THE TOPIC OF QUALITY OF LIFE AND KEY COMPETENCIES DEVELOPMENT: A CASE STUDY ABOUT SUPPORTING THE GEOGRAPHICAL THINKING OF PUPILS

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Abstract

The concept of quality of life (QOL) is a multi-disciplinary theme that has the potential to fulfil the main goals of geography education as used in tasks of modern school geography. It can develop pupils' geographical thinking, bring education in schools closer to everyday life, emphasize practical activities and develop pupils' key competencies. The topic of QOL does not constitute a separate thematic area within geography. It is included in many thematic areas of this subject. This paper presents an example of using key competencies as a tool for the development of a modern approach in geography teaching. The pilot study research aimed to verify the problem-solving competencies of pupils and used the QOL topic with 28 children in the 9th grade of the Czech lower secondary school in Svatá Hora in Příbram. The results showed that most of the pupils have acquired competencies on a level that is appropriate for their age. More than a fifth of the pupils accomplished the tasks in an imaginative way; less than a fifth did not fulfil them. Pupils are able to critically assess the QOL based on their own views and experiences, on the subjective assessments of other people, and on the basis of statistical data.

Key words: geography teaching, quality of life, key competencies, cross-curricular links, lower secondary education

INTRODUCTION

The term "modern school geography" was first used by Woodbridge (1844). He designated the contextual innovation of geography as a relatively new teaching subject. The general mission of modern school geography at the beginning of the 21st century is to develop pupils' geographical thinking (Gerber 2003; IGU-CGE 2016; Chang and Aman 2017; Karvánková et al. 2017). So it is necessary to bring geography education closer to ordinary life and to emphasize practical activities and themes at school (Hofmann 2003). At the same time, the role of modern geography is to make the subject more attractive and to motivate the current generation of pupils (generation alpha). Objectively, the current generation of children has more numerous, varied and qualitatively richer stimuli than previous generations, and thus they have other ways of seeing the world, their surroundings and the landscape (Howe and Strauss 2000; MEYS 2010; Papáček 2010; Woodman and Wyn 2014).

Geography is a multi-disciplinary and inter-disciplinary science. Due to the extension of its thematic areas to other subjects, geography is suitable for cross-curricular subjects within the Framework Educational Programme for Basic Education (RIS 2007a). Thus geography has a strong potential to be applied to cross-curricular links and to encourage pupils to use the skills, knowledge and key competencies (Škoda and Doulík 2009; Knecht et al. 2010;

Binterová et al. 2016), obtained from other fields of study.

In the context of the above and also in the spirit of Woodbridge (1844), modern times bring new subjects to education. One such is the theme; quality of life (QOL), which is a topic that can be included in global development education (Hicks 2003; Bourn 2008). The theme of quality of life is not a common topic in the second stage of basic education, although it is included in many educational fields. Within geography, quality of life is not a separate thematic area, but it extends to several thematic areas of FEP BE. Quality of life is an example of topics that can combine the benefits of modern school geography.

It is quite difficult to define quality of life. One definition comes from Maslow's theory of the hierarchy of human needs (Sirgy 2006): the satisfaction of basic physiological needs (e.g. food, water, sleep) represents a precondition for the satisfaction of higher-order needs (social, self-esteem, and self-actualization needs) (Zittoun et al. 1999). There is a huge range of definitions of quality of life in contemporary literature, but it seems that not one is generally accepted. A common factor in all definitions is that the notion of quality of life should reflect the physical, mental and social aspects of an individual human being. Quality of life very often represents a multidimensional parameter (value?) which is perceived as "a subjective evaluation of its own life situation" (Slováček et al. 2004).

It follows that the meaning of "quality of life" is difficult to grasp, even on a theoretical or scientific basis. Therefore its transition to geography teaching is not simple (for teachers as well as pupils). Perhaps that is why the subject of quality of life is present only to a very limited extent in Czech teaching practice. However, as Vávra (2006) states, in accordance with the British curriculum, schoolchildren between 11 and 14 years old (this corresponds to lower secondary education) should be able to understand to acquire skills and knowledge through the study of 2 states and 10 subjects, which include the quality of life. Pupils should be able to interpret, within the framework of the subject "Evolution", the impact

of differences in the evolution of the quality of life on different groups of people (Vávra 2006). Similar approaches also come from other European and non-European countries (Gérin-Grataloup 1997; Lidstone and Williams 2006).

The first goal of the paper was to present the teaching activity on the interdisciplinary theme of quality of life named; "Selection procedure for which municipality will receive a subsidy to improve the quality of life of its inhabitants?" This activity is an example of the use of cross-curricular links and has the character of a problem-solving task. The activity was conceived as a way of capturing the attention of pupils and motivating them to develop their geographical thinking by stimulating their use of key competencies. A parallel goal of the paper was to analyse the ability of the pupils to use their key competencies while carrying out the teaching activity. A pilot test of the teaching activity was carried out as preparation for the first phase of the full-scale research. The pilot research was based on the survey that the students completed at the end of the activity. It was then based on the self-evaluation of the pupils. The case study was carried out at the Czech lower secondary school in Svatá Hora in Příbram in March 2017, with the participation of 28 children from the 9th grade, of which there were 17 girls and 11 boys. In the theoretical part of the paper, there is an analysis on the theme of quality of life as a subject for geographical research and as regards its status in the educational curriculum in the Czech Republic. The subject of key competencies is also discussed and is focused on the pupils' problem-solving competencies.

THEORETICAL STARTING POINTS

Geographical aspects of the concept of quality of life

Reflections on the quality of life characterize today's society, especially in developed countries (Pacione 2003: 19). Quality of life is a relatively new subject for research among various scientific disciplines, including technical sciences, economics (special behavioural economics), political science, ethics, theology, psychology, medicine, social

ecology, sociology, demography and urbanism, including geography itself. Different concepts of QOL by different scientific approaches can cause inconsistency and a variety of concepts in its perception and exploration. QOL thus acquires different concepts, such as well-being, liveability, health, satisfaction, happiness, quality of place and standard of living (Liu 1975; Helburn 1982; Andráško and Ira 2007; Gregory et al. 2009; Knox and Pinch 2010; Ballas and Dorling 2013; Heřmanová 2013; Davidson and Parr 2014; EP 2018).

Measuring and evaluating the quality of life is not a simple process due to the multi-dimensionality of the QOL concept. When measuring the quality of life, emphasis should be placed on the appropriate selection of the so-called measuring method, i.e. the selection of indicators, their hierarchical structure, attribution and, on the other hand, the non-consideration of weights for individual indicators and, in general, the analysis and synthesis of QOL evaluations. The spatial dimension of the areas tested for QOL also plays an important role (Liu 1975; Pacione 2003; Fertaľová and Madziková 2008; Magee et al. 2012).

Spatial and geographic aspects are an integral part of the QOL concept. Quality of life varies with changing geographical environments (Helburn 1982; Liszewski 1995; Pacione 2003: 19; van Kamp et al. 2003: 11; Gregory et al. 2009: 606; Murgaš 2013). The indispensable nature of the geographic approach to QOL lies in the fact that geographers are able to work with both QOL dimensions. The geographical approach to exploring QOL is based on the principle of studying the relationship between man and the environment in which he lives. This relationship is crucial for determining quality of life. Therefore, geographic QOL research is often associated with an analysis of the spatial differentiation of the quality of life on different

spatial scales in urban and in rural areas. Cities are urban areas with a high concentration of human activities, and the QOL survey is focused on living conditions (Pacione 2003).

QOL as a topic in the educational field of Geography in curricular documents for lower secondary education

The multi-disciplinary and inter-disciplinary nature of geography has also manifested itself in geography's position in the curricular document. The Framework Educational Programme for Basic Education (RIS 2007a) classifies geography in the educational area "Humans and nature", along with natural science, physics and chemistry. The human and socio-scientific part of geography also extends to the educational area "Humans and society", along with history and civil education. Considering the use of GIS, geography is also part of the educational field of information and communication technologies. As with geography, the issue of quality of life has a multidisciplinary character.

In assessing the content of topics linked to the quality of life on one hand and the educational contents of the thematic area of the geography education field in the FEP BE (RIS 2007a) on the other hand, most of the parallel contents were confirmed in the following topics: landscape; the local region; field exercises and observations of the local landscape; the relationship between nature and society; geographical cartography and topography; the social, political and economic processes of globalisation; population. From the point of view of the cross-curricular themes of the FEP BE, the topic of QOL was closest to environmental education, personal and social education and, in part, multicultural education. A detailed overview of the links between QOL, geography and cross-curricular topics is presented in table 1.

Table 1 Incorporating the theme of quality of life in the educational field
of Geography of the Framework Educational Programme for Basic Education

Incorporating the Theme into the Curriculum		
Thematic area	**Subject matter**	
The Natural Environment	landscape	natural and social environment
		the relationship between nature and society
The Czech Republic	the local region	basic natural and socio-economic characteristics with an emphasis on specific traits important for the region's further development (potential vs. barriers), relations with surrounding regions
	field exercises in the local landscape	geographical field trips, practices and applications
Expected Outcomes		
Thematic area	**Pupils will**	
The Natural Environment	using selected examples, identify important impacts and risks of natural and social impacts on the environment	
The Czech Republic	apply practical approaches in the field for the observation, depiction and assessment of the landscape B16	
Cross-Curricular Subjects		
Cross-curricular subj.	**Thematic area**	**Subject matter**
Personal and Social Education	Communication	communication in various situations
	Cooperation and competition	developing individual skills for cooperation (self-regulation in situations involving disagreement, resistance etc., ability back off from one's own suggestions, ability to connect with others and develop one's train of thought, positive thinking)
		developing social skills for cooperation (clear and respectful communication, solving conflicts, acquiescence, leading and organizing team work)
	Values, attitudes, practical ethics	analysing one's and others' attitudes, values and their influence on human behaviour
	Self-regulation nd self-organization	time management
	Creativity	exercises for developing a basic framework of creativity (flexibility in ideas, originality)
Environmental Education	Humankind's relationship to the environment	our community (natural resources, origin, forms of use, waste management solutions, local nature and culture and their preservation, ensuring environmental protection in our town – institutions, non-governmental organizations, people)
		the environment and health (diverse environmental influences on health, complex and synergetic effects, possible forms of health protection)

Source: RIS 2007a; own processing.

Table 2 Linking Geography to other subjects matter in the theme of quality of life
in the Framework Educational Programme for Basic Education

Educational field	Subject matter	Expected outcomes
Natural sciences	fundamentals of ecology – natural and environmental protection	The pupil gives examples of positive and negative human influences on the environment, as well as examples of disturbances to an ecosystem's equilibrium.
Mathematics and its application	numbers and variables – percentages; decimals, fractions; dependencies, relations and working with data – dependencies and data – diagrams, graphs, tables; arithmetic mean	The pupil performs calculations using whole numbers and rational numbers, rounds off and performs estimates to a given level of certainty, uses calculators for specific purposes, solves applied problems using percentage, compares data sets, express functional relationships through tables, equations and graphs.
Humans and the world of work	use of digital technologies	The pupil masters the fundamentals of digital technology, observes fundamental health and safety rules and regulations when working with digital technology.
Civil education	human encounters – natural and social differences between people	The pupil assesses natural and social differences between people based on data found.
Information and communication technologies	information processing and application – spreadsheets, designing tables, comparing data, simple formulae, presenting information	The pupil masters work with text and graphic editors and spreadsheets, uses suitable applications and presents information using text, graphics and multi-media forms at a user level.

Source: RIS 2007a; own processing.

The cross-curricular approach to education focuses not only on knowledge, but also on skills, understanding and methods of teaching in relation to various subjects. The knowledge, skills and methods of teaching from different educational areas are applied in one common theme, idea and experience. This holistic approach is based on the constructivist concept of teaching that aids learning through practice and experience, thus supporting pupils' imaginations and encouraging them to discover and cultivate creativity (Savage 2010; Binterová et al. 2016).

Depending on the topic of QOL and whether it focuses mainly on the physical or the social conditions of people's lives, and apart from geography, the topic tends to have more intercultural links (RIS 2007a) with the educational areas "Humans and nature" (physics, mathematics, natural sciences)

"Humans and their world" (civil education) and "Humans and health" (health education). After the survey (measurement) and an analysis of the results, a link to mathematics and informatics is created. Again, the analysis of cross-curricular links using the example of a specific learning activity is presented in table 2.

Key competencies development

Selected themes on QOL issues were also evaluated based on pupils' competencies. According to Westera (2001), the traditional emphasis on mere factual knowledge has lessened because it is no longer sufficient to fully engage a person in a society's socio-economic life. Today's global world seeks employees who are able to solve complex problems, critically deal with information, collaborate collectively and

Table 3 Development of key competencies in the theme of quality of life

Learning competencies	The pupil searches for and classifies information, and based on their understanding, interlinking and systemization, uses them efficiently within the learning process in creative activities and real life.
	The pupil works with commonly used terms, signs and symbols; interlinks things with respect to their context.
	The pupil makes independent observations and experiments; compares the pieces of knowledge so gained, assesses them critically.
Problem-solving competencies	The pupil recognizes and understands problems, considers and plans ways to address/solve problems based on his or her own reasoning and experience.
	The pupil seeks information suitable for solving problems; identifies identical, similar and different features of pieces of information.
	The pupil addresses problems independently; chooses suitable ways to solve problems; uses logical, mathematical and empirical methods to address/solve problems.
	The pupil thinks critically; makes prudent decisions and is able to defend them; is aware of the responsibility for his or her own decisions; evaluates the outcomes of his or her decisions.
Communication competencies	The pupil formulates and expresses his or her ideas and opinions in a logical sequence; his or her oral or written expression is apt, coherent and cultivated.
	The pupil participates effectively in debates; defends his or her opinion and uses appropriate arguments.
Social and personal competencies	The pupil cooperates efficiently with other members of his or her group; participates − together with teachers − in setting up the rules of team work.
	The pupil contributes to discussions within a small group as well as to a debate in the classroom; understands the need to efficiently cooperate with others when addressing a task.
Working competencies	The pupil is able to safely and efficiently work with materials, tools and equipment; in his or her activities, complies with guidelines and rules; meets his or her obligations and commitments; adapts to changed or new working conditions.

Source: RIS 2007a; RIS 2007b; own processing.

communicate effectively. According to DeSeCo (2005), competencies include: 1. ability to effectively use technology, 2. ability to interact in diverse groups, 3. ability to act independently, 4. ability to promote their rights, interests and needs. An overview of the application of key competencies (RIS 2007a; RIS 2007b) for a selected educational activity, with an emphasis on problem-solving competencies, is presented in table 3.

Taking into consideration the multi-dimensional character of the quality of life, every teaching activity focused on this issue requires a higher level in schoolchildren's geographical thinking. This means that the pupils have to know how to use their knowledge, skills and understanding within the framework of a larger space and the natural environment and, at the same time, on different scales (from local and regional to global). They must become conscious of mutual interaction in the inside of a region, as well as the interaction between natural and human processes. Pupils should be able to explain these processes using a number of geographical factors in such a way that they will reach an understanding of development and its impacts on the quality of life in different areas. As far as schoolchildren are

concerned, all this requires the ability to use a more complex and larger scale of competencies simultaneously "in situ" and "on time" while solving an educational task.

We presume that during teaching activities focused on the quality of life, schoolchildren learn the key competencies (e.g. problem-solving competencies) which form the basis of their knowledge and skills and prepare them for real life. The results of the PISA (OECD 2018) research show that if pupils want to achieve success in their future lives, they must be able to apply the strategies of problem-solving which they have learned, both in school and outside the school environment. School subjects such as mathematics and natural sciences demarcate the majority of problem-solving activities in schools. Nevertheless, the success of an individual in real life depends on skills that are useful in a large spectrum of contexts both in school and in the real world (e.g. respect for the quality of the environment, decision-making in the interests of the sustainable development of society). Pupils who are experienced and good at problem-solving activities in school are also able to scan problematic situations outside school in order to grasp useful information. They are able to plan a strategy to overcome a problem, to find and implement a solution, and to follow the evolution of the problem-solving process, including the critical evaluation. The best way to develop problem-solving abilities is to carry out activities in a meaningful context, as with the use of interdisciplinary topics and questions which need to be answered (Vávra 2008).

At the same time, because the subject of quality of life does not frequently arise in geographical practice, it is possible to achieve more through motivation. The topic should be interesting for schoolchildren. If the teaching activity is appropriate, e.g. with the presentation of real research on the quality of life in authentic locations, pupils can start to consider different aspects of quality of life; very often from their subjective perspectives, and even before the specification of a teaching activity. Therefore we consider the subject of quality of life to be very convenient and inspiring. Because of its multi-dimensionality, this topic also enables teachers to define the process of education, through the

selection of appropriate educational methods and instruments, and by presenting a range of opinions and perspectives on the topic, from local to global. Teachers can present the depth of the research through the assessment of indicators. All of this, along with a well elaborated concept, makes it possible to define the time needed for the topic of quality of life in the framework of geography teaching.

METHODOLOGICAL ISSUES OF QOL AND KEY COMPETENCIES RESEARCH

The case study concerning pupils' problem-solving competencies on the issue of quality of life is based on an analysis of the implementation of a teaching activity and a questionnaire for pupils. Teaching activities were designed using didactic methods and forms such as: discussion, brainstorming, group teaching, problem teaching, research-oriented teaching and project teaching.

The implementation process of the teaching activity. Testing was carried out in the geography lesson which concerned the local region. The research was based on the findings proving that pupils in a 9th grade are able (according to Knecht et al. 2010) to solve complex learning tasks of cross-curricular character, given that they master the thinking and working methods, and have knowledge of specific educational fields, i.e. field competencies. A form of qualitative research combined with elements of quantitative forms was chosen. The qualitative research carried out on the pupils was focused on identifying their problem solving competencies, and it was not easy to prepare methodically because the partial components of this competence only have meaning in the context of all the other components (RIS 2007b: 25). The aim was also to attract the pupils' interest by ensuring that the teaching activity was based on real information from the region in which the pupils live and travel around. The activity was based on an updated survey from 2015 on the quality of life of senior citizens in the selected four municipalities of the Příbram region.

The research was based on the teaching activity entitled "Selection procedure for which municipality

will receive a subsidy to improve the quality of life of its inhabitants?", in which the pupils solve the given problem. They work on the „Worksheet" of the same name (Figure 1). The pupils become applicants for employment in the Project and Subsidy Management Department of Příbram and they carry out a task in order to get the job. The task is to decide which of the proposed four municipalities will receive a subsidy to improve the quality of life of their population. The municipalities of the Příbram region are places that the pupils know well; it is where they live. Pupils can use the "Attachment to the worksheet" (Figure 2) as a source of information. This tool consists of testimonies by the municipalities' inhabitants concerning QOL, a map of the Příbram region and a table outlining some of the advantages and disadvantages of life in the countryside. The testimonies of the inhabitants are fundamental to the pupils' understanding and without them the learning task cannot be solved. The map of the Příbram region helps the pupils to find their way around the area and provides information on the location and population of the municipalities. There is also a chart of advantages and disadvantages, based on real findings in the field concerning the problems of QQL in the municipalities in question.

The activity connects group work with individual work. The group work is included in the activity for the purpose of using the observation method and to monitor the students' communication, both social and personal, while observing their civil competencies through their communicative work. Through cooperation, group work helps students to save the time otherwise spent searching for information, and they can distinguish which pieces of information are useful and which are not. At the same time, it is the task of the pupils to look for specific problems in the given municipalities, to propose solutions to these problems and to discuss them among themselves. Group work links to individual work when each pupil proposes solutions which they have based on previous discussions with other pupils. They then write their own ideas on their worksheet. The teacher sets precise time limits on when the pupils must end group work, start individual work and submit their completed work sheet. By adhering to the time limits, the pupil can demonstrate his/her skills.

Questionnaire. The questionnaire for pupils focused on their abilities to solve the follow-up problems and their responses to the educational activities. It is on the reverse side of the worksheet. The questionnaire is based primarily on the pupils' self-evaluation. The first question identifies the subjective evaluation of the pupils, whether they have accomplished the task and the reason for the successful or unsuccessful fulfilment of the task. The second set of questions focuses on the pupils' opinions concerning the information provided. The third set of questions uncovers the pupils' views on the activities' overlapping into other subjects. The last group of questions concerns the assessment of the group work by the pupil themselves (Figure 3).

EVALUATION OF THE APPLICATION OF KEY COMPETENCIES: EXAMPLE OF TEACHING ACTIVITY ON THE TOPIC OF QUALITY OF LIFE

Teaching from the point of view of pupils' problem-solving competencies

The pilot research into pupils took place in a geography class and included the pupils in the teaching activity „Selection procedure for the municipality which will receive a subsidy to improve the quality of life of its inhabitants?" and in the subsequent questionnaire completed by the pupils. The pupils understood the assignment as was formulated in the worksheet. They were able to time their work in order to complete it within the time limits set. This was also due to the leadership of the teacher who followed the "Guidance for teachers" (Figure 4). For the pupils the motivation was not only a positive mark for the most successful solution, but also their own personal interest. Some pupils were already familiar with the community used in the given task and some were from that place. The knowledge of the situation in the villages motivated the other classmates.

Worksheet

Selection procedure for the municipality that will receive a subsidy to improve the quality of life of its inhabitants?

Name of applicant: ....

PROJECT – SUBSIDY TO IMPROVE THE QUALITY OF LIFE OF RESIDENTS

Assignment: Decide which municipality will receive a grant from the Department of Grants and Project Management in Příbram to improve the quality of life of its inhabitants. The subsidy can be obtained by one of these municipalities: Drásov, Dubno, Kotenčice and Obecnice. Your processing must include the specific proposal(s) for which the subsidy will be used (e.g. the reconstruction of a playground, or the placement of containers for sorted waste) and the results that will come from this change in the municipality. You can use information from maps, tables, or brief testimonies from the inhabitants of the municipality in order to process the proposal. Do not be afraid to be original and argue your claims.

1. **Group work**: Collaborate with other bidders.
    a. find useful information for improving the quality of life of the population
    b. find a quality of life problem that should be resolved
    c. design and discuss appropriate solutions for improving the quality of life

2. **Independent work**: Make your own proposal, stating the reasons why you chose your solution.

a) The municipality that will receive the subsidy is..., because

....

....

b) The subsidy will be used for / to

....

....

c) Thanks to the subsidy, the beneficial changes in the village will be

…..

....

Source: Own processing.

Figure 1

Questionnaire for pupils

Circle the correct answer, write your answer in the space provided

Do you think you managed to accomplish the task?

YES   NO

What helped you to accomplish your task?   What trouble did you have doing the task?

....
....
....

Was it difficult for you to quickly find the information needed in the attachments provided?

YES   NO

Was the information in the appendix necessary for solving the problem?

YES   NO   I DO NOT KNOW

Do you think you needed more information in order to solve the task properly?

YES   NO

What information?...
Where would you get this information?...

Which school subjects would this task come under?

....

Did you use any skills or knowledge that you learned in a subject other than geography?

YES   NO   I DO NOT KNOW

What kind of knowledge is involved?...
In which school subject did you learn this ? ....

Did the group work help you solve the task?	YES	NO	I DO NOT KNOW
Did you discuss the assignment in the group?	YES	NO	I DO NOT KNOW
Did you plan the tasks so that each student worked on his assigned parts?	YES	NO	
Did the group members come up with good ideas?	YES	NO	
Did you come up with a good idea to solve the problem?	YES	NO	
Did you try to defend your idea to the group?	YES	NO	

Thank you for your willingness to answer all questions.
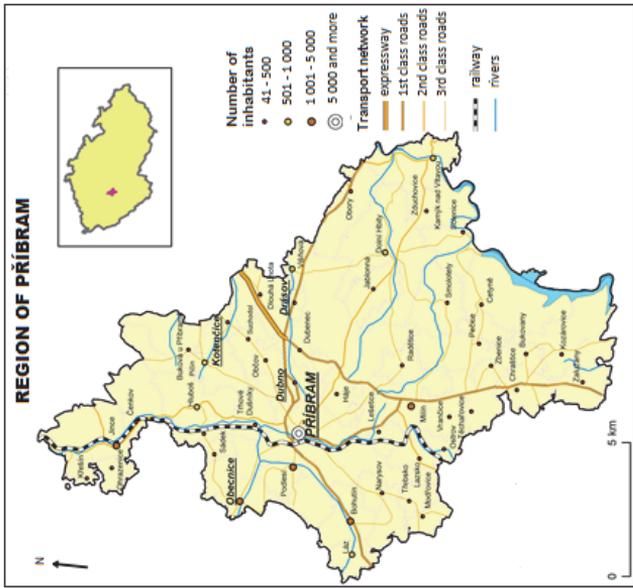
Source: Own processing.

Figure 2

Region of Příbram, opinions of the municipalities' inhabitants, table of advantages and disadvantages of the countryside

„*Kotenčice* is a nice small village, I have lived there since I was born. We have a nice playground and a football field. I commute to Příbram for work. I run all my errands and do my shopping in the city because we don't have any services in the village, not even a store-- it has closed down. That's why I grocery shop for my parents as well – they are old and don't dare to undertake a trip to the city. It's a long way to the bus stop and they couldn't carry the heavy bags all the way home."

„In *Dubno* we have everything we need. Starting with a grocery shop, a restaurant, and even an auto mechanic and a furniture store. The main road used to run through here so it was busy but it has been calmer since a ring road was built. I often use public transportation to commute to work in Příbram, to go to the post office, to the bank or to do my shopping. The only pity is that we don't have a playground or sports area."

„We built our house in *Drásov* a few years ago. We decided on Drásov mainly because it is close to both Praha and Příbram, which is well connected by the bus that my kids take to school. I have to take the car because I finish work after 7pm and there is no bus connection that late. We have a grocery shop in the village but I rarely shop there because it's more expensive and the selection is smaller. The pub closed down recently, so the locals travel to the neighbouring village. The kids often use the sports area which includes a playground. In summer many events and celebrations are organized, the whole village becomes lively."

„I have lived in *Obecnica* my whole life. It has changed a lot, the village has grown. I am retired and I spend the majority of my time here. I travel to the city just to go to the doctor and once in a while, I do a large grocery shop at the supermarket. While there, I go to the grocery shop, post office, hairdresser and I sometimes go to the local restaurant and pub. The only thing missing here is a butcher. My grandsons went to kindergarten and to school; they play football for the local football club. As a family we like to watch the game and cheer them on; the field is just next to the swimming pool and a small summer pub."

REGION OF PŘÍBRAM

Number of inhabitants
- 41 - 500
- 501 - 1 000
- 1 001 - 5 000
- 5 000 and more

Transport network
- expressway
- 1st class roads
- 2nd class roads
- 3rd class roads
- railway
- rivers

5 km

ADVANTAGES AND DISADVANTAGES OF THE COUNTRYSIDE	
Advantages	**Disadvantages**
the quality of the environment	availability of shops and post
accessibility of nature	availability of medical care
immediate surroundings of residences	selection of goods in stores
neighbourly relations	cultural activities
an environment that promotes independence and activity	transport accessibility

Figure 3

Source: own processing.

Guidance for Teachers

TOOLS AND EQUIPMENT

   Each pupil has a map of the Příbram region, a table detailing some of the advantages and disadvantages of the countryside, the testimonies of the inhabitants of the given municipalities, and the worksheet „Selection procedure for the municipality that will receive a subsidy to improve the quality of life of its inhabitants?" on the front page, with a questionnaire for the pupils on the reverse side.

1.   INTRODUCTION AND TASK (10 min.)
   The teacher introduces the activity: *„You have applied for a vacant position in the project management and grant department in Příbram. You would like to get this position. Therefore, you are taking part in the selection process in order to become the manager of the project. You will collaborate on the project with other job applicants; you will develop and discuss different solutions together. However, you will submit your own individual worksheet with your solutions which you believe are the most appropriate . Based on your worksheet, the HR section will decide whether or not you get the vacant position."* The motivation for solving the task could be a good mark or another reward for whoever gets the job.

   To repeat before starting the group work:
   a) *What is a subsidy?*
   b) *What is the quality of life?*
   c) *What influences the quality of life?*

   The teacher summarizes the assignment, describes the tools available and explains how the entire activity will take place. He/She clearly indicates the times for completing the group work and starting the individual work, as well as the deadline for submission of the results.

2.   GROUP WORK *(15 min)*
   • work in a group of 2–3 pupils;
   • pupils can share among themselves the information provided, thus saving time when trying to find out which information is useful to them;
   • recognition of problems in individual municipalities, inventing solutions, discussion.

   During group work, the teacher observes the pupils' work, records how they interact, whether they interact, and records the acquired information.

3.   INDIVIDUAL WORK *(15 min)*
   • the pupil conceives his suggestions, draws on the previous discussion with other pupils, writes his/her own ideas on his/her worksheet, works independently, the pupil answers the questions in the questionnaire.

Source: Own processing.

Figure 4

Before beginning the activity, it was also useful and important to review the meaning of the concepts; "subsidies" and "quality of life". Understanding the notion of childcare was not a problem, unlike the concept of quality of life, which the pupils could not explain. After thinking about it for a long time, they finally defined quality of life as "lifestyle", "health", "how people live", "how much money people have", "property", "culture", "interests, hobbies" etc. After an explanation of the concept by the teacher, pupils were able to list some of the influences on the quality of life of a person, such as relationships and family, neighbours, employment and wages, environmental pollution, transport and the dust and noise associated with it, containers for sorted waste, etc. It was obvious that the pupils were drawing on their own experiences. For example, the pupils said that "[QOL] is affected by traffic, because there are many cars on the roads and they create a lot of dust, and I have to dust every two days. I do mind that." It was also said that "When there is a bar under the flat, people cannot sleep well." And "The neighbours play music too loud and it bothers us." Impacts on the quality of life such the lack of services and facilities and poor access to transport links did not appear in the pupils' testimonies. After completing the activity the pupils once again discussed QOL with the teacher and their arguments and comments were "more professional". Their statements included concepts such as the lack of services (doctor, post office, shop, and pub), the low number of bus connections, reliance on family members, dangerous intersections in town, etc.

After a brainstorming session on this topic, the group work part of the activity followed. The first phase did not go well. It was obvious through observation that there was little cooperation among most of the pupils. Initially the majority of them went through the information provided on their own. Only two groups out of nine discussed the topic together from the beginning; in these cases the pupils divided the work among themselves and they all worked on their designated parts. Most pupils worked on the information individually. Most of the discussions occurred in the second half of the time provided. Two groups did not participate in discussions at all. As shown in the questionnaire, more than 70% of the students assessed the group work as being helpful in solving the task; half of them even stated that it was one of the main reasons for the successful completion of the task in the worksheet - the "selection procedure".

In general, group work should develop the pupils' communication, social, personal and civil competencies. In this form of teaching, pupils have the opportunity to work together, to organize work among themselves, to save time and effort and to discuss their proposals and solutions. Generally, it can be assumed that the group work helped pupils to resolve the learning activities. The pilot test has shown that in all cases, group work has had a positive influence on the course and resolution of the activity. Seven pupils (25%) said that group work did not help them successfully resolve their activity. Of these seven pupils, five failed to solve the task and to complete the assignment. The pupils stated the reasons as: "a partner who did not properly participate; a partner who did nothing and just copied the group work; a partner with whom we talked about something else; we talked about something else in the group; [the situation] is not real, so I do not need to think and help." For these reasons, it is clear that in four cases (14% of pupils), group work had the opposite effect to what was intended.

The group work was followed by a period of individual work in which the pupils answered the questions on the worksheet and wrote their thoughts and opinions concerning the issues discussed in groups. Pupils found their way through the provided annexes (Figure 1, Figure 2) without too much difficulty. Less than a third of the pupils stated in the questionnaires that they were not able to understand the annexes quickly. Specifically, the pupils were expected to determine and, most importantly, to justify their choice of which municipality should receive a subsidy for improvements in its QOL. When assessing the importance of the information as regards the successful solution of the task, it can be stated that the information provided in the inhabitants' statements was sufficient for the pupils (Figure 2.) to identify specific problems plaguing the inhabitants. Exactly half (14) of

the pupils stated that the testimonies of the inhabitants had helped them the most when it came to completing the task. The students considered the second most valuable source of information to be the group work (46% of pupils), followed by the discussions (36%). Only 10% of the pupils listed their own prior experience as an important factor in processing the task.

A total of six pupils (21%) were able to solve the task and receive the mark "Very Good" (Table 4). Three of them were from the group of excellent students, two were from the average group and one of the pupils had a regular mark in Geography which was below average. Their solutions were logical, realistic, well thought out and imaginative. They were able to process information very effectively, and express their thoughts and defend their proposals. In the spirit of the activity, these pupils won the tender and had the opportunity to "get a job". The solution to the problem was similar among the pupils, all of whom suggested that a mobile shop would be able to replace the closed-down shop in the village of Kotenčice. Four pupils used the map of Příbram because in their answers they planned a "slip road for a mobile shop", and the shop would have stops at specific times and on certain days in the villages surrounding the municipality. The other two pupils submitted a proposal for "Establishing a mobile shop that would commute to the municipality every second day with goods ordered in advance to know exactly what people need in order to sell everything." The result clearly shows that this kind of activity opens the door to success for more than just the "usual" best pupils.

Seventeen pupils (60%) received the "Average" rating. These pupils were able to identify and name the problem, find solutions and defend their decisions. However, their solutions did not contain any imaginative ideas. These pupils were unable to predict the changes that needed to be made. Their justification for their solutions was not enough to convince the assessors that they should be given the best marks. The most common proposal was to use the subsidy to build a new business or re-open a previously closed business in the village. Less than one fifth of the pupils were assessed as inadequate

(Figure 4). These pupils could recognize a problem and find a solution but their findings were unrealistic as the pupils could not reasonably explain and justify their solution to the problem. Some pupils were probably inspired by the table of rural advantages and disadvantages (Figure 3), although that did not provide enough information for them to solve the problem. Pupils simply wrote "business, post office, medical care," and, as an appropriate solution, voted to "build shops, post offices, and transportation stops." Such solutions were judged to be inadequate.

Overall assessment of key competencies of the pupils in the learning activity

In the evaluation of the pupils' *problem-solving competencies*, their work with the information provided is assessed. All the pupils were able to assess the presented information and to fulfil the stage of competence of understanding and illustrating the problem. Based on the results of the pupils' questionnaires (Figure 2), the work with information was a problem for only 8 pupils out of 28. Only 6 pupils (21%) rated quantitatively insufficient background information for the given task. Information from sources not supplied by the teacher was used, such as one situation where they reported more bus connections in the given village (3 pupils) and more local residents (3 pupils). According to them, these pieces of information were obtained on the Internet (2 pupils) and from interviews with local residents (4 pupils).

The finding of a solution to the problem, and the provision of a clear justification and defence for the solution has been described in more detail above, in the overall assessment of the solution of the given learning task. In evaluating their own success, more than three quarters (22) of the pupils believed they had successfully solved the learning task well enough to reasonably justify their solutions. Their average regular mark at Geography is 2- (on a scale of 1-5). The final evaluation of *communication competencies* is the same as the overall evaluation of the assigned task. Specifically, the pupils' abilities to express themselves are at a satisfactory level appropriate to their age and abilities, in the sense of the

objectives of basic education at the lower secondary school level as defined by the Czech Ministry of Education (RIS 2007a). Pupils communicated with a reasonably well-developed vocabulary, discussed the problem and defended their opinions. The evaluation of the responses in written form varied in the worksheets. Most of the pupils were able to express their thoughts meaningfully and their answers were logically compiled. Five out of twenty eight (18%) pupils could not defend their solutions; in contrast, six pupils were able to defend their opinions very well and to support them with other thought connections. The responses of the other pupils (17 pupils, 60%) were rated as average.

When assessing *civil competencies*, most pupils were able to accept the opinions of others, to argue their views and to assess whether they had enough information to successfully accomplish the task. From the aspect of the working competencies, it can be stated that all pupils were able to meet the set time limits, to estimate the time needed for the work and to divide the work in order to be able to submit their worksheets within the time limit.

Social and personal competencies were evaluated on the basis of a questionnaire. The analysis showed that pupils are capable of self-reflection and of reflecting on their own group's work. In deciding whether or not they have fulfilled or failed to fulfil their designated roles, all pupils have been able to accurately evaluate themselves. They were able to determine what helped and what hindered in solving the problem. Pupils who did not fulfil the task admitted that during the group work they did not discuss the topic (4 pupils), did not come up with a good idea (3 pupils) and could not defend their opinions (4 pupils).

Speaking about *working competences* the pupils were able to work with materials and equipment, to respect the predefined working time limits, to estimate the time needed for the tasks and to set out the appropriate time management in order to submit their worksheets on time.

Opinions on the use of cross-curricular links in the learning activity

Pupils were also asked to state which particular subjects the activity fell under. Half the pupils' answers placed the activity in geographical classes, the other half placed it in civic education classes. On the other hand, many children (up to 57%) did not even realize that they had used skills other than geographic skills when working on the worksheet, even though the activity took place in geography class (Table 4). Only five pupils (18%) stated that the knowledge of the grant term had been taught in civic education (4 pupils), and one pupil pointed out that mathematics was used when measuring distances on the map.

Table 4 Results of pupils' activities and opinions of pupils on the use of cross-curricular links in teaching activity

Overall assessment of pupils' activity (%)		
very good	average	insufficient
21	61	18
Did pupils use skills or knowledge from other subjects (%)?		
yes	no	I do not know
18	57	25

Source: Own processing.

CONCLUSION

In didactic theory (and practice) in recent years, efforts have been made to retreat from the traditional emphasis on factual knowledge of the field, and emphasis has shifted to key competencies. In this paper the suggestions on topics concerning quality of life focus on their application in pupils' competencies and cross-curricular relationships. The activity was designed to engage pupils actively in learning, to motivate them to learn and solve problems, and to promote the development of their logical and creative thinking. Through group

work, brainstorming and discussions pupils learn to collaborate and communicate not only with their peers and teachers, but also with strangers. They also learn to critically accept the opinions of others while being able to defend their own views. Last but not least, it was emphasized that the topic of the activity was connected with practice and simulation and showed students some of the realities of society, in which they could figuratively participate.

The proposed activity develops all the key competencies defined and described by the FEP BE (learning competencies, problem-solving competencies, communication competencies, social and personal competencies, civil competencies and working competencies). The results of the pupils' competency pilot survey on problem solving have shown that most pupils acquired all key competencies in this task at a level corresponding to their age and to a 9th grade of lower secondary school (RIS 2007a). Did the pupils solve a task within the framework of the "Selection procedure for which municipality will receive a subsidy to improve the quality of life of its inhabitants"? Pupils successfully assessed and processed the information, managed to operate with commonly used terms, put facts into context and connect them to each other. All of the pupils were able to understand and recognize the problem, and most of them were able to choose and plan a suitable solution that they could defend. Six pupils out of twenty-eight, i.e. more than a fifth of the pupils, were able to find an imaginative and realistic solution to the assigned task, which was highly appreciated.

Communication in group work and discussion with the teacher has shown that pupils can formulate and express their thoughts and opinions coherently and creatively and they can understand and listen to other people. The assessment of communication competencies based on written answers was not as positive as in the case of communication in spoken form. Five pupils (18%) failed to defend their solutions and to make a meaningful statement. The authors do not attribute this result to the fact that pupils do not have sufficient communication competencies, but it is attributed to their lack of interest in participation in the activity, which has

been confirmed by the self-reflection work of the pupils themselves. The four pupils (14%) who did not fulfil the role admitted that they did not discuss it and did not come up with any good ideas (11%). Twenty pupils (71%) said that group work was beneficial for them. What's more, for half of the pupils, the group work was cited as the main reason they were able to fulfil the task. In contrast, a quarter (7) of the pupils identified group work as one of the obstacles preventing them from successfully fulfilling the task. This number could be considered as too high. For authors such as Maňák and Švec (2003) and Červenková (2013), the bad organization of group work may be the reason but the explanation could be much simpler. There is no doubt that it is not possible to expect good results if the group work is not well organized, but perfect organization does not necessarily bring perfect numbers, due to the inexperience of the pupils with this method. It is necessary to realize that it develops communication and cooperation skills and creates a team spirit, which is extremely important in the contemporary world. The pupils have to learn this and it takes time.

The case study, aimed at verifying the problem-solving competencies of pupils using the example of the QOL theme, has shown that the upcoming full-scale research will be feasible without any changes to the worksheets or to the questionnaire for pupils. Only the role of teachers and parental involvement will be tested more precisely in order to compare it with the results of Pimta et al. (2009) and Silao (2018). The growing interest in studying the quality of life of professionals, and its more frequent inclusion in newer Czech school textbooks, prove that it is desirable that pupils to learn about the issue. Quality of life can be assessed by pupils on the basis of their own views (their own experiences), through the subjective assessments of other people, and from the socio-economic indicators obtained from statistics. All the above factors allow teachers to focus tasks relating to quality of life issues as closely as possible on the real lives of pupils, and they can actively involve pupils in learning through the use of appropriate methods, and in this way they can increase pupil's motivation to work. Thanks to the trans-disciplinary theme, the curriculum is linked

to the skills and knowledge of other educational disciplines. The ways in which pupils learn to think deeply concerning different values and gain a general perception of quality of life can show teachers that their pupils have their own value systems and opinions concerning different aspects of quality of life. Such knowledge can be an important factor in educating pupils and improving their understanding.

Acknowledgement

References

Andráško I., Ira, V. 2007: Kvalita života z pohľadu humánnej geografie. *Geografický časopis* 59 (2), 159–179.

Ballas, D, Dorling, D. 2013: The geography of happiness. In **David, S. A.**, **Boniwell, I.**, **Conley Ayers**, **A**. eds. *Oxford Handbook of Happiness*. Oxford University Press, Oxford, 465–481.

Binterová, H., Hašek, R., Karvánková, P., Pech, P., Petrášková, V. 2016: *Klíčové kompetence a mezipředmětové vztahy*. Jihočeská univerzita, České Budějovice.

Bourn, D. 2008: Education for sustainable development and global citizenship. *Theory and Research in Education* 6 (2), 193–206.

Červenková, I. 2013: *Výukové metody a organizace vyučování*. Ostravská univerzita, Ostrava.

Chang, Ch.-H., Aman, M. F. 2017: The international charter on geographical education – a reflection on published research articles on assessment. *Journal of Research and Didactics in Geography* 2 (6), 5–16.

Davidson, J., Parr, H. 2014: Geographies of psychic life. In **Kingsbury, P., Pile, S.** eds. *Psychoanalytic Geographies*. Routledge, London, 119–134.

DESECO 2015: *The definition and selection of key competencies. Executive Summary.* (https://www.oecd.org/pisa/35070367.pdf), accessed 2018-05-25.

EP (European Parliament). 2018: *Hospodářství, věda a kvalita života.* (http://www.europarl.europa.eu/atyourservice/cs/displayFtu.html?ftuId=theme2.html), accessed 2018-05-23.

Fertaľová J., Madziková, A. 2008: Percepcia kvality života na príklade mesta Bardejov. *Misceillanea Geographica* 14, 105–109.

Gerber R. ed. 2003: *International handbook on geographical education*. Kluwer Academic Publishers, Dordrecht.

Gérin-Grataloup, A. M. 1997: Enseigner la géographie autrement: l'expérience anglaise et galloise. *L'Information Géographique* 61 (1), 24–30.

Gregory, D. et al. 2009: *Dictionary of human geography*. Wiley-Blackwell, Oxford, 606–607.

Helburn, N. 1982: Presidential address: Geography and the quality of life. *Annals of the Association of American Geographers* 72 (4), 445–456.

Heřmanová, E. 2013: *Kvalita života a její modely v současném sociálním výzkumu*. Sociológia 44 (4), 407–425.

Hicks, D. 2003: Thirty years of global education: a reminder of key principles and precedents. *Educational review* 55 (3), 265–275.

Hofmann, E. 2003: *Integrované terénní vyučování*. Paido, Brno.

Howe, N., Strauss, W. 2000: *Millennials rising: The next great generation*. Vintage, New York.

IGU-CGE 2016: *International charter on geographical education*. (http://www.cnfg.fr/wp-content/uploads/2017/12/Charter_2016-IGU-CGE_May_9.pdf), accessed 2018-10-25.

Karvánková, P., Popjaková, D., Vančura, M., Mládek, J. eds. 2017: *Current topics in Czech and Central European geography education*. Springer, Heidelberg.

Knecht, P., Janík, T., Najvar, P., Najvarová, V., Vlčková, K. 2010: Příležitosti k rozvíjení kompetence k řešení problémů ve výuce na základních školách. *Orbis scholae* 4 (3), 37–62.

Knox, P. L., Pinch, S. eds. 2010: *Urban social geography: an introduction*. Pearson Education, Harlow.

Lidstone, J., Williams, M. eds. 2006: *Geographical Education in a Changing World: Past Experience, Current Trends and Future Challenges*. Springer, Dodrecht.

Liszewski, S. 1995: Zróżnicowanie przestrzenne poziomu i jakości warunków życia ludności

w aglomeracjach miejskich (program badań, pierwsze wyniki). *Folia Geographica, Acta Universitatis Lodziensis* 20, 207–221.

Liu, B. Ch. 1975: Quality of life: concept, measure and results. *American Journal of Economics and Sociology* 34 (1), 1–14.

Magee, L., James, P., Scerri, A. 2012: Measuring social sustainability: A community-centred approach. *Applied Research in the Quality of Life* 7 (3), 239–61.

Maňák, J., Švec, V. 2003: *Výukové metody.* Paido, Brno.

MEYS (Ministry of Education, Youth and Sports) 2010: *Generace Y. Důvody nezájmu žáků o přírodovědné a technické obory.* (http://www.generacey.cz/uploads/akce_a_aktuality/pardubicky_kraj/Duvody_nezajmu_zaku.pdf), accessed 2018-09-19.

Murgaš, F. 2013: *Prostorová dimenze kvality života.* Sborník příspěvků z mezinárodní konference. Katedra geografie TU, Liberec.

OECD 2018: PISA 2015. Results in focus. http://www.oecd.org/pisa/pisa-2015-results-in-focus.pdf), accessed 2018-09-17

Pacione, M. 2003: Urban environmental wellbeing - a social geographical perspective. *Landscape and Urban Planning* 65 (1–2), 19–30.

Papáček, M. 2010: Badatelsky orientované přírodovědné vyučování – cesta pro biologické vzdělávání generací Y, Z a alfa? *Scientia in educatione* 1 (1), 33–49.

Pimta, S., Tayruakham, S., Nuangchalerm, P. 2009: Factors Influencing Mathematic Problem-Solving Ability of Sixth Grade Students. *Journal of Social Sciences* 5 (4), 381–385.

RIS (Research Institute of Education) 2007a: *Framework educational programme for basic education.* (www.msmt.cz/file/9481_1_1/), accessed 2018-10-26.

RIS (**Research Institute of Education)** 2007b: *Key Competences in Basic Education.* (www.msmt.cz/file/10434/download/), accessed 2018-05-25.

Savage, J. 2010: *Cross-curricular teaching and learning in the secondary school.* Routledge, London.

Silao, I. V. 2018: Factors Affecting the Mathematics Problem Solving Skills of Filipino Pupils. *International Journal of Scientific and Research Publications* 8 (2), 487–497.

Sirgy M. J. 2006: A Quality of Life Theory Derived from Maslow's Developmental Perspective. *American Journal of Economics and Sociology* 45 (3), 329–342.

Škoda, J., Doulík, P. 2009: Vývoj paradigmat přírodovědného vzdělávání. *Pedagogická orientace* 19 (3), 24–44.

Slováček, L., Slováčková, B., Jebavý, L., Blažek, M., Kačerovský, J. 2004: Kvalita života nemocných – jeden z důležitých parametrů komplexního hodnocení léčby. *Vojenské zdravotnické listy* 73 (1), 6–9.

van Kamp, I., Leidelmeijer, K., Marsman, G., de Hollander, A. 2003: Urban environmental quality and human well-being: Towards a conceptual framework and demarcation of concepts; a literature study. *Landscape and Urban Planning* 65 (1–2), 5–18.

Vávra, J. 2006: Pojetí výuky zeměpisu (geografie) v britském kurikulu. *Metodický portál: Články.* (https://clanky.rvp.cz/clanek/c/Z/853/POJETI-VYUKY-ZEMEPISU-GEOGRAFIE-V-BRITSKEM-KURIKULU.html), accessed 2018-09-20.

Vávra, J. 2008: Czech geographical education: from behaviourist to constructivist learning? In **Donert, K., Wall, G.** eds. *Future prospects in geography,* HERODOT Conference Proceedings, 4–7th September 2008. Liverpool Hope University, 135–147.

Westera, W. 2001: Competences in education: a confusion of tongues. *Curriculum Studies* 33 (1), 75–88.

Woodbridge, **W. C.** 1844: *Modern school geography.* Belknap and Hamersley, Hartford.

Woodman, D., Wyn, J. 2014: *Youth and generation.* Sage, London.

Zittoun, R., Achard, S., Ruszniewski, M. 1999: Assessement of quality of life during intensive chemotherapy bone marrow transplantation. *Psychooncology* 8 (1), 64−73.

Résumé

Téma kvality života a rozvoj klíčových kompetencí: případová studie o podpoře geografického myšlení žáků

Moderní školní zeměpis počátku 21. stol. čelí výzvě rozvíjení geografického myšlení žáků (IGU-CGE 2016). Zároveň se snaží přibližovat výuku geografie běžnému životu, tím klást důraz na praktické činnosti a témata (Hofmann 2003), a to s cílem dělat výuku atraktivnější a motivovat žáky na hodinách. Předpoklady zeměpisu, jako multidisciplinárního a interdisciplinárního vzdělávacího oboru, umožňují snadněji „modernizovat výuku zeměpisu" na školách také využíváním průřezových témat RVP ZV (RIS 2007a), tj. aplikací mezipředmětových vztahů, a také klíčových kompetencí žáků (Škoda et al. 2009, Knecht et al. 2010, Binterová et al. 2016). Kromě toho, moderní zeměpis zahrnuje, i ve smyslu Woodbridge (1844), nejenom nové metody a formy, ale také nová témata výuky. A mezi taková nepochybně patří i téma kvality života (KŽ).

Téma KŽ není běžným tématem na základních školách, nicméně je zahrnuto ve vícero vzdělávacích oborech. Dle RVP ZV 2007 a ŠVP Základní školy pod Svatou Horou v Příbrami, netvoří téma KŽ v rámci zeměpisu samostatný tematický celek, přesto ji, v jednotlivých tematických celcích lze odkrýt a pobízet na didaktické zpracování. Nejvíce obsahových paralel mezi kurikulárními dokumenty na jedné straně a tématem KŽ na straně druhé, se objevuje v rámci zeměpisu při tematických okruzích Česká republika, Životní prostředí, Terénní geografické vyučování, Geografické informace, zdroje dat, kartografie a topografie, jako i Společenské a hospodářské prostředí. Z průřezových témat RVP ZV má téma KŽ nejblíže k Environmentální výchově, k tématu Osobnostní a sociální rozvoj a částečně k Multikulturní výchově. Z hlediska mezipředmětových vazeb dochází při tématu KŽ k propojení zeměpisu hlavně s přírodopisem, výchovou k občanství a ke zdraví nebo při analýze výsledků šetření pak s matematikou a informatikou. Mezioborové téma KŽ pobízí procvičovat a rozvíjet klíčové kompetence žáků, kromě jiných i kompetence k řešení problémů, na které byl zaměřen výzkum.

Výzkum byl realizován v průběhu výukové aktivity „Výběrové řízení aneb která obec získá dotaci na zlepšení kvality života obyvatel?", do které byly zapojeny dvě 9. třídy s 28 žáky výše jmenované základní školy, s 17 děvčaty a 11 chlapci. Po úvodním brainstormingu s učitelem a diskusi na téma „kvalita života", „dotace", žáci pracovali nad stejnojmenným pracovním listem, čím se stávali uchazeči o pracovní pozici projektového manažera. Jeho úkolem bylo rozhodnout, která z navržených čtyř obcí Příbramska získá dotaci na zvýšení kvality života obyvatel. Jako zdroj dat sloužily žákům výpovědi obyvatel dotčených obcí k otázce KŽ a mapa Příbramska. V první fázi žáci diskutovali problémy KŽ a jejich řešení v obcích ve skupinách, poté navrhovali a zapisovali svá řešení do pracovního listu individuálně. Na závěr vyplnili dotazník zaměřený na výzkum kompetencí žáků k řešení problému.

Skupinová práce žáků neprobíhala zpočátku ideálně, i když byl předpoklad, že to bude právě tato fáze práce žáků, která jim umožní zadaný úkol splnit. Dvě skupiny žáků z devíti nespolupracovaly vůbec. Avšak sumárně více než 70 % žáků hodnotilo skupinou práci jako přínosnou a 50 % jako nezbytnou při řešení úkolu. Při posuzování individuální práce byla více než pětina žáků (21 %) schopná splnit úlohu „Velmi dobře". Jejich řešení bylo logické, reálné, dobře promyšlené a nápadité. Dokázali velmi dobře zpracovat informace, vyjádřit své myšlenky a obhájit svůj návrh. Sedmnáct žáků (60 %) získalo hodnocení „Průměrné". Na rozdíl od první skupiny nedokázali predikovat změny svých řešení a jejich obhájení nebylo dostatečně přesvědčující. Výsledky pěti žáků (necelé pětiny) byly hodnoceny jako „Nedostačující".

Výše uvedené hodnocení žáku z pohledu „hledání řešení problému, jeho srozumitelné zdůvodnění a obhájení" bylo součástí hodnocení kompetencí žáků k řešení problému. Posuzována byla práce žáků s poskytnutými informacemi. Všichni žáci byli schopni posoudit předložené informace a splnit fáze kompetence porozumění, uchopení a znázornění problému. Práce při samotném zpracovávání informací činila problém 8 žákům z 28, více jako čtvrtině dětí. U hodnocení vlastní úspěšnosti resp. neúspěšnosti (sebehodnocení) žáků při

hledání řešení problémů a jeho obhájení, více než tři čtvrtiny (22) žáků věří, že učební úlohu dokázali úspěšně vyřešit, své řešení srozumitelně zdůvodnit a také obhájit. Propojení zeměpisných dovedností a znalostí s jinými předměty při dané aktivitě si děti (až 57 %) vůbec neuvědomovaly. V průběhu aktivity nevnímali, že při práci na pracovním listu využívali i jiné znalosti a dovednosti, než zeměpisné, i když aktivita probíhala na hodině zeměpisu.

Výsledky výzkumu kompetencí žáků k řešení problémů ukázaly, že většina žáků má osvojené veškeré klíčové kompetence na úrovni, která odpovídá jejich věku. Téma KŽ je blízké běžnému životu dětí. Žáci jsou schopni posuzovat kriticky KŽ na základě vlastního pohledu (vlastních zkušeností), subjektivního hodnocení jiných lidí i na základě objektivních socioekonomických dat získaných ze statistik.