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STEAM TUTORING. THE UNEXPECTED LEARNING OUTCOME AMONG THE ERASMUS STUDENTS AT WROCLAW UNIVERSITY OF ENVIRONMENTAL AND LIFE SCIENCES IN POLAND



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ENVIRONMENTAL AND LIFE SCIENCES IN POLAND**

Abstract:

The purpose of the article is an attempt to show that using STEAM method in tutoring is an effective tool to increase the creativity and effectiveness of education, also in social sciences. The research was conducted at Wrocław University of Environmental and Life Sciences in Poland and covered the sample of Erasmus students who signed up for the course of “Territorial Marketing”. Within the framework of the subject taught, a selected group of students (from France and Spain) visited 4 local museums and exhibitions. The second group (from Germany and Spain) attended the tutoring lecture as usual. In order to pass the course, all students had to write an essay on the importance of the country image in international business based on the example of Poland.

Keywords: STEAM, tutoring, Poland, the image.

1. Introduction

One of the strategic needs of Wrocław University of Environmental and Life Sciences in Poland¹ is to provide a quality breakthrough in the education of our students. It can be achieved through tutoring, the role of which is to personalize the teaching process, invite students to participate in research projects and carry out such research projects in student teams. The changes should be comprehensive and include both new methods and forms of conducting classes. In order to maintain a high didactic level, the need to internationalize didactics is also required.

Tutoring is a teaching method, the goal of which is increasing the effectiveness and satisfaction with the learning process in an individual contact between a student and a teacher

¹Wrocław University of Environmental and Life Sciences in Poland, <https://upwr.edu.pl/en>.

(tutor), or in a small group of students, which allows revealing the strengths of the learner. The tutoring method is associated with the master – student relationship². It has a long tradition developed at the Universities of Oxford and Cambridge³. The idea behind tutoring is to support the student's independent work, as well as verify its effects. During the tutorial, carried out as part of a specific subject and/or as part of achieving a didactic and scientific goal defined jointly by a tutor and a tutee, the master may offer the student a set of readings, resources, tools and request to study the issue, to solve the problem or to prepare an essay. The student – within a specified time – performs the assigned work and presents it to the tutor in the course of subsequent meetings. The task completed by the student becomes the basis for discussion, presentation of one's own standpoint, opinion, for seeking further questions and setting goals. Tutoring facilitates the student in the process of working out the method for independent studying that develops: critical thinking, searching for and finding solutions, mastering the art of written and oral expression, as well as sensitizing to the quality of intellectual work, which may result in: more effective learning, scientific achievements, well-written paper, graduation thesis, etc.

As part of the Masters of Didactics project, since 2020 primarily academic tutoring has been carried out at Wrocław University of Environmental and Life Sciences, the purpose of which is the cognitive development of students and the achievement of specific didactic and scientific goals. Tutorials (student – teacher meetings) are conducted as part of consultations – individual or in small groups⁴.

The purpose of the article is an attempt to show that using STEAM method in tutoring is an effective tool to increase the creativity and effectiveness of education, also in social sciences (Economics).

2. Material and methods

The research was conducted in the summer semester 2022 at Wrocław University of Environmental and Life Sciences in Poland and covered the sample of Erasmus students who signed up for a course of “Territorial Marketing”, which was organized in the form of on-line tutoring including the STEAM method⁵. The purpose of such classes is to familiarize students

² Gardner, Ralph; Nobel, Michele M.; Hessler, Terri; Yawn, Christopher D.; Heron, Timothy E. (2007). "Tutoring System Innovations". *Intervention in School and Clinic*. **43** (2): 71–81.

³ The rise of online tutoring among Cambridge students, <https://www.varsity.co.uk/news/17141>.

⁴ Wrocław University of Environmental and Life Sciences, <http://www.cku.upwr.edu.pl/tutorzy>.

⁵ Feldman Anna, (2015), STEAM Rising Why we need to put the arts into STEM education, <https://slate.com/technology/2015/06/steam-vs-stem-why-we-need-to-put-the-arts-into-stem-education.html>;

with the problems of territorial marketing and to present the benefits of implementing territorial marketing strategies based on the example of selected countries, regions and cities. The content of the course unit included:

- The genesis and evolution of territorial marketing,
- The tools of territorial marketing,
- The importance of the country's image in international business,
- The concept of territorial marketing-mix,
- The competition and competitiveness of places,
- The analysis of selected examples of marketing activities of countries, regions and cities.
- The evaluation of the effectiveness of territorial marketing.

The idea of including STEAM method in the course of Territorial marketing was primarily to familiarize international students with the image of Poland on the assumption that the local/national art is a good way of understanding the local/national image⁶.

Within the framework of the subject taught, a selected group of students, two volunteers (from France and Spain) had to visit four local museums and exhibitions at any time during the semester. It was an ethnographic museum, Panorama of the Battle of Raclawice, the National Museum and the exhibition of Magdalena Abakanowicz's works at the Four Domes Pavilion. The cost of admission to museums was covered by the teacher. After each visit to the museum, the students were required to send short e-mail information to the teacher confirming that the task had been completed.

The second group (two students from Germany and one from Spain) attended the tutoring lecture as usual. In order to pass the course, all students had to write an essay on the importance of the country's image in international business based on the example of Poland.

3. Research results

The research showed that using the STEAM method in tutoring contributes to the unexpected learning outcome among the Erasmus students at Wrocław University of Environmental and Life Sciences in Poland.

STEAM Ahead: Merging Arts and Science Education (2012), <https://www.pbs.org/newshour/education/the-movement-to-put-arts-into-stem-education>.

⁶ Raftowicz-Filipkiewicz, Magdalena (2015), Znaczenie brandingu narodowego w podnoszeniu konkurencyjności gospodarki Polski [Influence of national branding on improving the competitiveness of the Polish economy], Wydawnictwo Uniwersytetu Przyrodniczego we Wrocławiu, Wrocław.

The students participating in the experiment were more involved in the learning process and the culture (including the history of Wrocław and Poland, the art, the architecture, the photography, the literature, the music, the theater). They contacted the teacher by e-mail more often and face-to-face (despite the COVID-19). They also did not hesitate to ask about the structure of the essay, had more substantive discussions with the teacher about the subject and general about the art and daily life. Their reports of visits to museums were accompanied by photos as well as their own thoughts and feelings about the exhibitions. The students reported in both cases that it was the most exciting academic course they had ever have at the University.

They also achieved better results comparing to the other students. Their essays were better structured, coherent and they used more source materials. The substantive evaluation of the essays was also highly assessed (5.0 out of 5.0 in both cases).

4. Conclusions

The STEAM method in tutoring is an effective tool to increase the creativity and effectiveness of education, also in social sciences.

The results showed that students who attended the course including the elements of arts could better understand the significance of the country image and its importance in the modern world.

The example of modern forms of didactics implemented at Wrocław University of Environmental and Life Sciences is the use of STEAM method in the process of teaching Erasmus students in social sciences.

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