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GOOD COLLABORATION PUSHES PARTNERS' BOUNDARIES THE E-CLASSES PROJECT'S NEW APPROACH TO SCHOOL-COMPANIES COOPERATION

Case
study

Keywords

Flipped learning;

Science;

E-classes;

Cooperation between students;

Schools and companies

Abstract

The article is based on the European project E-Classes (Ref.no. 2017-1-RO01-KA202-037344), which is being developed within a partnership of eight educational and IT institutions from Bulgaria, Italy, Romania and Spain. The project aims at offering solutions to the new educational challenges in Europe; it provides science teachers and trainers with open educational resources (OER) which will enhance their professional, IT and pedagogical competences and facilitate their students' transition from school to work. The article presents the E-Classes project: its methodology, objectives, target groups and outputs. It looks at the cooperation between students, schools and companies as considered within the partnership. The project partnership led to the creation of videos relying on interviews students had with employers and also issues students appreciated as revealing essential aspects of the job. The testimonials collected from teachers and students participating in a virtual meeting with teachers and students from Bulgaria give some insights into this work-based learning experience.

INTRODUCTION

According to the Education and Training Monitor 2018, the increasing numbers of underachievers revealed by the latest PISA survey indicate that about 20% of European students do not have adequate levels in reading, mathematics and science, which will not allow them to fully integrate into society and lead a decent life. “That is why increasing the level of key competences is at the heart of the European Education and that is why investing not only more but more wisely in education should rise” (E.C., p.2, 2018). Romania has higher percentages of low achievement with levels around 24%. The findings revealing significant incongruity between what schools offer and what the labour market needs corroborated with the rapid technological progress have created the need to implement new strategies in education, where state-of-the-art technology used wisely and correctly would play an important role. The European E-Classes project aims at offering solutions to the new educational challenges in the highly technologised European society; it provides science teachers and trainers with open educational resources (OER) which will not only enhance their professional, IT and pedagogical competences but also enable them to facilitate their students’ transition from school to work.

THE E-CLASSES PROJECT: METHODOLOGY, OBJECTIVES, TARGET GROUPS AND OUTPUTS

The project methodology is the flipped classroom approach, stemming from the advance of technology and students’ rising interest in ICT. According to the flipped classroom approach the traditional stages of a class are reversed: homework precedes class activities (Lage et al., 2000). Homework usually takes the shape of a video with embedded tasks introducing the main concepts of the new lesson, which teachers prepare in advance and students have to watch at home before the lesson itself (Khan, 2011). The class deepens students’ knowledge about the topic and engages students in interactive activities monitored by the teacher guiding students in their search for knowledge (King, 1993; Berrett, 2012; Marshall, 2013). The main objectives of the project are: strengthening science teachers’ e-skills and collaborative learning/teaching practices; promoting a learning approach suitable for low skilled learners and students with risk of dropout; assimilating a culture sensitive to the value of non-formal and informal learning, providing alternatives for learners less interested in the academic world, as well as at-risk groups; producing tools which stimulate creativity and innovation by creating and

managing multimedia educational resources; stimulating students’ active and creative role in the learning process through the use of ICT and OER; collaborating with companies in order to create relevant educational products on job orientation and integration for students; offering training and exchange of experiences for both teachers and students at EU level. The E-Classes project addresses the following target groups: direct groups: VET teachers, VET students, VET schools, companies; indirect target groups: schools (in general), teachers and students (in general), parents, educational and training centers/ NGOs in the field of education, teachers’ associations, students’ associations, educational public authorities (Teacher Training Centers), public at large.

THE PROJECT’S OUTPUTS

Guide on Flipped classroom methodology.

The partnership devised a Guide on the Flipped classroom methodology (e-classes project, 2019). The guide presents the flipped classroom concept and gives hands-on tips as to how to flip a science class effectively. The Guide has five modules comprising text and video tutorials explaining the main concepts. It introduces teachers to the basic elements and steps of the flipped classroom methodology, which enables them to flip their own classes; it gives them invaluable tips and ideas as to how to design and develop learning contents for flipped lessons, how to create engaging educational games, assess students or approach transversal topics in science classes.

A collection of complete educational packages.

The project also presents a collection of complete educational packages (lessons) for various school subjects (mathematics, physics, chemistry, etc.). Lessons consist of a pre-class video presenting the main concepts of the teaching material, a lesson plan for in-class activities, including educational games, a video sample of the in-class activities, and the evaluation and follow-up of the class.

Videos on job orientation and students-schools-companies cooperation.

The e-classes project supports career orientation as a transversal theme which should pervade all school subjects. Preparing students for the world of work is still a challenge, which the e-classes project seeks to surmount. Many employers complain that there is a gap between the knowledge and skills of high school graduates and labour market demands. Taking into account the high rates of youth unemployment, a need to prepare students for the world of work arises. The collaboration between schools and companies is invaluable in the sense that it clearly shows students the connection between school and their future

career. Researches show that students who are able to understand this connection have clear career goals, understand the basic goals of education and are more likely to complete their studies. One of the project's main outputs exemplifies a new way of collaboration between schools and companies. Students' entire work experience is captured in videos using a range of techniques such as research, observation or interviews. Students' videos in companies focus on: how companies support youth employability, what competences young people need to get employed, what job schedules look like, how young people are helped to integrate into the company, how the company manages the policy on equal opportunities etc.

RESULTS AND DISCUSSIONS

The videos on job orientation and students-schools-companies cooperation with the slogan "I Am Welcomed, Therefore, I Belong" brought together schools and companies. The aim of this output was to facilitate students' transition from school to work, prepare them to evaluate their own competences and become acquainted with the real world of work. Companies from various working fields (IT, social economy, tourism and transport) were contacted and they promoted the project and its objectives. Since the reaction of the companies was positive, students and teachers organised visits based on students' interests. Students interviewed managers and talked with staff, which gave them authentic insights into what the job market really looked like. The two Romanian partners (Liceul Tehnologic de Mecatronică și Automatizări Iasi and EuroEd Foundation Iasi) made four videos (out of three as the application requested) on job orientation and students-schools-companies cooperation. The videos centered round the interviews students had and also captured scenes and aspects students appreciated as important and revealing essential aspects related to the job. The questions of the interview varied from skills young people need to get employed, employment opportunities, working conditions, benefits to young people's contribution to the company's progress, the biggest challenges managers encountered tips and suggestions managers gave young people who would like to get employed at their company. The motivational videos with the interviews were promoted in schools and among students and young people and were discussed during a virtual meeting, "I Am Welcomed, Therefore, I Belong," between students and teachers from Bulgaria and Romania. The virtual meeting used Google Hangouts as the communication platform. There were 24 students (from 6 high schools in Iasi) and 6 teachers who interacted virtually with their Bulgarian partners. They debated the role and necessity of cooperation

between students, schools and companies to support job orientation and integration. The questions focused on how students' work practice is organised, how school helps young people with their career orientation, what are soft skills and what soft skills companies require, how important a university degree is, what they found useful in the videos they created, how such interviews with potential future managers would help young people to decide on their career, how useful it would be for a young person to have a talk with the potential employer etc. Students talked about their experience in the companies and shared their opinions. They all agreed that they enjoyed communicating internationally, which enhanced their self-confidence. The feedback received at the end of the virtual meeting was positive.

Participants' feedback (Table No.1) assessed their perception and feelings about the virtual meeting experience by asking them to grade certain items using a scale of 1 to 5 (1 – I totally disagree; 2- I rather disagree; 3- I neither disagree nor agree 4-I agree; 5- I completely agree).

Participants were also asked to answer an open ended question about recommendations they may have to event organizers and video authors with a view to improving the next meetings.

Most of the participants considered that the discussion was interesting and useful and only 11% did not appreciate the discussion as interesting. Some of them stated that the experience was good practice in public speaking and they would definitely take part in similar activities. All of them stated they had never participated in virtual meetings with partners from other countries. On the whole, participants held that the event was well organised but there were a few aspects which would need considering: microphones, the internet connection, the quality of the image and sound. 19% of students commented on the questions asked by participants and were of the opinion that such questions should be short, clear and to the point; this would make the dialogue between the two groups more interactive and enliven discussions.

As for the videos, 61% of the participants appreciated the videos as good opportunities in career guidance provided by the interviewed companies. 42% agreed that such videos would help them with their career development in the future. All those who were involved in making the videos gave positive feedback about the process. The participants' feedback shows clear strengths of the virtual meeting: it seems that the experience of the virtual meeting between the two groups of young people from Bulgaria and Romania was highly appreciated.

CONCLUSIONS

The project's outcomes and its beneficiaries' evaluation show that schools and businesses can successfully work together to benefit students, teachers and entire communities. Schools and businesses can collaborate on a number of levels: planning curriculum programmes combining school and work-based learning, setting up mentoring programmes for students and teachers, integrating practical vocational material into a subject area, establishing work exploration and experience schemes or creating opportunities for students to carry out work observations, visits, job-shadowing or part-time paid work. The "I Am Welcomed, Therefore, I Belong" approach promoted by the e-classes project ensures that all students establish direct contact with the real job market on their own which helps them forge a link between the job market and their formal training. The videos students make can help other young people to gain a realistic insight into what the job market looks like parallel to their school attendance. Experience has proved that students need life-like activities enabling them to verify whether their chosen career meets their needs and interests. Visits to companies, discussions and interviews with successful entrepreneurs, employees or successful alumni as role models for high school students help students perceive the connection between school and work and highlight the importance of completing school studies for being successful in life (Tjas et al, 1997).

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The article is based on the European project E-Classes (Ref.no. 2017-1-RO01-KA202-037344), which addresses the following educational needs at the European level: raising students' interest in scientific issues and developing innovative and ICT based teaching approaches to make science learning more attractive and interactive. The E-Classes project is funded by the European Commission in the framework of the Erasmus+ Programme, KA2 - Strategic Partnership for vocational education and training. The title is based on a quotation from Blumenthal, 2019.

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APPENDICES

Table No. 1
Participants' feedback

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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|
| 1. Videos and discussion a. The videos thoroughly presented career guidance in schools and the opportunities provided by the interviewed companies. b. The videos will help me in the future in my career development. c. The discussion was interesting. | 1 | 2 | 3 | 4 | 5 |
| 2. Event organization a. The discussion was well organized. | 1 | 2 | 3 | 4 | 5 |