NEW WAYS TO LEARN GEOGRAPHY – CHALLENGES OF THE 21ST CENTURY

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Abstract: The aim of the article is to get a closer overview of the non-instructional methods of the teaching-learning process of geography. To achieve this goal, the results of the international project *Borderland: Border Landscapes Across Europe* (undertaken in 2012 and 2013, within the framework of LLP-Erasmus Programme) was presented. Special attention was paid on the innovative approach to learning methods, namely learning by doing (LBD) that was experienced in a multinational environment during the project's implementation.

Key words: geography, landscape, borderland, cross-border learning, learning by doing (LBD)

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Introduction – Creative methods in the geography teaching-learning process

Geography is a complex scientific discipline, and with its interdisciplinary approach, geography encourages studying in an unconventional manner. Therefore, learning geography is creative and can inspire interest about the world that involves a curiosity about nature. However, a learning experience does not necessarily have to be rooted in a traditional way of learning based on, for example, handbooks.

In principle, creative methods of learning (CML) refer to the process when students work together in a real situation trying to determine a variety of proposals, but at the same time, they create an open dialogue and mutual cooperation (Duch et al. 2001). In this teaching-learning process, particularly at the stage of problem-solving, the role of teacher is limited. The teacher is a mentor, a tutor, a supervisor, who does not transfer knowledge but is responsible for monitoring the actions of creating the knowledge by students; however, any type of certain instruction on how to solve a problem is given by the teacher (Barrows 1996). In other words, the role of instructor is to encourage students to discover the principles by themselves, yet, one of the most important matters is to create opportunities for active dialog (i.e. Socratic learning). Furthermore, the instructor's main task is to reformulate information to be learned into a format appropriate for a learner's current state of understanding. A student's learning is continually building upon what skills and knowledge he/she already has.

The CML are focused on searching for original and innovative solutions to a certain problem. Thus, a self-giving answer is not the most

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important part of the learning process, but the options for motivation for looking at the problem in different perspectives (Young 2014). The application of the CML in higher education has led to a reformulation of teaching practices. Only a short time ago, traditional lectures in auditoriums – simplified instructors' monologues for passive students – were the basis for higher education, but currently new university teachers are increasingly required, or at least recommended, to have knowledge in teaching methods as well. The question is not only *what* we are teaching but *how* it should be taught in order to reach the best available learning outcomes. Learning is seen as an active process in which learners construct new ideas or concepts based upon their current and past knowledge. A learner selects and transforms information, constructs hypotheses, and makes decisions by relying on a cognitive structure to do so. Cognitive structure (i.e. schema, mental models) provides meaning to experiences and allows an individual to go beyond the information given (Stringer et al. 2010).

When compared the CML with comprehensive school systems in the European higher education, it turns out that CML was put into practice relatively delayed (Hawley 1992, Biggs, Tang 2011, Lambert 2014, Wijnia et al. 2015). Traditionally, university students are assumed to be self-directed in their studies, and activities provide them opportunities for hands-on practice for learning. They construct their own understanding of learning, its meaning according to the context, and the ways to acquiring it (Gibbs 1992, 1999). One of the unwritten assumptions of higher education has been that universities are repositories of information, and it is the students' duty to select and process detailed information for their own purposes.

Among the theories, which in the learning process take into account creative approach, should be listed the following: Constructivist Theory of Learning (CTL) (Jonassen 1991, Steffe, Gale 1995, Hmelo-Silver, Barrows 2006), Problem-Based Learning (PBL) (Barrows 1996, Schmidt 1983, Boud, Feletti 1997, Yew, Schmidt 2012), and Experiential Learning (EL) (Dewey 1938, Kolb, Fry 1975, Boud et al. 1985).

As for the experiential learning, this theory considers the individual learning process and is rooted in learning about the theory presented within the book, including student-centered teaching and learning as well as freedom of experience (Breunig 2009). Knapp (1992) explains that experiential learning consists of several aspects:

- active students involvement in a meaningful and challenging experience;
- reflection upon the experience individually and in a group;
- the development of new knowledge about the world; and
- application of the knowledge to a new situation.

As Roberts (2006) mentioned in the experiential learning process, students are involved by active observation and reflection, when learning can involve laboratory classes, field trips, problem-solving. Breunig (2009) confirms that many experiential educational initiatives are based on this learning approach.

In addition, experiential learning is an abstraction that does not offer any exact methods and models to teaching pupils or students any better than before. The instructor is needed to select workable and reasonable teaching and learning methods in relation to the subject and the core of a study module. In practice, eligible learning outcomes and the content of the course are directing the selection of study methods.

It needs to be said that the modern theory of experiential learning draws on John Dewey's work (Breunig 2005). Dewey (1938) insisted that the learning process should be relevant and practical, not passive and theoretical. For this reason, one of the main tasks of experiential learning is *learning things by doing them.* This manner was adopted by us, and named as the learning by doing (LBD) method that was tested during the Intensive Project (IP).

Methods, Materials, Case Study

The aim of the article is to get a closer overview of the non-instructional methods of the teaching-learning process of geography. To achieve this goal, the results of an international project (Intensive Project, IP) *Borderland: Border Landscapes Across Europe* (undertaken in 2012 and 2013, within the framework of Lifelong Learning Programme-Erasmus) were presented. Three universities participated in the project:

University of Eastern Finland (Joensuu, Finland – the Project Coordinator), University of Girona (Spain – a Project Partner), and Adam Mickiewicz University in Poznań (Poland – a Project Partner).

The IP was based around constructivist learning methods, which hold that learning can happen most effectively when people are active and creating tangible objects in the real world. During the IP, the learning by doing LBD method was achieved by testing different aspects, e.g. by organising workshops with local stakeholders and study visits in a specifically-selected case study. Additionally, sessions and conferences with experts were organised as well as field excursions. However, a significant part of the IP was working in thematic groups and brainstorming. In this aspect, the emphasis was on the students' own activities: the students were encouraged to engage in discussion and criticism.

The main idea was to put students in different rather than traditional conditions of learning and observe their reaction on:

1. How did they feel/find LBD as a new way of learning?
2. How did they feel/find working in foreign surroundings and cooperating in international teams?
3. How did they break social/cultural/language barriers and limitations and gain new cultural and social experiences?
4. In what ways were field trips abroad worth doing in comparison to the field studies conducted close to the home campus?

In this way, it was possible to test the LBD method in multinational environment. To get the feedback from students' reactions, each edition of the IP ended up with a questionnaire where all students presented their opinions, comments and recommendations and these are presented in the results section.

As for the methodological background of the IP, the main aim was to strengthen students' knowledge of the landscape concept implemented in practical borderland questions. In particular, the IP was focused on the following questions:

1. How do the local, regional, national and EU-level administration and policy create different kinds of borders?
2. In which way do borders and local land use systems create different landscapes?; and conversely
3. Do landscapes have an active role in the constitution of different kinds of borders?

The knowledge and experience that students would gather during the IP could be helpful to have a vision of how the concept of landscape can be used as a tool for local, regional and national environmental and land use planning. In addition, the course aimed to motivate students to use landscape as a fundamental geographical concept in their studies.

Methodologically, the IP was a combination of existing approaches from landscape ecology (Adam Mickiewicz University in Poznań), regional and geographical information systems (GIS) – based landscape research (University of Girona) and cultural-oriented landscape research (University of Eastern Finland). Even operating inside the landscape geography (one subfields of geography), the methods and viewpoints used were linked to the other disciplines (e.g. ecology, history and social sciences) and created a strong interdisciplinary atmosphere for the IP.

The first edition of the IP was organised in 2013 and took place in Catalonia in the border region between Spain and France, and also in Andorra. The second edition was organised in 2014 in Poland at the Polish–German border. The third one was planned to be organised at the Finnish–Russian border; however, due to the closing LLP-Erasmus, it was not possible to complete the final edition. The choice of the research areas was affected by historical, social, political and cultural factors that significantly influenced the perceptions of these border landscapes.

In each edition of the IP, 6 instructors participated (2 from each university). The instructors (academic teachers) were specialists in different disciplines in the field of landscape research. This combination was perfect to expand the conceptualisation of landscape and to offer new methodological viewpoints. All the instructors gave lectures within their field of specialisation and all of them also supervised group work. Additionally, in the IP, other academic partners were involved: border and landscape researchers from the host universities who presented lectures and joined in field excursions. Furthermore, numerous external experts representatives of local government and non-governmental organisation (NGO) presented the issues of local culture, society and socio-economic background.

Students were selected during recruitment process, where special attention was paid on the applicant's existing level of internationalisation. In other words, students who had no chance to experience, or had not participated in multinational courses, were prioritised for the proposed IP. In the project, an equal number of students from each university was chosen: 10 students from each unit (in total, 30 persons). The students were divided into groups of 6: in each, a maximum of 2 people from the same university worked together. The official language of the course was English.

At the beginning of the course, students were informed about the LBD method that was going to be tested during the IP. At the same time, they were told how to use the theoretical viewpoints and group work dynamics to prepare final group presentation and group report. Additionally, they were provided with explicit criteria for grading; however, the final grades were discussed (supported by email and Skype) and determined when all the group reports had been submitted.

As for the tools used, GIS tools, interviews, and a questionnaire survey should be mentioned. A variety of social media supported news dissemination of the IP: Homepage, Facebook, and Google+. The results of students' work were published on the special webpage created for the project[1].

Results – the LBD method from the students' perspective – students' feedback and recommendations

At the end of each edition of the IP, all students (totally 60 persons) filled out the questionnaires. The data collected from the evaluations was supportive in assessing LBD as a geography learning method. The questionnaire was structured according to several matters; however, the most important from the perspective of experiential methods of learning were those ones that answer the questions listed in the Methods section. Feedback was presented and commented in the sections below. Section *Learning outcomes* relates to students' reaction to LBD as a new way of learning, and also, students' opinion about abroad filed trips. In section *Working in a multinational environment* answers were given to questions about students' reaction when working in foreign surroundings and cooperating in international teams, as well as how they broke cultural and language barriers to gain new social experiences.

Learning outcomes

According to the questionnaire results, student opinions on the LBD method, as a new way of learning, was positively assessed. In several comments students emphasised that they felt comfortable when working freely in multicultural teams being at the same time under teachers' supervision as during the course the teachers and the students spent most of the time together. That was a great opportunity when teachers were spontaneously sharing their knowledge with students and giving instructions to them (Fig. 1). This is how students found this observation:

> It was a good thing that the teachers are specialised in different fields of landscape research, so it was possible to learn about the subject from different points of view.
>
> When working with different students, teachers tried to create cohesion between their traditional teaching methods and the learning by doing method. In my opinion, that way of teaching was beneficial for students and created a welcoming atmosphere.

In addition to this, the idea of learning landscapes and borders from different perspectives met with positive student reactions. The students, as they confirmed in the questionnaires, were able to gather a variety of data about borderland that is essential and valuable for them – geographers. Students admitted that the LBD manner gave them an opportunity to develop experiences and competencies that are also significant skills in development of their future professional careers.

Also, field work, which was an important aspect of LBD method, met with a positive students' attitude. They admitted that field work was an irreplaceable way of collecting the practical knowledge of the borderland and building a personal attitude towards landscape. In the opinion of the students, the borderland excursions, combined with visits and meetings with local authorities and stakeholders, were essential

[1] wiki.uef.fi/display/Borderlands/IP+project

Fig. 1. Students during brainstorming. Josep Vila Subirós as a supervisor; Coll. Pollonicum, Słubice (Photo I. Markuszewska, 2014).

to understanding the border context of landscape research. During field trips, the students, under teacher supervision, had many opportunities to observe and assess the landscape from an individual perspective, which in their opinion, was much more beneficial than gathering the knowledge about landscapes from academic books. In the survey, the most frequent answers were the following:

1. A chance to gain practical experience about borderland;
2. An educational role in working on final reports and presentations; and
3. A unique opportunity to visit important places that allowed students to understand the purpose of the project.

A new way of learning and a multidimensional approach to border research made students feel more conscious about their knowledge about the borderlands and was supportive in understanding that border is not just a line on a map:

> I have learnt about the meaning of borders from all the perspectives, and now I can think clearly, and I feel totally confident when speaking about the border. Now, I know that border implies the existence of all the differences between one side and the other. Also, I have learned that borders and landscapes are connected in ways that I had no idea about before. I have learned about cross-border landscapes a lot and realised how it is difficult to measure all the indicators and that managing borderlands should be done with consideration.

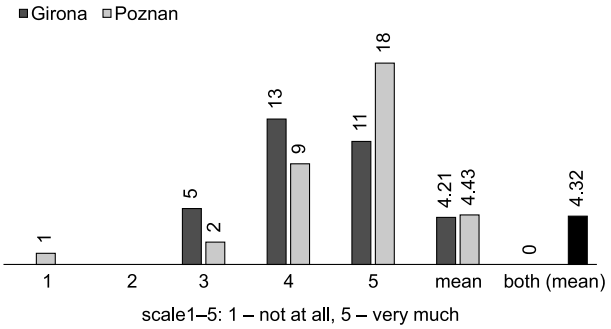

Fig. 2. Students' satisfaction with the LBD method – the capabilities and expertise of the professors.

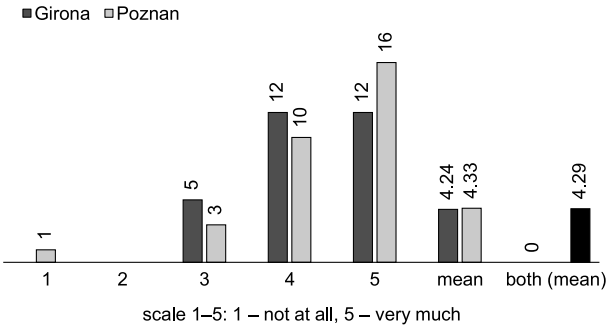

Fig. 3. Students' satisfaction with the LBD method – the overall quality of teaching.

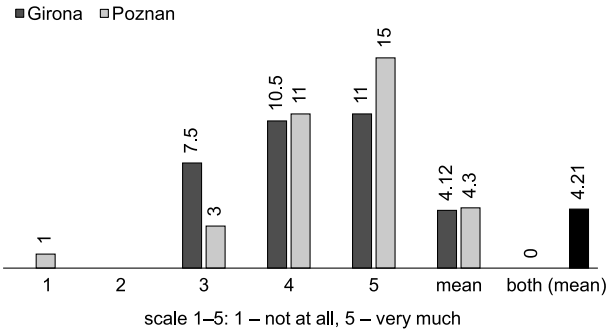

Fig. 4. Students' satisfaction with the LBD method – the expected learning outcomes.

Study visits also delivered information about the relations between people living on the borderland thus increasing the context of social and cultural knowledge. This is one of the student's opinion on this:

> Particularly interesting was a survey performed with residents of the borderland and conclusions drawn from it. The IP gave me a broader view of the border landscape, together with its advantages and disadvantages.

More information about the social and cultural aspects of borderlands can be found in the

paper by Markuszewska et al. 2016. Additionally, the following figures (Figs 2–4) provide more statistical data on how the students felt about a new approach to learning.

Working in a multinational environment

As for the students' motivation in participation in the IP and students' reaction on the LBD method, a questionnaire offered several options:
- academic context;
- cultural experience;
- practice of foreign language;
- friends living abroad;
- career plans; and
- European experience.

Nonetheless, from the point of view of the LBD method, it was vital to collect the students' opinion about their reaction to working in foreign surroundings and cooperating in international teams. Moreover, how they managed with cultural and language barriers to gain new social experiences was important as well.

From the students' perspective, in both IP editions, the most important was cultural experience, having received 4.5 points in the scale of 1–5 (1 being the lowest; 5 being the highest). Cultural experience was even higher assessed in the second edition of the IP, as it reached 4.62 points compared to the first edition evaluated at 4.38. In the opinion of students, LBD that was tested in multi-cultural teams, was a unique experience due to the opportunity to cooperate in an international environment, where three different nationalities were able to present mixed cultural points of view (see Fig. 5). Furthermore, cooperation in multinational groups was an open-minded experience, because for the first time students were able to assess themselves from a different perspective. This self-observation was expressed in the questionnaire, when one of the participants admitted that others' ideas sometimes were better than his own. Certainly, the IP organised was a great chance to get closer to young European people living in different parts of Europe.

Apart from this, students were encouraged to improve their English skills, which was mentioned in many comments in the questionnaire. However, practice of foreign language was less important for students, as it reached an average evaluation at 4.22 (4.11 points in the first edition and 4.33 points in the second edition).

Fig. 5. Students working in multinational teams, Coll. Pollonicum (Photo I. Markuszewska, 2014).

It is worth mentioning that the European experience was highly rated. The average evaluation was 4.37; however, again in the second edition of the IP, it reached a higher score: 4.21 points and 4.53 points, respectively. Academic reason was classified third, with the average score of 4.24 points (4.16 and 4.31, respectively). In contrast, career plans were less important; on average, this option reached only 3.42 points (3.1 points in the first edition and 3.73 points in the second edition). Finally, friends living abroad was the least preferable option, as it reached 3.06 points (2.69 and 3.43, respectively).

Things to change and improve

Although the overall response of students that relates to assessment of the LBD method was positive, there were some suggestions and recommendations, reported particularly in the first edition of the IP:

> I really enjoyed the whole course, but the only thing that needs to be changed is to be a little better organized. Maybe there were not as many student-teacher meetings during working in groups as there should be, because teachers should control or check, or help students if they have some problems or do not know what to do with their project.

> Working groups should be smaller and the topics should be more specific. Also, more instructions should be given at the beginning of the

course, as students would have more time to think and write a final report.

The advice given was taken into consideration by the instructors, who organised the second edition of the IP. When comparing student feedback, it was noted that the level of student satisfaction had risen (Figs 6, 7).

When it comes to an overall evaluation, students expressed their great satisfaction with participation in the course and an opportunity to experience LBD as a new learning method. They judged both the learning and personal outcomes positively; the predominate answers were: very good and excellent, and in both editions the share of the abovementioned answers fluctuated around 80% of all answers (Figs 6, 7). However, the personal upshots obtained better results, especially in the second edition of the IP. Furthermore, students who participated in the second edition considered the experience they gathered more helpful in their future studies and careers. Several of the students admitted that what they had learned was even much more than they expected:

> At the beginning of this course, I felt concern whether I really want to experience this, but now after the end of the course, I'm sure that it was a good decision. I find this much-needed project and learning by doing as a great opportunity for young people, because it allows to develop scientific, intellectual and cultural skills.

> This course is one of the best university courses I have ever participated in because of the practical and concrete way of teaching and learning.

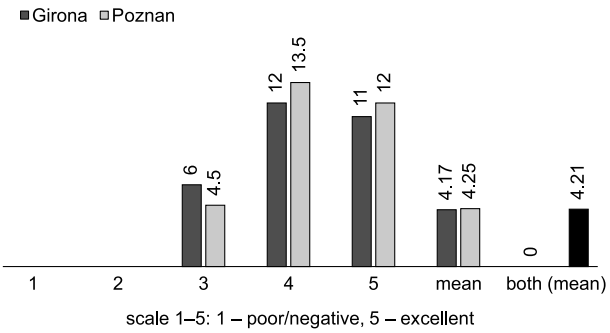

Fig. 6. Judgement of academic outcomes of the LBD method.

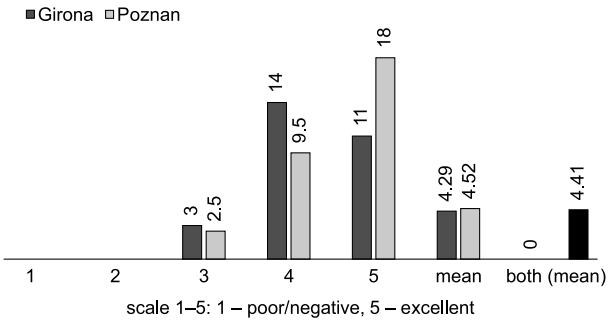

Fig. 7. Judgement of personal outcomes of the LBD method.

Concluding Remarks

In the 21st century, a general discussion about universities as places of learning and the pedagogical skills of higher education teachers has finally arisen. The traditional composition in which a teacher plays a role in transferring knowledge to passive students is moving toward to the model in which the stage is set for students to take an active role as learners. The confirmation of this statement can be found in the Hussain's work (2012); the author pointed out that a university teacher is considered to be an academic supervisor or a leader (or even a mentor) whose role is to prepare university students to grow into members of scientific communities and societies. Considering this, the aim of the article was to get a closer overview of the non-instructional methods of the teaching-learning process of geography; more precisely, the learning by doing (LBD) method was tested during the Intensive Project (IP) *Borderland: Border Landscapes Across Europe*.

As it was presented in the paper, the LBD method is a complex process of learning. It is not only the relation between students and teachers, but also a wider context of environment where the teaching-learning process is ongoing. Thus, one of the questions stated in the paper was to find out how the LBD method works in a multinational team of students, where students have to break cultural and language barriers to cooperate together. As the results prove, the course enabled students to study in multi-cultural learning groups where they could improve their skills of functioning in an international environment, something that is increasingly required at the European level. At the same time, with small-scale research conducted in a multinational group situation, students improved cross-cultural understanding and language skills. Moreover, students

improved social and cultural integration, which promoted the formation of life-long friendships supported through existing social media.

How students found LBD as a new way of learning, was another important issue raised in the paper. Although, some students had doubts, especially at the beginning of the course, their final assessment was the most positive. In addition, it should be noted that the impact of the LBD method implemented was increasing the students' capacities as young geographers. Now, the students have better skills to use the concept of landscape as a theoretical tool in research, focusing on geographical border questions.

Additionally, for the teachers it was an instructive experience as well. It can be said that the learning by doing method, experiential and alternative pedagogical manner of teaching, was *learning by teaching* that broadened teachers' didactical skills significantly. In addition to this, the Intensive Projects offered an opportunity to meet each other, to discuss landscape questions, to plan forthcoming cooperation and familiarise with local culture and society. The course continued and strengthened the cooperation between all three universities and pointed out some new research opportunities with the partner organisations of the course (Markuszewska et al. 2016). Finally, several tentative research ideas had been revealed and some partner organisations have had roles in next Erasmus+ Project: *In a Way Towards a Low Carbon Society – Increasing professionalism in land use and landscape management within climate change*, based on learning by doing method as well.

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