
SHE'S A WOMAN WHO UNDERSTANDS: THE WINNOVATORS PROJECT

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Abstract

This paper describes the WINnovators, an EU Erasmus+ 3-year project that has started in late 2021. The main objective of the project is to enable young women from vulnerable groups, women who live in isolated geographical areas and women with a low standard of living to get the quality education in different areas of STEM/STEAM aiming to enlarge their entrepreneurial skills by providing them with the e-learning content in such a domain. In this way, by using modern learning technologies and informal learning young women can define their own process of lifelong learning to compensate for what they have missed in the traditional education.

Keywords:

Informal education, disadvantaged learners, youth, entrepreneurial skills.

Introduction

According to the UN agenda for sustainable development (UN, 2015), there are 17 goals, 169 targets and 244 indicators for progress measurement integrated in the three dimensions of sustainable development: the economic, social and environmental. One of the goals – Goal 4 – refers to the improvement of quality education for all, as well as to promoting lifelong learning by using modern ICT technologies. The relevant EU ministries and EU neighbourhood countries have adopted educational development strategies to improve the educational process by applying ICT in teaching and learning for disadvantaged learners.

In addition, the recent Covid-19 pandemic has shown that many learners have less access to quality education because they live in low-income societies, as well as in societies where online learning faces difficulties related to low bandwidth and instable Internet connection. Regarding the post-pandemic investigations – e.g., (Zhu & Liu, 2020) – the world of education is moving towards online education, which means that hybrid/blended education arrangements, i.e. appropriate mixtures of online and offline teaching and learning activities best reflect the current needs of education at different levels.

On the other hand, informal education in the space of e-Learning provides some "missing links" that schools usually omit in the teaching they provide (Eshach, 2006). To disadvantaged learners, it might fulfil some of the educational needs that bring such learners closer to their peers who do not suffer from disadvantages in their education. Although this typically does not provide an absolute levelling of opportunities, it certainly opens new avenues for disadvantaged groups to better employability.

This paper presents the initiative taken within the WINnovators project (<https://www.winnovators.eu/>) funded by the EU Erasmus+ program in the area of education. The main objective of the WINnovators project is to enable access to a quality teaching and learning process for disadvantaged learners, specifically young women from rural areas who, for objective reasons, did not get an appropriate knowledge within the regular education at HEIs. The project aims at improving their entrepreneurship, innovation, and leadership locally.

The WINnovators Project at a Glance

WINnovators – Boosting entrepreneurial and STEM/STEAM capacity of young Women in higher education institutions for sustainable development and INnovation – is a three-year project funded by the EU Erasmus+ program in the area of capacity building in the digital, entrepreneurial, STEM / STEAM innovation and sustainability fields, for the benefit of young women in rural areas, higher education students and teachers. In this context, STEM / STEAM refers to the creation of innovative educational materials, which encourage innovation, critical thinking

and problem solving using knowledge from science (S), technology (T), engineering (E), art (A) and mathematics (M) (White, 2014).

The WINnovators project targets young women between 19 and 29 years from rural areas and outskirts regions that are facing socio-economic difficulties because of the lack of experience and skills and the absence of mentors and partners with whom they can further develop their own innovative business approaches. Such young women fall into a risk category because of the lack of opportunities in their regional neighbourhoods to engage with people who can accelerate their innovation ideas locally.

The WINnovators challenge is to promote equity to such young women with economic obstacles (the women with a low standard of living, low income, and dependence on social welfare system), as well as young women with geographical obstacles (young women from remote or rural areas; women living in small islands or in peripheral regions). The WINnovators project team believes that by empowering them in their rural communities may make the difference and revise their ideas to leave to the cities and abroad. It is important for balanced development in many countries to sustain equal development in rural areas so that the role of the countryside is not only to provide for cities.

Key Elements of the WINnovators Project

A study among female entrepreneurs in the countryside has found that the majority of female entrepreneurs are 36-65 years old and only one third are younger than 35 years (Menzies, T.V. et al., 2004). An interesting finding from this study is that having children does not seem to be a constraint for women in starting their own business. The WINnovators project tries to increase opportunities for women to gain new experience and knowledge, as well as to test their own business capacity.

The main WINNovators project output will be co-development and implementation of innovative teaching and learning approaches and concrete policies for capacity development in the digital, entrepreneurial, STEM/STEAM innovation and sustainability fields, from which young women from rural areas and HEI students and educators would mutually benefit in the short and long run. Specifically, the project results are divided into four different parts that are mutually integrated (Figure 1):

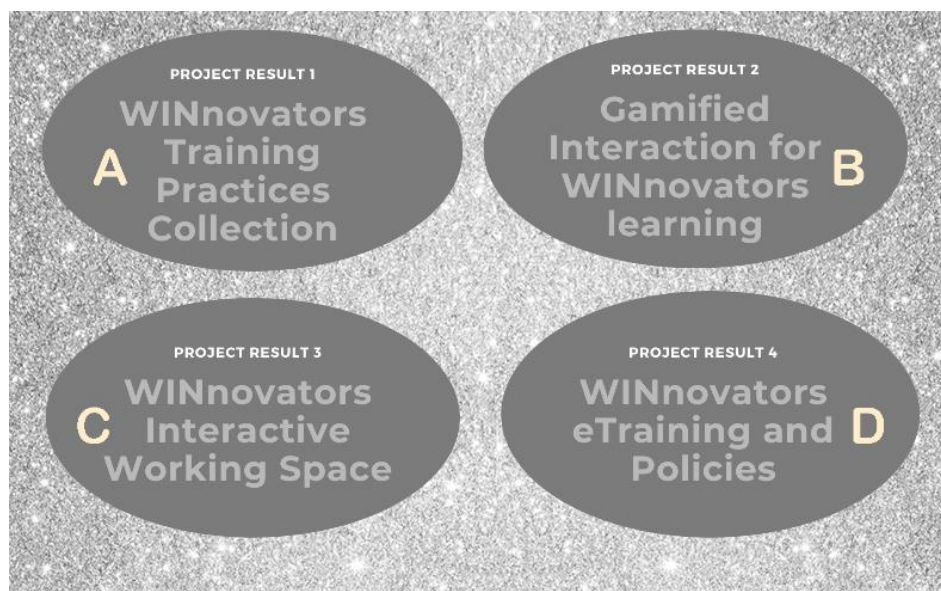


Figure 1. WINnovators project results

- *WINnovators Training Practices Collection (Figure 1A)* aims at contributing to transformation of educational practices in Higher Education, as well as at providing the students concrete instruments and experiences to act as capacity development agents in their communities and create an actual value as part of their HEI learning practices.
- *Gamified interaction for WINnovators learning (Figure 1B)* includes specific capacity building actions through the development of an educational Open Innovative Ecosystem (OIE) that is based on

gamification. The gamification principles are expected to contribute to the creation of entrepreneurial, STEM/STEAM digital skills of young women at risk of marginalisation in rural and outskirts communities.

- *WINnovators Interactive Working Space (Figure 1C)* is an e-learning platform and a set of valuable learning resources for both the teachers and the students who take part in the WINnovators project. The interaction is enhanced by a gamified approach to promote STEM, innovation and entrepreneurship among students and young women involved in higher education and providing help to the targeted learners.
- *WINnovators e-Trainings and Policies (Figure 1D)* offer specific learning opportunities for young women at risk of marginalisation from rural communities and outskirts and suggests valuable measures to policy makers in order to tackle the lack of cooperation and capacity building activities between policy makers, students and businesses.

The WINnovators Gamified Web Platform

WINnovators aims at implementing new teaching and learning approaches, such as gamification, to support capacity building in the digital, entrepreneurial, STEAM and STEM fields, by especially targeting under-represented groups (such as girls and women from rural areas), thus fostering gender equality. To this end, the WINnovators team is working on the development of a competence-based gamification system for the WINnovator web platform (Figure 2).

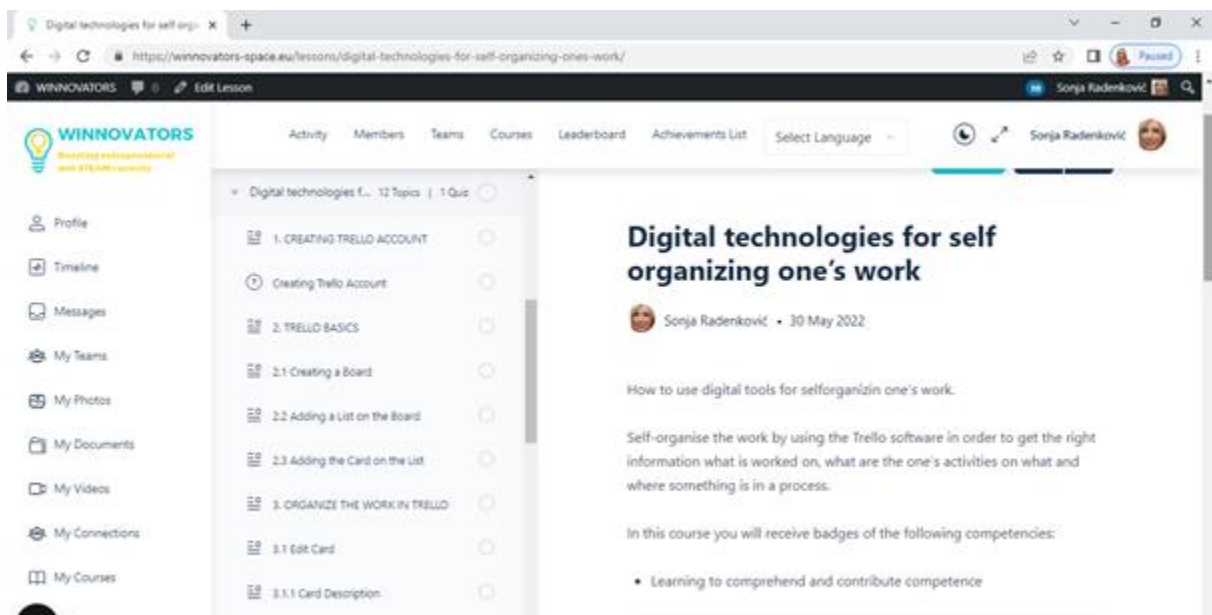


Figure 2. The WINnovators web platform

According to Domínguez et al. (2013), the use of gamification in educational settings represents a best practice that succeeds in engaging groups of people, both in higher education and among vulnerable groups of young women and motivates them to achieve their goals. In fact, it involves them at an emotional level, by increasing their competences and by helping them to develop a sense of autonomy and make progress in what they are doing. This is both an element of innovation and a booster for the development of entrepreneurial skills, which is one of the main objectives of the WINnovators project. Gamification involves adding specific game features and/or game mechanics to a non-game context to make it more motivating and thus more successful in facilitating learning.

The WINnovators gamification system introduces a badge award system (Figure 3), with each badge representing a competency from the WINnovators competence framework – a carefully worked out, detailed set of competencies. It promotes among HEI students and young women from rural communities the joint capacity and agency to develop entrepreneurial, digital innovation and sustainability-aware people. The WINnovators competence framework integrates several competency frameworks: Dig.comp 2.1, GreenComp, Sustainability competencies, Entrepreneurial competencies (Vlok, 2012), Innovation competencies and Project management competencies. The competencies that the targeted learners attain will reflect the learning activities, and teamwork interactions in the WINnovators gamified web platform that includes a set of self-study learning modules for achieving the

WINnovators competences. Two learning modules have been developed so far: “STEM/STEAM entrepreneurship communities for young women” CHALLENGES and “STEM/STEAM entrepreneurship communities for young women” GENERAL LEARNING RESOURCES. The difference between CHALLENGES and GENERAL LEARNING RESOURCES modules in WINnovators is that GENERAL LEARNING RESOURCES are intended for self-studying, whereas CHALLENGES are more interactive and assessment-oriented. For accessing the learning modules, learners need the equipment such as mobile phones, Internet connection as well as access to a data collection server.

Competencies are used for developing specific badges in the WINnovators gamified web platform, which also acts as a specific assessment system in the WINnovators project. Badges will be awarded for completing self-learning activities and team interactions of the HEI students who help conduct the learning process, and young women from rural areas. There will also be badges for passing the final tests in the form of quizzes and/or individual/group projects. The ECTS credit system is not included in the process of awarding the badges from the WINnovators gamified web platform, because it is not envisioned as a formal HEI learning. Collecting badges from five different competency areas (Learning to be, Learning to value, Learning to live and work together, Learning to comprehend and contribute, and Learning to empower and lead) allows the learners to achieve three different levels - Bronze, Silver, and Gold WINnovator.

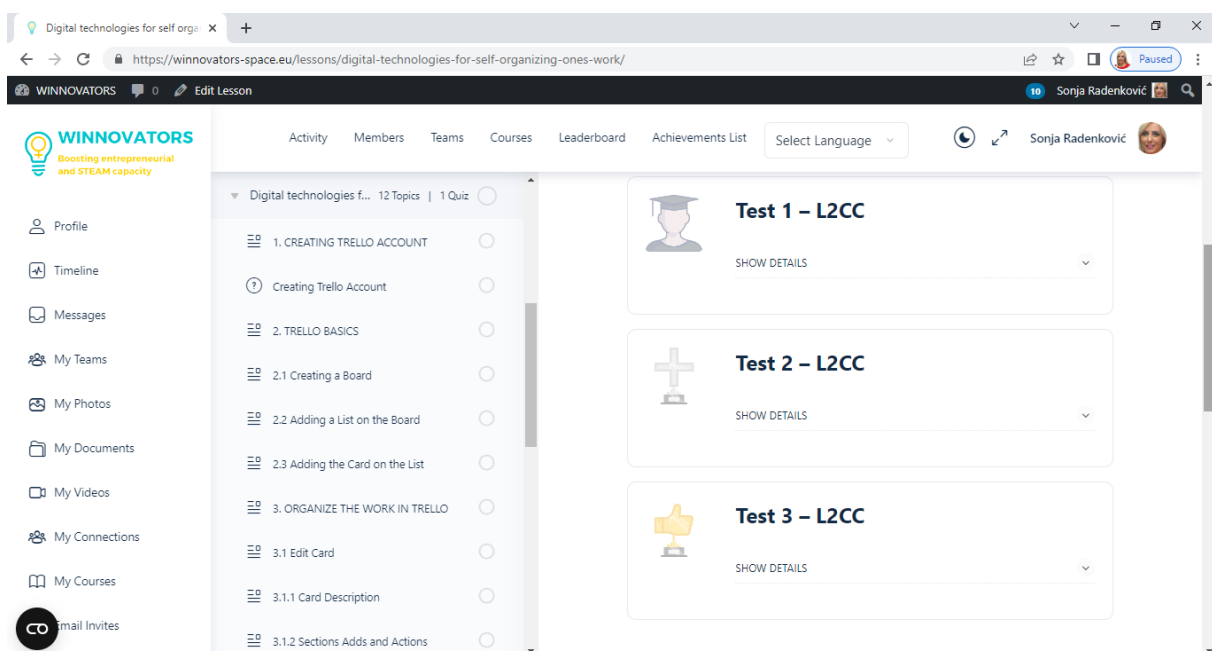


Figure 3. The WINnovators badge system

Discussion

The motivation of the WINnovators project development team in running this project is to bring interesting and important learning contents closer to learners who need them. To this end, the project provides critical skills related to using the Internet to disadvantaged young women who might not be aware of them. The skills taught in the WINnovators project are nowadays compulsory for an active and responsible digital citizen. These skills are listed among the required skills that employers are currently looking for and will be looking for in the forthcoming years. They will be useful not only for a brief period of time, but also for lifelong learning and employability (World Economic Forum 2020).

In addition, the WINnovators project wants to develop and increase entrepreneurial spirit with the targeted learners. In some cases, the innate feeling for entrepreneurship can be enough, but training young people in sustainability, finance, digital marketing, and modern AI technologies can raise their entrepreneurship to a much higher level. Informal learning through innovative e-Learning technologies can be an eye-opener for many young women in rural areas. The WINnovators project intends to introduce certification of the efforts of young women who complete the training courses developed by the project teams. Gamification elements (e.g., badges) introduce digital certificates

and micro credentials that employers nowadays more and more recognize as evidence of informally acquired competences fostering employability.

The WINnovators project implicitly prepares disadvantaged women in rural areas for lifelong learning by involving them in a process of operationalizing newly acquired skills in sustainable ways. The tangible output of the project is its e-Learning platform used for storing learning materials and for enabling active learning through educational social networking activities (collaboration, group work, discussions, and the like).

An important feature of the project is the active participation of youth workers (typically HEI students) in training courses that the project runs, in preparation of learning materials, in networking activities, in dissemination of the project results, and in policy-development activities related to the targeted groups of disadvantaged young women. Involving young women in all the project activities is an advantage, since there are many similar courses on the Web that anyone can take.

Finally, the WINnovators project offers training in skills that are not just career skills but can positively affect other aspects of life like communication, healthcare, social skills, everyday activities, etc.

Conclusion

The project described in this paper targets somewhat different groups of learners and allows assessing somewhat different pedagogical contexts that share similar learning scenarios and experiences. The most important among them are related to increasing young women's employability prospects through learning informally about topics of importance for their careers and for living in modern society in general, as well as raising awareness of different kinds of knowledge, tools, technologies, and lifelong learning approaches underlying distinct aspects of living in the real world.

Note, however, that this project does not guarantee employment to young women who attend the training and complete the courses developed by the project teams. Employment, entrepreneurship, and career building are still on the young women themselves. The project acts as an enabler in developing critical skills that come useful in career building for the targeted young women (Devedzic & al., 2022).

From the pedagogical and methodological points of view, the project relies on active participation of youth workers. In the results achieved by the project so far, this decision has proven to be beneficial for the youth workers and the targeted learners. These youth workers are typically recruited from college students. They are of age close to that of the targeted learners, and presumably have a good grasp of the fields of interest to the targeted learners. Thus, they can represent a good link at the operational level (Devedzic & al., 2022).

The project is still ongoing, and there are no statistics yet related to running the training. However, initial reactions from young, disadvantaged women who have received the news about the project, as well as the informal pilot tests organized by the project teams are very encouraging.

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