

SHINE A LIGHT – E-LEARNING INITIATIVES FROM TWO EU PROJECTS

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ABSTRACT

The paper presents ideas and initiatives from two ongoing Erasmus+ projects funded by the European Commission. Both projects use e-Learning as an enabler for communicating interesting and important learning contents that are believed to increase and improve employability prospects for the targeted groups of learners. The WINnovators project targets young women with reduced opportunities for quality education in different areas of STEM/STEAM and intends to demonstrate how their entrepreneurial skills can gradually grow by providing them with e-Learning incentives in such areas. The YNSPEED project intends to offer free MOOC courses addressing hot topics of modern society – artificial intelligence, sustainable development, and fake news. In the YNSPEED project, the target group of learners are young people (aged 16-29). It is believed that their interest in such important topics can be boosted by communicating the corresponding relevant learning content in a carefully designed way. The *Shine a light* metaphor is a common point and a common approach in both projects – e-Learning technology is used to facilitate informal education for the targeted learners and to indicate directions that often get either omitted or misunderstood in traditional schools.

KEYWORDS

Informal Education, Disadvantaged Learners, Youth, MOOC, Artificial Intelligence, Entrepreneurial Skills

1. INTRODUCTION

According to IGI Global (2022), disadvantaged learners are those who face specific challenges compared to their peers. This category of learners does not include only learners with disabilities. The challenges of such learners can take many other forms, like poverty, family issues, little or no family support, many school moves, pregnancy, the necessity to earn a living in addition to attending classes and studying, etc. In addition, the recent Covid-19 pandemic has shown that in low-income societies, as well as in societies where online learning faces difficulties related to low bandwidth and instable Internet connection, many students have less chances to get appropriate education.

Still, as many post-pandemic analyses indicate – e.g., (Horváth et al. 2022) – the world of education is shifting more and more towards online education. Many analysts agree that hybrid/blended education arrangements, i.e., appropriate mixtures of online and offline activities supporting the study process best reflect the current needs of education at different levels.

On the other hand, informal education by means of e-Learning often provides some "missing links" that schools usually omit in the teaching they provide (Eshach 2006). To disadvantaged learners, these might fulfill 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 leveling of opportunities, it certainly opens new avenues for disadvantaged groups to better employability.

It is also important to note that young people, defined by Eurostat (2022) as people with age between 15 and 29 years, often lack appropriate information on important topics underlying the driving forces of modern society. This creates another "missing link" in school education, most frequently for those young people who do not go to college. Consequently, a considerable proportion of youth still remain rather ignorant of essential processes in industry, economy, business, and technology.

To address these issues, the European Commission funds different projects in the area of education with the common objective of narrowing the gap between disadvantaged groups of learners and those with better access to education, as well as projects focusing specifically on education of youth.

This paper presents ideas and initiatives taken by two such projects funded by the Erasmus+ program. It also discusses common points of these two projects, albeit they are of a different nature, are being developed and implemented by different consortia, and target somewhat different groups of learners.

2. THE WINNOVATORS PROJECT

The WINnovators project (Boosting young women entrepreneurial spirit and skills to become the women innovators of the future, <https://www.winnovators.eu/>) focuses on using e-Learning technology to help young women from rural areas build and develop their digital, entrepreneurial, and STEM/STEAM skills. Of course, 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).

By targeting young women from rural areas, the WINnovators project aims at promoting gender equality and create educational opportunities for those young women who are disadvantaged to this end when compared to women living in cities and other more developed regions where education is more accessible. Examples of disadvantages of such young women include:

- *Lower income.* Life in rural areas is often correlated with lower income compared to life in urban centers. Access to quality education typically means high costs, and these are not easily affordable for people in rural areas.
- *Lifestyle.* In many countries, women in rural areas are expected to work in agriculture and simultaneously take care of the household they live in (Belingheri et al. 2021). The time they can allocate for education is limited and can be the key factor for giving up education (AFA Network 2022).
- *Family duties.* Patriarchal lifestyle, still prevailing in rural areas in many countries, means that it is women who take care of children the most. Pregnancy often only increases these duties. As a consequence, young women in rural areas stay at home more than men.
- *Mindset.* The lifestyle in rural areas has already created a mindset that in many cases holds back young women who want to get better education.
- *Lack of computer literacy.* Women make up a higher percentage of the illiterate and computer illiterate population compared to men in all age groups, and the differences are even more pronounced between urban and rural areas (AFA Network 2022).

In order to address these issues and offer better educational opportunities for such young women in rural areas, the WINnovators project has started from the following ideas:

- There *are* points and assets in lifestyles of young women in rural areas that can be used as a good starting ground for furthering their education. For example, selling agricultural products on green markets can be augmented with selling them online as well, simultaneously leaving more time for home duties. Likewise, rural tourism (agrotourism) can bring additional income to many families and can be a great opportunity for young women in villages to develop their entrepreneurship. Still, both these activities require additional education in entrepreneurship, digital marketing, Web development, and the like. Informal education by means of e-Learning can help to this end. This is perfectly in line with the observations of Eshach (2006), who has noticed that the potential of out-of-school learning is not fully exploited. Back in 2006, it was probably even less exploited than it is today, but new underexploited opportunities continue to arise.
- Technology helps, although it is not a panacea. Mobile phones and Internet access are often sufficient prerequisites for basic e-Learning. The bandwidth problem remains in some cases.
- It is the networking with target learners, appropriate content (the learning material) and a carefully designed pedagogical approach that can start off some changes – changes in attitudes, in mindset, and in lifestyles, reducing eventually the disadvantages of living in rural areas.

Figure 1 illustrates the approach taken by the WINnovators project in order to develop these ideas in practice. Once the project is completed, the expected results will include:



Figure 1. The WINnovators project results

- The collection of training practices (Figure 1A) that involve college students in providing training to the targeted young women. The idea is to have both university teachers and students run online training sessions with young women in selected STEM/STEAM, entrepreneurship, sustainability, and other relevant disciplines. The students can act as capacity developing agents for young women in their communities, thus adding value to the process in the form of their college learning practices. It is believed that similar age and energy that university students acting as teachers bring to the training sessions can benefit the learners. All the experiences and best practices from these sessions will be collected and published.
- Specific capacity building actions run by the WINnovators project through the development of an educational Open Innovative Ecosystem (OIE) based on gamification (Figure 1B). The gamification principles can contribute to the creation of entrepreneurial, STEM/STEAM digital skills of young women at risk of marginalization in rural and outskirts communities.
- The interactive working space (Figure 1C) as the main tangible result of the WINnovators project. It is essentially an e-Learning platform and a collection of valuable learning resources for both the teachers and learners. The interaction between the learners and the teachers by means of a gamified approach promotes STEM/STEAM, innovation, and entrepreneurship among the targeted young women, supported by higher education students.
- The WINnovators project will eventually suggest valuable measures to policy makers in order to tackle the lack of cooperation and capacity building activities between disadvantaged students and businesses (Figure 1D). This will help improve and update different teaching approaches in terms of supporting sustainability, entrepreneurship, and innovation.

There is also an important general question here: *who exactly* are the women that the WINnovators project targets, and *how to reach them*? To this end, the WINnovators project maintains contacts with different women associations in the countries of origin of the project partners. Through these associations, information about the project and relevant questionnaires are distributed among women in rural areas and suitable candidates are recruited for free e-Learning sessions with university teachers and students who train the candidates in local languages in STEM/STEAM, entrepreneurship, and sustainability topics and provide guidance in using online learning resources developed by the project participants.

3. THE YNSPEED PROJECT

The focus of the YNSPEED project (Youth new personal & employable skills development, <https://ynspeed.mystrikingly.com/>) is on youth education. The objective is to provide more information to young learners about important topics and themes of today's society, those that often do not fit in school programs but are essential in understanding technology and practices underlying industry, businesses, economy, education, mind-shaping societal changes, and generally in getting oriented and understanding real-life situations. The topics and themes covered include artificial intelligence (AI), sustainable development, fake news, and learning English with the help of technology.

The major project results are four different massive open online courses (MOOCs), one for each of the four broad topics, developed by the YNSPEED project consortium and offered to youth learners through a MOOC platform in English and in the local languages spoken in the YNSPEED project partner countries.

A "pedagogical sugar" added in development of all four MOOCs is the participation of skilled young people. In other words, parts of the courses are developed by young people, not only by experts with years of experience in the related topics. This is considered motivating for young learners – they are more likely to interact and to resonate better with people of their age than with senior teachers, resulting in more interest in MOOC videos and other learning materials featuring young people.

Who are these skilled young people, specifically? The term adopted in the YNSPEED project is *youth workers*. Wikipedia (2022) defines a youth worker as "a person that works with young people to facilitate their personal, social, and educational development through informal education, care (e.g., preventive), or leisure approaches. Youth workers can work in many contexts and according to the roles they are known as enablers, facilitators, emancipators, animators, or could be known by the set of activities they use to reach out to youth. The validity of youth work approaches is based on whether they are educational, participative, empowering, promote equality of opportunities, etc. The basic principles of youth work are respecting young people, providing accessible and value-oriented opportunities (genuinely useful) for voluntary participation, accountability, being anti-oppressive (e.g., social model of disability, unconscious bias training) in processes, confidentiality, reliability, trustworthiness, and being ethical in keeping boundaries." Most youth workers participating in the YNSPEED project are university students, young teaching assistants, and PhD candidates, who are already sufficiently skilled and knowledgeable in the topics covered by the YNSPEED project MOOCs. Also, some young people employed by relevant companies and institutions or running relevant startups are part of the MOOCs as well.

In order to illustrate the approach and the essentials of the MOOCs developed by the YNSPEED project, one of the MOOCs is presented here in more detail. It is the AI MOOC, called AIM4YOU (AI for Young People). AIM4YOU is developed by 7 university teachers and 8 youth workers. They work in 5 different countries, spanning different cultural backgrounds and contexts.

The topics covered in the AIM4YOU MOOC are hot topics in AI nowadays – robotics, machine learning, neural networks, natural-language processing, self-driving cars, AI ethics, etc. – as well as some foundational topics like knowledge representation, reasoning, rule-based systems, and the like. The topics are presented in 80+ short videos, developed in English (with subtitles), and include a number of examples carefully designed to bring the presented topics closer to young learners' minds. For each major topic, there are always introductory videos, quizzes, and further readings to select from the menu. Figure 2 gives an idea of learners' interaction with AIM4YOU.

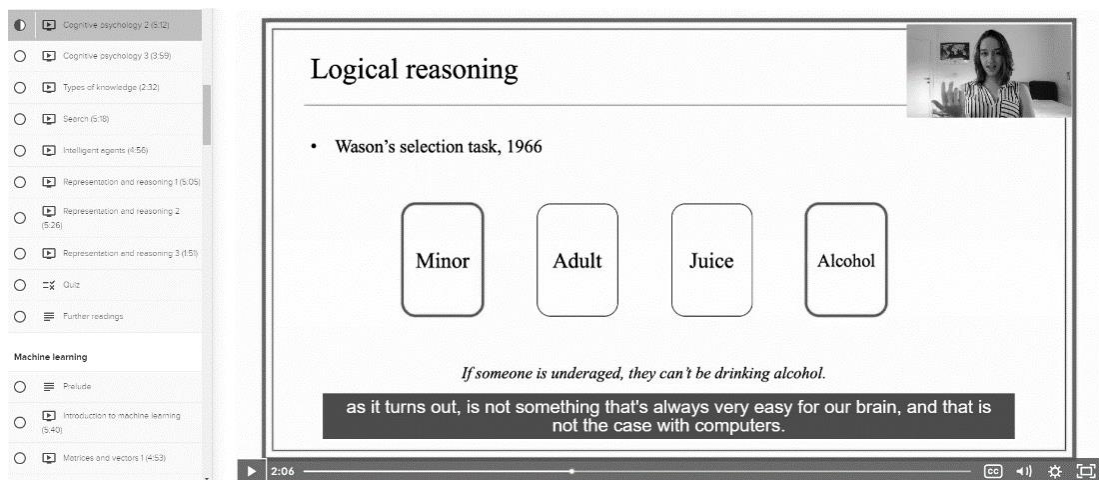


Figure 2. A screenshot from an AIM4YOU MOOC

To reach potential learners, the YNSPEED project promotes its MOOCs extensively, both online and through special events organized for young people. The events feature presentations given by the project participants and youth workers, networking activities, as well as Q&A sessions intended to motivate young learners to take the four MOOCs free of charge. In addition, several promotional videos have been developed in order to increase the number of visits to the platform running the four MOOCs (e.g., <https://cdn.fs.teachablecdn.com/h4m6YN3TPCQlyCQSTKIR>).

4. DISCUSSION

The motivation of both the WINnovators and YNSPEED project development teams in running these projects is to bring interesting and important learning contents closer to learners who need them. To this end, both projects have common points:

- Providing critical skills related to using the Internet to specific groups of learners who might not be aware of them (such as disadvantaged young women and youth). Many Internet users from these populations are not using the Internet for education to its full capacity (Eshach 2006). Thus, the WINnovators and YNSPEED projects are driven by the same Shine a Light metaphor, meaning that opening different educational avenues through e-Learning tools can benefit the targeted groups.
- The skills taught in the WINnovators and YNSPEED projects are nowadays compulsory for an active and responsible digital citizen. Such skills will be useful not only for a brief period of time, but also for lifelong learning and employability – all of them are listed among the required skills that employers are looking for and will be looking for in the forthcoming years (World Economic Forum 2020).
- Both projects also want 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 MOOCs and other e-Learning technology can be an eye-opener for many young people. Both the WINnovators and YNSPEED projects intend to introduce certification of the efforts of learners who complete the training courses developed by the project teams. Gamification elements (e.g., badges) introduce digital certificates and micro credentials that nowadays more and more employers informally recognize as evidence of informally acquired competences fostering employability.

- Both projects implicitly prepare young people and disadvantaged learners for lifelong learning by involving them in a process of operationalizing the newly acquired skills in sustainable ways.
- From the pedagogical and methodological points of view, both projects rely on active participation of youth workers. In the results achieved by the projects so far, this decision has proven to be beneficial for both the youth workers and the targeted learners.
- Likewise, both projects have similar tangible outputs – e-Learning platforms used for storing learning materials and for enabling active learning through educational social networking activities (collaboration, group work, discussions, and the like).
- Last but not least, both projects offer training in skills that are not just career skills but can positively affect other aspects of life like communication, healthcare, social aspects, everyday activities, etc.

5. CONCLUSION

The two projects described in this paper target somewhat different groups of learners and allow to assess somewhat different pedagogical contexts but share similar learning scenarios and experiences. The most important among them are related to increasing young people'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 neither of these projects guarantees employment to young people who attend the training and complete the courses developed by the project teams. Employment, entrepreneurship, and career building are still on the learners themselves. The two projects act as enablers in developing critical skills that come useful in career building for the targeted young learners.

An important feature of both projects is the active participation of youth workers in training courses that the projects run, 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 learners. Involving youth workers in all the project activities is an advantage, since, truly, there are many similar courses on the Web that anyone can take.

Both projects are still ongoing, and there are no statistics yet related to running the training courses and the MOOCs developed. However, initial reactions from young learners who have received the news about the projects, as well as the informal pilot tests organized by the project teams are very encouraging.

ACKNOWLEDGEMENT

This paper results from the authors' work on the WINnovators and YNSPEED projects, both funded by the Erasmus+ program of the European Commission. The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

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