was the Diner's Club card. People used it to pay in New York restaurants.



Origin:
Mexico, 1860
It comes from the chicle plant. The original idea was to use it to make car tyres.

Origin:
Italy, 13th century
The early models helped people to see but they caused headaches because they were so heavy.



Surprising origins and facts:

The identity (ID) card

Grammar

Are ID cards obligatory?

*Do all countries **have** ID cards?*

What is a biometric ID card?

What did people use ID cards for?

- in questions the verb goes before the subject
- in present simple or past simple questions, the auxiliary verb *do / did* goes before the subject and the infinitive goes after the subject
- question words (*What, Where, Who*, etc.) go at the start of a question

1 Complete the questions by putting the words in the correct place.

- | | |
|------------------------------------|------|
| 1 do you do? | what |
| 2 you speak any foreign languages? | do |
| 3 what your name? | is |
| 4 what's phone number? | your |
| 5 you have any children? | do |
| 6 where you born? | were |
| 7 where did you to school? | go |
| 8 where do live? | you |
| 9 you married? | are |
| 10 what your date of birth? | is |

2 Match the questions in exercise 1 to the topics in the box.

Name	Profession
Address	Marital status
Phone number	Children
Date of birth	Education
Place of birth	Languages

3 Choose five questions from exercise 1. Work in pairs and ask each other the questions.

G Grammar focus – explanation & more practice of word order on page 132

What were the first ID cards?

The first ID cards were, in fact, paper identity documents, which appeared in the 18th century.

What did people use the first ID cards for?

People used the first ID cards to travel to different countries. The ID card was the first passport.

Do all countries have ID cards?

No, they don't. There are more than a hundred countries in the world with ID cards. But several English-speaking countries don't have a national ID card system. These countries include the UK, the US, Canada, Australia, Ireland and New Zealand.

What do ID cards look like?

ID cards are usually made of plastic and can fit inside a person's wallet.

What information do governments put on ID cards?

Most ID cards contain the person's name, date of birth, signature and a photograph.

Some cards contain other information such as the person's address, phone number, nationality, profession and marital status.

What is a biometric ID card?

More modern ID cards now contain biometric information, for example, fingerprints or digital images of people's eyes.

Pronunciation

1 1.02 Listen to three people spelling personal information. Write the words they spell.

2 Work in pairs. A: spell the words to B.

- your last name
- the name of the street you live on
- two words from this lesson

3 Swap roles and repeat.

