QUALITATIVE STUDY REGARDING THE PERCEPTION OF DIRECT PARTICIPANTS IN LEARNING ACTIVITIES CARRIED OUT IN THE CONTEXT OF STRATEGIC PARTNERSHIPS ERASMUS +

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Abstract. *The effort to update educational standards and learning outcomes is in the heart of EU's policies for smart, sustainable and inclusive growth. Erasmus + programme for education is an effective instrument for promoting the celebrated principle of lifelong learning through non-formal experiential activities that fall under the pattern of project-based learning and enhance the skills and competences of young people through synergies and cooperation in a multicultural setting.The present study is based on focus-group interviews, as a means of qualitative data collection, and explores the first hand experience of teachers and students from seven different countries who have participated in an Erasmus+ strategic partnership. The study navigates through the personal experiences of the participants and offers full view of their perception of their involvement in the project.*

Keywords: *ERASMUS +, project-based learning, non-formal education*

1.Introduction-The architecture of project-based pedagogy

The context against which young people today are called upon to build a career for themselves, fulfill their potentials and lead a satisfying life has irrevocably changed and is constantly reshaping. In the context of globalization the knowledge, skills and aptitudes of the European workforce

are a major factor in the European Union's innovation, productivity and competitiveness. The rapid pace of change and the continuous development of new technologies mean that Europeans must not only keep their specific job-related skills up-to-date, but also possess the generic competences that will enable them to manage change (Education and training, 2010; Work programme, 2008). Modern, knowledge-based economies require people with higher and more relevant skills.

Students are faced with a future that demands their copying with a complex, competitive working environment where skills are tested and constantly updated.Today's rapidly changing world needs to employ individuals who are able to collaborate, research ideas, collect, synthesize and analyze information. New, competitive products will need to be developed, new ideas tested and prior knowledge will need to be applied on new problems and challenges (Barron, Darling-Hammond, 2008). Information and communication technology is transforming the nature of work and social relationships. In all forms of career, success lies in effective communication, problem solving, adaptability, innovation and most importantly team work (Binkley et al., 2010). Thedemand for these twenty-first century skills call for their development as early as school age. Since their future lies in their ability to work within a team demonstrating high order thinking, reasoning, collaboration and accountability (P.Griffinet al, 2010), students need to be "pedagodized" in developing these skills along with content knowledge.

Most importantly, students need to be taught that learning is a lifelong process and even if they can be explicitly taught skills and knowledge at school, they will benefit from learning opportunities only if they grow a disposition forconsciously initiating the learning process and then regulate it themselves. Self-directed learners are more likely to succeed academically and view their futures optimistically (Zimmerman, 2002). According to Fullan and Langworthy (2014), the ultimate goal is interdependent learners who have the abilities, dispositions and experiences to truly make the most of the extraordinary world of information, ideas, creativity and connection that digital access opens up. To develop the higher-order skills they now need, individuals must engage in meaningful enquiry-based learning that has genuine value and relevance for them personally and their communities (Scott, 2015).

Project-based learning, a pedagogy that has evolved from the influence of such people in history as Aristotle, Socrates, Confucius, Dewey, Montessori, Piaget or Vygotsky, emerges as san inquiry-based approach to learning centered on the idea that knowledge and comprehension are formed by the learner, and grows out of previous experience (Loyens&Rikers, 2011). It is a pedagogy that teaches a multiple of skills and strategies and

harvests the benefits of inquiry-based and cooperative learning to help students develop the knowledge and twenty-first century skills necessary to be successful in a rapidly changing world (Bell, 2010).

PBL increases long-term retention of content, leads to equivalent or superior performance than traditional learners in high-stakes tests, improves problem-solving and collaboration skills, and improves students' attitudes towards learning (Strobel& van Barneveld, 2009; Walker & Leary, 2009).

Reviewing their research on Inquiry-Based and Cooperative Learning, Barron and Darling-Hammond (2008) report that:

+ Students learn more deeply when they can apply classroom-gathered knowledge to real-world problems, and when they to take part in projects that require sustained engagement and collaboration;

+ There is a positive impact on learning when students participate in lessons that require them to construct and organize knowledge, consider alternatives, engage in detailed research, inquiry, writing, and analysis, and to communicate effectively to audiences;

+ Active learning practices have a more significant impact on student performance than any other variable, including student background and prior achievement;

+ Students who may struggle in traditional instructional settings have often been found to excel when they work in a PBL context;

+ Students are most successful when they are taught how to learn as well as what to learn.

The benefits of Project-based learning and its merit as a lifelong learning instrument cannot be ignored. Nor can the need for innovative, informed and well-orchestrated mediation in the schooling of the future democratic, European citizens. In the midst of socio-economic crisis affecting European countries, meeting challenges like population swift, unemployment, early school leaving and inactivity has become a key concern of European policy.

Erasmus + programmes for education is an effective instrument for promoting the principle of lifelong learning through non-formal experiential activities that fall well under the pattern of Project-based learning as they motivate them and make learning meaningful and enhance the skills and competences of young people through synergies and cooperation in a multicultural setting. It is exactly this multicultural setting that dispenses a European added value to the Erasmus+ projects. It reflects a broader European relevance and significance of the experience and consolidates knowledge, skills and attitudes aligned to the profile of the participatory, democratic European citizen. What's more, it renews the students' appreciation for the learning process and contributes to the increase of effectiveness and attractiveness of education provided in European schools.

II.Perception of teachers and students participating in learning activities of strategic partnerships ERASMUS +

This study was conducted between November 2015 and February 2016, in the context of the ERASMUS +, KA2 "UNESCO Heritage"2014-2016 project,code number: 2014-1-RO01-KA201-002437 involving public schools of secondary education from seven partner countries: National College "Liviu Rebreanu", Bistriţa, Romania, Hasan Şadoğlu Mesleki ve Teknik Anadolu Lisesi, Istanbul, Turkey, 6th Gymnasio of Heraklion , Greece, Turističko – Ugostiteljska škola, Split, Croatia, Instituto Istruzione Superiore Castelnovo Ne Monti, Italy, Základní škola Ostrava, Czeck Republic, Agrupamento de Escolas Dr.Mário Sacramento, Aveiro, Portugal.

The interviews were managed by teachers from the project implementation teams and were addressed to 93 persons, direct beneficiaries of learning-teaching-training activities in partner countries.
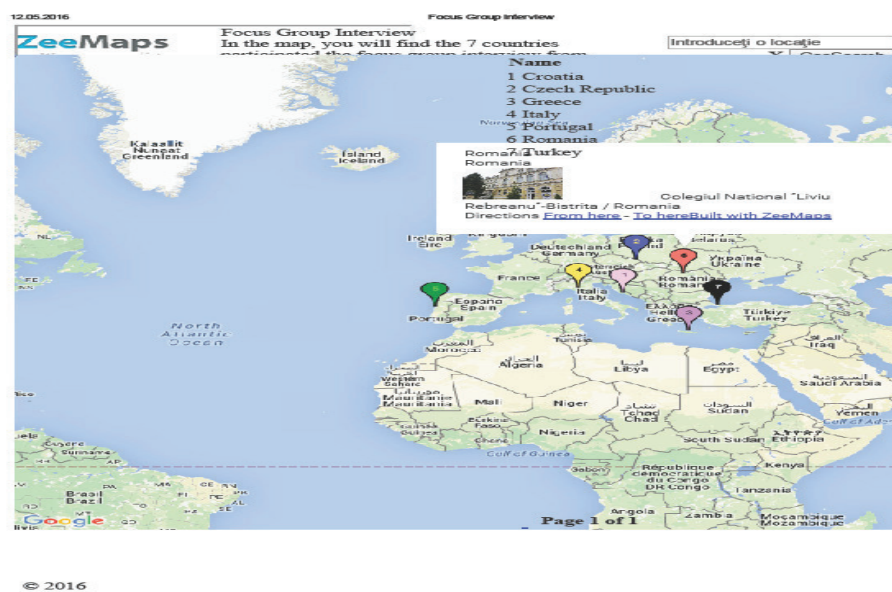

Figure 1-Distribution of participants at focus-group interviews by the independent variable: geographical location

The first focus group interview was applied to a total of 53 students aged between 13-18 years with 36 female students, 17 male students and 8 students from single-parent families; the second one was applied to a total of 40 teachers aged between 25-63 years with 27 female teachers and 13 male teachers.
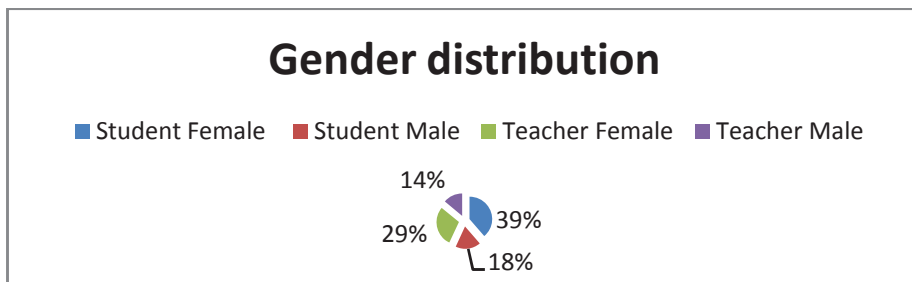
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Figure 2-Gender distribution

11 key questions were adressed to all respondents, students and teachers in a joint interview, in every partner country.The analysis of their answers focuses on two categories, teachers and students,and presents the following results, in a comparative way:

At first question _"What needs, worries and expectations did you have when you started this Erasmus + project?"_ the majority of teachers highlighted the following key needs: new cognitive experiences, lifelong learning, contact and collaboration with people from different cultures and civilizations. They haveconsidered such a project to be an opportunity to learn how to respond to new challenges, but it was also perceived as a personal and professional challenge. On the other hand, students'expectations focused more on meeting new people, exploring new traditions and cultures and improving their grasp of the English language:_"First I expected that this would be a great experience, that we would meet people from all over the world"_ (HR-S1), _"I wanted to learn about other countries, their traditions and culture, meet new children and make friends."_ (GR-S3).

The main concerns of teachers have been:
• Difficulties regarding communicating in the English language;
• Fear of not meeting the project demands and failing to riseto the expectations of the project partners;
• Fears related to organization, collaboration, and the challenge of ballancingcultural elements from 7 different countries;
• Fears concerning students'participation in mobilities;
• Loss of personal free time and social life..

For students their main doubts have been:
*Their level of proficiency in the English language;
*Adapting at a new life and culture, because for some of them it was first time thet had ever been abroad- " it was the first time that I went abroad and I was worried about being able to feel comfortable in a family with different culture, language and habits." (IT-S4);

*The host families, their traditions and food habits.

Main and coomon expectations ofthe project have been:

- To aquire a better understanding of educational system from other countries;
- To improve intercultural dialogue and relations;
- To know and understand more about the life and culture of partner countries;
- To deepen their knowledge about heritage of own country and partner countries;
- To open new life horizons for students;
- Personal and professional development;
- Socialisation and new friendships.

Data analysis showed that not just many students, but also many teachers had never been involved in a European project before and a part of them had never been in a foreign country:*"I have never been a part of such a project before and it was the greatest teaching experience in my teaching life."* (T3-TR)**,** *"It was one of the most enjoyable and unforgettable experiences in my teaching career"* (T2-TR).

At second question "*In which way has the experience of such a project influenced you, what changes has it brought into your life and on what level?"*,many respondents, teachers and students, mentioned that it was an extraordinary experience both on a professional and a personal level.S tudents, especially, regarded the experience as *"one of the best in their lives"* or *"the most unforgettable one"* because it has generated many positive changes as:

- Becoming more organised, more confident, more patient and tolerant;
- Level of communication in English and teaching skills and competences have been considerably renewed and improved;
- Many prejudices, misconceptions and stereotypes have been removed- *"I had some prejudgements.But now,these prejudgements were broken."* (T6-TR);
- Becoming more sensitive to heritage conservation issues, more receptive to new things and changes, more cooperative, communicative and extrovert;
- Improved competences such as risk taking, assuming roles and responsibilities, accountability and making good use of resources and help available;
- Becaming more receptive to new educational methods and strategies;
- Eliminated issues that were previously considered a problem, like the fear of airplane travel.

The strong points of using project–based learning in school and out-of-school during the project have been:

▪ extending comfort borders and reaching beyond comfort area;

▪ developing and exercising ability for positive thinking, ability to identify, to accept and manage fears and challenges;

▪ developing positive attitudes for working in interdisciplinary and intercultural teams;

▪ providing an opportunity to lead students to learn how to cope with real life situations while establishing good rapport with them in a semi-formal or informal context where teachers and students can change roles. The establishment of positive climate was highlighted.

"It has been a meaningful experience for a lot of reasons: it has deepened the relationship with my students as we spent time together in a context that was cultural but not too formal; it has given me the chance to observe my students in a different and unusual context and to see how they managed the situation'' (T1-IT)

Also, the respondents identified two points of weakness:

🞣 complex and concentrated activities;

🞣 demanding and strenous activities.

Regarding question number 3 "*Which were the most appreciated and the most useful activities, proposals and moments regarding your personal life as well as your professional orientation and development?"* both categories of respondentsfound that the most important activities and opportunities, in terms of utility, have been:

• "Creation of Logo"project and interactive maps because these motivated students to work together;

• Workshops because their context involved both students and teachers in the learning proccess *"...it's nice to see that teachers know how to approach by ludic" (T3-RO*;

• Visiting UNESCO monuments in different countries and **in-situ learning-**"*...visiting impressive places leaves a print in the mind and enriches it with something that they will not forget, because learning is not through the words written in a book but through the eyes."* (T1-IT);

• Presentation of UNESCO monuments. "*Presenting tangible heritages were the most interesting moments I had ever experienced before"* (T6-TR);

• Meeting new people and intercultural activities. *"In terms of personal life was the most useful insight into another culture from another perspective than as a tourist"* (T2-CZ*);*

• Communication in English language-"*For me, now English has become a must in my life."* (T6-TR);

• Learning sessions as mobility in partner countries, especially **as hosting** students and teachers**-***"The most striking experience was being the host country!"* (T2-TR).

For question number 4 *"What are the main capabilities, abilities and knowledge you have developed and improved during your learning experiences in this project?"* respondents have considered that learning experiences of the ERASMUS + project have generated improvement and development of:

• Communication in English language;
• ICT skills;
• Cultural awareness, tolerance and respect for diversity;
• Team working and attention to details;
• Time management and respect for deadlines and project requirements;
• Adapting and responding to new situations;
• Planning and managing learning activities;
• Knowledge about UNESCO heritage and legal framework for national heritage;
• Social entrepreneurship skills;
• Project writing and implementation;
• Changing of personal perspectives.

For question number 5 *"What difficulties, unpleasant or unwanted aspects have you encountered during the implementation of this project, at school or during the learning sessions in the partner countries? "*the main difficulties identified by teachers were found to be:

▪ Communication in English language and writing articles in English language*;*
▪ Identification of members for implementation teams at national level and their motivation-"*In my school I found a big difficulty: the small number of members of my team"* (T2-IT);
▪ Preparing mobilities that take a lot of time out of compulsory working time in school;
▪ Finding a balance between personal life, time and effort that have been necessary for project implementation–"*I had difficulties in conciliating my professional life with the required time to accomplish all the tasks concerning the project."* (T2-PR);
▪ Excessive bureaucracy-*"Bureaucracy is a very big part of the unwanted aspects of this project. Starting from writing the application to implementing it, there should be less complex procedures." (T4-GR);*

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▪ Management of fear and insecurity of parents-"*What may need closer attention is the management of the fears and insecurities of the parents regarding their children's stay in a foreign family."* (T6-GR).

Most of the students stated that they had barely or almost no problems or difficulties. They were "quite pleased with everything". Similar to teachers, they had difficulties inusing the English language for communication*"It was difficult to speak English all the time to be part of the group."* (IT-S6), and admittedly, the **age gap** between the students was a challenge for some of them, when hosting *"The age difference was also made more apparent during that time. It worked fine though with some effort"* (GR-S4);

For question number 6*"If the whole experience of this project was to be repeated, what would you change, what else would you have done but did not do?"*, a big part of the respondent teachers mentioned that they would not change anything, but a part of them pointed that they would change the demands of bureaucracy *"the bureaucratic schedules decreased"* (T3-PR), *"I would change the bureaucracy, the formalism, the rigidity of the budget management."* (T3-GR) and own preparation *"I wouldn't change anything about the project. I would only prepare myself better."* (T4-HR). The majority of the students complained about the "long travelling", "traffic", "boring" trips. They stated that they preferred spending more time with their new friends to visiting historical places *" I would only change the time lost in traffic jams during the mobilities."* (GR-S1).The general stance is however positive and the project was appreciated as an altogenter positive experience, they wouldn't want to change.

Regarding question number 7 *"How do you understand innovation in education?"* most of teachers understand innovation in education as possibility to transfer knowledge in practice, learning by doing, learning by travelling, learning by discovering. They view the Erasmus + project as a way of innovation, as a learning opportunity which brings together all learning possibilities for students and teachers, alike.*("Programmes like Erasmus + can be considered an application of innovation in practice"* T6-GR). This project ia also seenas a challenge for personal and professional development because innovation is a force which impels you to step out the box and your proximal comfort zone. Innovation is paralleled to a well-built road*: " I imagine innovation as a driving force of educational and therefore social activity, characterized by flexibility and continuous redefinition of its aims."* (T3-GR).

Innovation is seen as an instrument for change, but is a demanding process: *" a change in the traditional teaching approaches, and therefore also requires a different mentality, willing to take new challenges. **It is all possible and desirable, but not easy."*** (T6-IT).

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Students report that learning by doing via workshops, gaining first hand experience via travelling, exploring via in-situ visitsare all more motivating and effective than learning within the walls of a classroom. They also admit that in this way, information is transformed intoexperience and theory into practise. Some regarded innovation as the "*Project, itself*'" (GR-S2).

At question number 8 *"What is your opinion on proposing an optional course which would bring forward the European identity in nowadays society?"* two directions of answers have been observed. A big part of teachers-respondents, especially from Portugal, Croatia, Turkey and Czech Republic, have considered that elements about European identity are already embeded in and covered by compulsory curriculum in schools and it is not necessary to have an optional course that focuses on European identity because it is more important to learn about national identity. They consider it a complex concept and society is not ready for a "European Identity" (T2-TR). *"I think that teacher are ready, but student not. First students should reinforce national identity."* (T3-HR). In contrast, other teachers consider that Europe is changing and it is very necessary to learn what it means to be a European, what are the common points for all European countries, what is linking them in unity while preserving theirnational identity-*"There is an urgent need for fostering people's sensitivity towards a constantly reshaping multicultural present. It is also important to create a common conscience and common understanding that all European citizens belong to the same community and share the same common history within the broader European civilization."(*T1-GR);

Regarding students perception, with the exception of the students from Turkey, which is not a member of European Union, all of the student responders strongly agree that it would be effective and useful to have an optional course about European Identity. They also underlined that it is important to build a bond between European countries *"I do believe such a course would be very useful to students of my age because it is about self-development and self-image and this is important to teenagers. I guess it should be optional"(GR-S4).*On the other hand, Turkish students seemed to misinterpret the term "European identity" and feel reserved towards it since their country is not an official member of the European Union; they strongly stated that they would not prefer an optional course like that "*I think that is a great idea and it would be very useful however I don't think Turkey is ready for something like this right now"* (TR-S8).

For question number 9 *"What is your opinion on promoting learning at school based on projects of this type?"*, most part of the respondent-teachersfound learning based on projects of this typeto be a very useful and innovative way to break the monotony of formal educational act, to improve knowledge, skills and attitudes, especially communicative skills in foreign

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language. They mention that hosting students is an excellent way to increase self esteem, self-confidence, tolerance and understanding of cultural diversity and heritage.Project–based learningmakes students and teachers more active , alert and *"attentive to what surrounds them."* (T2-PR) and it is *"a beneficial influence on school activities because stimulates the students' curiosity and meets their needs to collaborate with other students of their age to learn together, in a multicultural context"* (T3-IT).

Respondents consider that school of the future will be re-built on a pedagogy based on projects that "*actively promote transversal, cross-cultural skills like open-mindedness, flexibility, capacity to understand other's points of view or beliefs, willingness to find shared solution to controversies.*" (T6-IT). Some teachers expressed their objection to the feasibility of engaging the entire school in these innovative teaching approaches: *"My reserve is only that in my opinion promoting learning at school through such projects cannot possibly involve the whole school"*(T4-GR) and are concerned that *"Only as an indirect beneficiary could the school as a whole benefit and I am not certain whether this would be sufficient"*, however a way around that was mentioned: *"the teacher directly involved can disseminate the benefits of the program to his other students"*(T2-GR).

Students were in favour of any Erasmus projects and were very positive about participating in one again. They stated that projects like these deepen their knowledge of other countries, improve their use of the English language and strenghten their interested in learning other foreign languages-*"These projects help to deepen the knowledge of the foreign languages, and not only English, and they encourage curiosity and desire to know and accept culture of foreign countries"* (IT-S3).They also highlighted that they prefer the experiential learning and the multicultural background of the Erasmus+ project to thetypical learning/teaching environment of formal education-*"Projects like this lead to knowledge acquisition in a way that no other traditional method can. We learnt by seeing, hearing, doing and that was very effective. There were of course things we had to research in order to prepare a presentation, but that too had a purpose. I like learning like that. It is how it should always be."* (GR-S4).

Vulnerabilities of the project have been identified in the answers of respondents at question number 10 "*What vulnerabilities do you presently identify in the educational system of your country regarding the writing, implementing and monitoring Erasmus+ European educational projects?*".

Teachers from all partner countires highlighted the challenge of beurocracy, formalism and paperwork which is necessary for every step of the implementation of the project activities, in schools and out of schools – *"Much of the energy of the participating teachers is spent on bureaucratic procedures which hardly benefit the students themselves."* (T6-GR). Also,

teachers mention that Erasmus + requirements were not yet very well known at the time of the application and teachers were not adequately trained for implementing projects,so they find it a challenge to maitain a balance beetween their private life and the extra working hours that in most of cases are not payedfor*"teachers need to do during their free time and working in project requires a lotof time. That is the main problem."* (T1-HR).

Students failed to give a proper answer to the question because they considered that they do not have knowledge or experience indesigning and implementing educational projects. Most of them complained about the education systems in their countries and stated that the education systems should not be based on just memorization and consumptionof unnecessary information . They stated the belief that practice should be more important than theory. **"***The education system is bad, you learn to be a campaign. We do not learn logical. We have plenty classes, which are very similar and it seems like they keep reiterating"* (HR-S3).

The experience of Erasmus + project has been concluded in the answers of last question on interview *"How would you summarize in one sentence the experiences you have had in the UNESCO Heritage project?".*Teachers and students gavehighly positive feedbacksas a summary of their Erasmus + experience and all of them opted for positive sentences to describe their experience. The most memorable answers were:

- "Invaluable experience" (T1-HR);
- "Learn living" (T3-IT);
- "Magical" (T5-GR);
- "A lesson inlife andfor life" (T2-PR);
- "You leave as a child, come back a grown up" (IT-S3);
- **"**Unforgettable experience and memories that last a lifetime" (GR-S4);
- **"**This was one of my best adventures in my life" (TR-S3).

III. Conclusions

The launching of the European project found all participants excited and expectant of the new experiences and cultural exchanges to come but also worried about meeting the project's demands. Both their expectations and their worries were on a personal and professional level focusing mainly on their handling of the experience while gaining from it, the command of the English language, adapting to foreign cultures and copying with the demanding activities.

On both these levels (personal and professional) the project was found to have contributed greatly to their confidence, openness, receptiveness, cultural awareness, tolerance and respect for cultural and linguistic diversity. The activities within the framework of the project, especially the workshops

and the in-situ visits but also the competitions, presentations and the intercultural activities were appreciated as having contributed to their cognitive capital while boosting their self-esteem and enhancing skills and attitudes. The benefit reaches beyond the notable advancement of practical knowledge and skills such as using the English language or ICT or even awareness of cultural heritages and the workings of UNESCO; the experiential nature of the activities and the active learning practices that were the framework of the activities had a largely positive impact on the participants' development of "twenty-first century skills" such as time management, adaptability, team work and accountability.

The Erasmus+ programmes were regarded as an excellent example of experiential non-formal education and the participants recognized the usefulness if not necessity for them to be implemented more widely. They did however point to the vulnerabilities of the exam-based educational systems of their countries and the demanding management and implementation of the projects as weaknesses to be addressed.

The issue of national and European identity and the suggestion of a course within the school curriculum that aims to promote the idea of a shared European identity was an issue for debate, finding the majority in agreement about its usefulness, if only in a non-compulsory level since enhancement of national identity was considered by some as more important. A big part of the participants however recognized the need to shape a common conscience and a common understanding of the cultural elements that make up the European civilization. The factors that are reshaping the face of Europe today into a multicultural common ground have not gone unnoticed by the participants; both teachers and students recognize the urgent need to focus on the unifying rather than the divisive elements that will help students of various nationalities thrive in the same classroom or colleagues from different countries pursue a rewarding career within the same working environment.

This realization, either conscious or in the process of shaping itself, may have been a driving force behind the formation of what can be called their "Erasmus+ experience", but the excitement and energy generated by this experience is what made the participants use words like "unforgettable", "magical", "invaluable", "enrichment", "lasting a lifetime" to describe it.

References:

Barron, B., & Darling-Hammond, L. (2008). Teaching for meaningful learning: A review of research on inquiry-based and cooperative learning (PDF)

Bell, S. (2010). Project-based learning for the 21st century: Skills for the future. The Clearing House, 83(2)

CEDEFOP (2016). Skills: the new language of education and training.[online]

COM (2008). Education and training 2010 work programme .Cluster Key Competences – Curriculum Reform Synthesis Report on Peer Learning Activities in 2007, Brussels, 14.03.2008

COM (2010). Communication from the Commission. Europe 2020. A strategy for smart, sustainable and inclusive growth. Brussels, 3.3.2010. COM(2010) 2020

COM (2012). Communication from the Commission to the European Parliament, the Council. The European economic and social committee and the committee of the regions. Rethinking education: Investing in skills for better socio-economic outcomes. COM (2012) 669 final. 20.11.2012. Strasbourg

Fullan, M. &Langworthy, M. (2014) A Rich Seam: How New Pedagogies Find Deep Learning, London: Pearson.

Loyens S. M. M., &Rikers, R. M. J. P. (2011). Instruction based on inquiry. In R. E. Mayer & P. A. Alexander (Eds.), Handbook of Research on Learning and Instruction (pp. 361–381). New York: Routledge

Marilyn Binkley and all (2010). Defining Twenty-First Century Skills. Assessment and Teaching of 21st Century Skills. Springer.

Patrick Griffin, Esther Care, and Barry McGaw (2010), The Changing Role of Education and Schools. Assessment and Teaching of 21st Century Skills. Springer.

Scott C.L (2015). The Futures of Learning 3. What kind of pedagogies for the 21st century? Education research and foresight. Working papers. Unesco

Strobel, J.,& van Barneveld, A. (2009). When is PBL More Effective? A Meta-synthesis of Meta-analyses Comparing PBL to Conventional Classrooms. Interdisciplinary Journal of Problem-Based Learning, 3(1).

Thomas, J. W. (2000). A review of research on project-based learning (PDF)

Walker, A.,& Leary, H. (2009). A Problem Based Learning Meta Analysis: Differences across Problem Types, Implementation Types, Disciplines, and Assessment Levels. Interdisciplinary Journal of Problem-Based Learning, 3(1).

Zimmerman, B. (2002). Becoming a self-regulated learner: An overview (PDF). Theory into Practice 41(2), 64-70.