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Comparative analysis of the methods of teaching geography in different types of schools

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Abstract

As an entrant teacher, it has been a major issue for us to identify the problems and circumstances of teaching geography in various schools. We have been interested in the opinion of teachers about the state of education, their practical experience and solutions. As part of our research, lessons were observed in five different types of schools and semi-structured interviews were conducted with the teachers afterward. We complemented these with an online survey which was filled out by 122 geography teachers throughout the country. A diagnostic measurement and an attitude research took place in the monitored classes, where the sample included 131 people. Mostly close-ended questions were applied where Likert Scale types were significant in order to analyse the results of the survey more efficiently. The results of the diagnostic tests did not indicate significant difference. However; the survey denoted that applying diverse methods results in acquiring a deeper knowledge. Furthermore, not the type of the school, but the personality of the teacher was the most determining in knowledge transfer and student activity during class.

Keywords: geography teachers; practical experience and solutions; type of school; attitude;

1. Introduction

Nowadays, parents are able to choose from a wide range of types of high school for their children. It is important for the entrant teachers and the professors of methodology to know all of these possibilities in order to adjust to the workplaces where they will work in the future. The point of view of the future colleagues who have more experience can give an interesting insight into the work that takes place in the schools. Furthermore, their suggestions for solving the already emerged problems deserve special attention. The opinion of students about the classes of the interviewed teachers can give even more details about the situation. Which is the teaching method and form of student participation in class that is enjoyable for both students and teachers while providing an effective learning progress? Choosing the school is the main

decisive factor, or is it about the applied methods, different ways of teaching, personality of the teacher and the attitude of the students?

2. The aim and goal of the study

This current education system has problems that needs be solved. According to our opinion and the concerning literature, these can be summarized as follows: (Forgó, Kis-Tóth, Hauser 2008; Homoki, 2017):

1. Various abilities and skills of the students (learning method, pace, comprehension, etc.).
2. Different fields of interest, attitudes of mind (humanities or STEM, theory or practice – all of these can be found in geography).
3. Personality and know-how of the teacher with his pedagogical culture.
4. Diverse educational framework which – according to international surveys - significantly influences the quality of teaching (equipment, teaching staff, quality of service). This results in the fact that peripheral areas lag behind.

In the course of the research we examined different school types: two public high schools, a special, a practicing, and a private one. These were located in various types of settlements: capital, county seat, city, and village. With respect to our aim, we collected and compared the following data: teaching methods applied in different institutions, which of these methods are dominant, how much these methods correspond to the didactic function of the class, and lastly, how much the students can perceive the knowledge that is delivered to them in this manner.

These were our hypotheses of the research:

1. The application of diverse methods leads to more effective acquisition of knowledge and/or skills.
2. Illustration positively influences the comprehension of material and the attitude of students towards learning. On the other hand, the lack of infrastructural equipment can degrade the standard of education and makes it harder to acquire knowledge.
3. Based on the abovementioned, our assumption was that the „rank” of the school is insignificant and the determining factor is the personality of the teacher.

3. Methods

Within the research, we applied the methods of school attendance and classroom observation, interview and survey in order to have the answers for our questions. We drew a conclusion about the school methods mainly from classroom observations and the interviews with the teachers. For the preparation of examinations we used the works of Babbie (2003), Falus, Ollé (2000), and Falus (2007) from the field of pedagogical research methodology. The online survey was filled out by 122 geography teachers throughout the country. Furthermore, 131 people were included in the diagnostic measurement and attitude research in the monitored classes. The applied methods are both qualitative and quantitative which include classroom observation, interview, survey for teachers and the measurement of the attitude of students. Simonyi Sándor, entrant teacher performed all of the data collection.

An informal monitoring took place during the classroom observation in order to collect empirical data. The defined goals of the observation were to note the applied methods and to inspect the attitude of the teacher. The classroom observations happened in arranged times and the entrant teacher was a passive observer. Different topics were covered in the classes during these observations. This pre-arrangement led to the disadvantage that the teacher did not always behave and teach naturally, as he usually does. The methods of these visits were causal and comparative (Lengyelne, 2013), since the aim was not only to collect data but to reveal the causal relationship and to compare the different types of schools. Reports which were made about every visit were standardized in question groups and quantified finally.

The semi-structured, individual interviews were another part of data collection where the subjects answered open-ended and close-ended questions. Mainly open-ended questions were used where the subject could reply with his own words. Therefore, we could assess the subject's point of view and way of thinking on the given topic (Lengyelne, 2013). A soft atmosphere was created by the behaviour of the interviewer where the missing information could be acquired with follow-up questions (Babbie, 2003).

4. Results

We highlight the applied methods from the results (Table 1). Teaching methods are classified into three main groups: classical (illustration, explanation, lecture, discussion), interactive (debate, presentation) and new-generation method (project, cooperative work) (Falus, 2007).

Table 1: Summary of the frequency of methods used in the different types of schools (self-edited)

Classified methods	Primary school	Practising high school	High school in a smaller city	High school in the capital	Private school
Narration					
Lecture	x	x		x	x
Question method	x	x			x
Explanation	x	x	x	x	x
Discussion	x	x	x	x	x
Part summaries, repetitions	x	x		x	x
Student's presentations			x		
Debate	x				
Homework	x				x
Creating an outline (using the board/projector, by dictating)				x	x
Self-reliant work	x			x	x
Audio-visual devices		x	x	x	x
Illustration	x	x	x	x	x
Complex Instruction Program	x				
Cooperative method					
Simulation, roleplay, play					
Project method					x
Total amount (pc):	10	7	5	8	11

During the observations, we examined the application of verbal methods, individual methods, illustration and the frequency/occurrence of new methods (Table 1). These results can be correlated with the efficiency of the diagnostic measurement. By this measurement, it can be declared that the school which used the most methods performed the best. The efficiency of the schools was measured with a diagnostic test. This was applied in order to compare methods of the schools with student performance. Only the private school did not participate in filling the test, therefore, we acquired information from 131 students from 4 different schools. The test contained tasks of various levels with major topics of the general curriculum of Geography. The compilation was based on the PhD thesis of Erika Homoki, the GCSE (General Certificate of Secondary Education) of Geography, coursebooks of Hungarian Institute for Educational Research and Development, PISA surveys, and was supplemented by our own questions. We paid attention to completion of the test so it could be done during the time of one lesson, and the participants were from classes 10th or 11th. Only one 8th class was involved in writing the test due to the special CIP teaching strategy at the school. This did not arise any problem since only those topics of Geography appeared in the test which had already been discussed in class, due to the lineo-concentric arrangement of the subject Geography. We aimed to have various types of questions and tasks with different levels of knowledge.

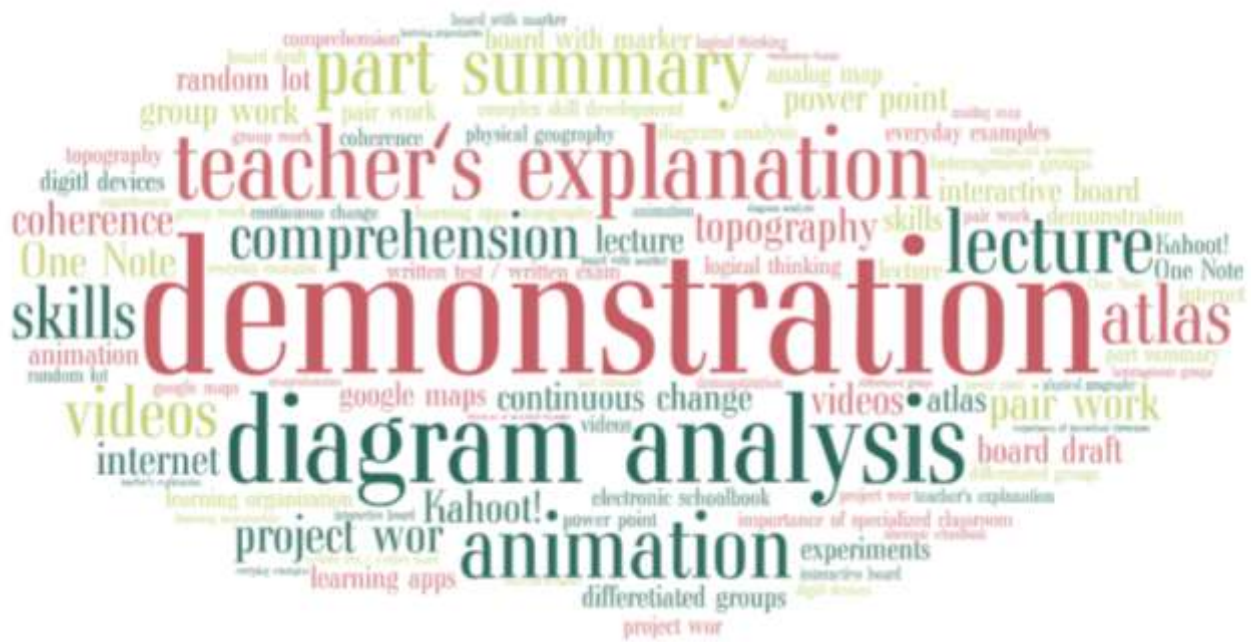
According to the data of Table 2, the tasks for application level of knowledge succeeded best, although these were relatively less present. Actually, tasks concerning identification level of knowledge had the best results, since guessing plays an important role here, especially in case of alternative choice questions or a quantity comparisons (Table 2). Denomination and reproduction level tasks were the weakest. These surveys are intended to be repeated for acquiring more objective results with a larger number of samples. In addition, we consider it important for tasks with different level of knowledge to be more proportionate in the diagnostic test.

Table 2: Results of the diagnostic test based on levels of knowledge (%)

Type of school	Identification	Naming	Reproduction	Application
Special primary school	63	63	53	77
Practising high school	63	63	34	83
High school in a smaller city	61	66	38	89
High school in the capital	68	44	45	83

In the case of the diagnostic measurement, a statistical relation existed. Moreover, classroom observations showed that the verbal methods are still dominant in schools and that new methods (CIP, cooperative techniques, heterogeneous grouping of students) can only be observed in special primary school and in private school. Additionally, the methods were used in the most diverse way in these latter types of schools. In addition, the practical application of ICT devices was only experienced in those schools, as well.

We grouped the 26 questions of the interviews: firstly, the circumstances of teaching (tools, classroom), secondly, the applied method and lastly, innovation. We created a word cloud from the most frequent expressions, the following contains the analysis of its content (Figure 1).



If we summarise the answers of the interviews, we conclude that the most frequently used method of the interviewed teachers is the board with chalk or pen, as schools cannot afford to invest in **interactive boards**. There are schools with interactive boards; however, their functions are not always fully utilized (Makádi, 2011) or the necessary software is not installed on the computer in the classroom. Accordingly, the board is only used as a projector. A reason for this may be the lack of competence for proper use (Farsang, 2011). As a solution, there are further trainings in some schools.

We highlighted the analysis of the use of maps which is a significant tool in geography. Surprisingly, none of the schools uses atlas and only three of them work with wall maps. The lack of atlas was explained by the fact that students usually do not bring them to class. According to the interviews, wall maps are not used since there are no specialized classrooms for them and due to insufficient financial resources for buying a new or changing old, outdated or torn ones. Where wall maps are applied, teachers have to bring them to every single class during the year as a geographical name or notion can occur anytime which can be shown to the students. Every school works with online/electronic maps. Its main advantage is that they can use it in case of a missing wall map and the continent can be shown by PowerPoint or even Google Earth.

Most of the schools do not possess a specialized classroom (in case of the observed schools only two out of five have it and both of them are in the capital), even though teachers say it would be important. Collecting all the tools (literature, workbooks, maps, etc.) and storing them in a systematic way would result in accessibility and a more effective usage. Experiments could be done more frequently and efficiently, even interactive boards would have a proper place. On the other hand, according to our classroom observations and the literature (Fűzi, 2015), a Geography lesson can be successful with the diverse use of simple methods (Makádi, 2005).

Teachers could **draw on the board or create an outline**. They have considered it important to involve students into the process of drafting or drawing. Creating an outline at the board is sometimes substituted with ppt presentations; however, several teachers use both techniques side by side. For demonstrating geographical processes, drawing on the board is said to be significant. In their opinion, a well-prepared geography teacher builds the lessons logically so that knowledge transfer succeeds even with a single chalk. Any kind of verbal method of explanation and revelation of the causal relationship is essential because it helps the students understand and create the logical connections and in their minds.

Teamwork is applied and appreciated in almost all of the schools. The teams are created mostly by the teachers, who use several kinds of methods for this. Summing up the answers of the interview subjects, we can say that they group students into teams differentially and randomly. Sometimes they create homogenous and heterogeneous teams in order to reach the common outcome. Occasionally, students can choose who they would like to work with. It is essential for the teamwork to be playful at the same time, and that children could help and improve each other. It also must be taken into consideration that there cannot be any conflict among those who are in the same team. Besides teamwork, pair work and student pairs are used as well. Moreover, cooperative teamwork and project works take place once or twice a year.

As the results show, responding to the research questions, we can state that **the use of diverse teaching and working methods lead to a more effective acquisition of knowledge in the examined schools**. It was proved by the average of diagnostic measurements of schools and the summary of the methodology acquired from class observations. The best result appeared at a high school in the capital where during the observed lesson, the teacher adopted eight kinds of methods with dominant illustration, besides using the 45% of verbal methods. Ten methods were applied in the special primary school. However, most of them were verbal (75%), but illustration was significant there, too. The results of the other schools were weaker which can be explained by the less diverse methods.

The infrastructural equipment and the performed illustration positively influences the comprehension of the material and the students' attitude towards learning. At the end of the classroom observations, the participant students had to fill in a three-question survey measuring their attitude and how they felt themselves during the lesson. 61% of the students are rarely or never bored during geography classes. However, one third of the students (32%) usually or always find the lessons boring, the remaining part (7%) also feel this way frequently. In spite of, more than 51% of the students have a positive attitude towards the education of geography, although students in high school of smaller cities are more likely to get bored.

The following question was how much they liked geography. We state that 76% of students like it, 23% do not, ten students did not answer this question. Viewing it in details at different types of schools: 90% of special school, 83% of practicing school, 47% of high school in a smaller city and 70% of high school in county seat or the capital like geography lessons. Thus, students who are not bored like the lesson, and there are some scholars who also like it even though they consider it to be boring. This contradiction may stem from the compulsion to conform constraint towards the expectation of teachers (Füzi, 2015). The answers are consistent only in case of high school in smaller cities.

In our opinion, the teacher's personality had the largest influence on the students' achievement and attitude towards the subject in the examined schools. However, we can talk about other influencing factors as well, like the infrastructural equipment or an interactive board. Since there is no significant difference between the results of diagnostic measurement and the teaching methods, this leads to a conclusion that the teacher's personality can have an impact on the activity and achievement during the lesson. It means the „rank” of the school may be insignificant and the personality of the educator is what matters. The positive attitude of the students (teacher's personality) makes the process of the teaching the subject more successful. Sutton's research (2005) also confirms that a beloved teacher with a positive attitude and personality, who has consistency in teaching and clear requirements can result in more productive dialogs and less common for students to avoid assignments (Füzi, 2015; Rotgans, Schmidt, 2011).

5. Summary

Lifelong learning is necessary in the teaching geography as geographical processes are constantly changing (countries, borders, society, and economic process), and the inquiring children need answers for their emerging questions so that educators have to be up-to-date. It

is of utmost importance to keep pace with the development of technology, as it was said by the interviewed teachers. In those schools that possess an interactive board (four from the observed ones), students enjoyed the lesson more as they could use the board themselves. According to them, it helps them memorise and classify new material, for instance in case of summarizing. However, not all of the schools can afford such an equipment so they use other devices, for example computers or projectors that enable the demonstration of videos and pictures. There are some schools that do not have projectors in all of the classrooms that is why the teachers have to arrange the lessons in advance and decide which teacher can use the given classroom and when. Unfortunately, frontal teaching is still the primary method in most of these places which is compensated by teamwork. In the interviews, teachers replied they use this frontal method because they feel it is the best way of teaching the most material without illustration and any additional equipment. Although, these days more researches proved it to be – at least partially – false (Merényi, Szabó, Takács, 2006). The worst achievements took place in those schools where there was no opportunity of using an interactive board and there were only a few projectors; moreover, where the teaching methods were less diverse. This is proved by the result of the diagnostic test as well.

It can be concluded that it is not the rank of the school that can make the process of teaching successful, but its environment, atmosphere, equipment and the values and attitude of the teachers working there. Furthermore, the location of the school in the country is irrelevant. Nonetheless, due to the regional division of society, we cannot ignore the spatial situation of the school, the attitude of the student, motivation and commitment towards learning. This field of public education needs strong developments in order to eliminate these problems.

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Sándor Rajmond, Simonyi, fifth-year student at the Eszterházy Károly University in the programme of Teacher of German, History and Civics. In 2018, he got second place in the Student Research Societies (TDK) contest of the Institute of Geography and Environmental Sciences which enabled him to take part in the National Scientific Students' Associations Conference (OTDK) in 2019. The topic of his research was the comparative analysis of the methods of teaching geography in different types of schools. His consultant was Erika, Homoki PhD. Since February 2020, he has been the educational demonstrator of the Institute of Geography and Environmental Sciences at the Eszterházy Károly University.

Erika, Homoki PhD, is the associate professor of the Institute of Geography and Environmental Sciences at Faculty of Natural Sciences at the Eszterházy Károly University. She is the methodologist of teaching Geography, in charge of the teacher training in Geography, and she is also the educator of most of the optional cultural courses. She participated in higher education at the University of Debrecen and acquired there her doctorate level, as well. She is a high school teacher of Geography and Biology. She is a geographer with landscape/environmental management and regional development specializations. The title of her PhD research (2016) and her research field is: „The connection of geographical knowledge, skills and the everyday life according to the examination of different social groups”.