BOOSTING CLASSES 2.0 FOR HIGH-QUALITY TEACHING IN ADULT EDUCATION

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Abstract

According to the European statistics (2018): only 20-25% of students in European schools are taught by teachers who are confident with technology use, while 43% of Europeans lack basic digital skills, and about 71 million students need to develop their skills for the digital society. This shows how lifelong learning remains one of the fields where Europe falls behind, notwithstanding the support of technology-use and digital competence in education being the key aspect of the Digital Education Action Plan.

Moreover, different European countries demonstrate a particular variety regarding the situation in developing the e-learning system in adult education. In fact, based on Eurydice's report (2015), the percentage of adults (25 - 64 years old) who participated in distance learning (formal or informal), on EU average rate of 2.2%, was, for example, 1.5% (-0,7) in Bulgaria, 4.9% (+2,7) in Spain, 1,5% (-0,7) in Italy and 0.7% (-1,5) in Romania (Eurostat data).

In Spain, the relatively high participation rate seems to reflect the efforts made by the Ministry of Education, Culture, and Sports (MECD). They have several complete distance learning programs funded with public funds. Whereas the corresponding registered data are much less encouraging in Bulgaria, Italy and Romania, despite different large-scale programs and private initiatives promoting e-learning training for adult education are in action.

Nevertheless, neither the teachers nor students are prepared and equipped enough to produce a teaching and learning process effectively engaging the adults, who are, in most cases, immigrants.

In this context, a European project, "BoostClass 2.0", has been funded under the Erasmus Plus programme to define a common framework among the countries participating (Italy, Bulgaria, Romania and Spain) for the identification of a teaching and learning approach to promote and implement the integration of new technologies in adult education effectively.

In this paper, the authors intend to describe the activities realized and the outputs reached during the first project year and define the main steps for the piloting phase in educational organizations and institutions in the adult sector.

Keywords: Technology, lifelong learning, Teaching, Learning

1 INTRODUCTION

Digital competencies are increasingly seen nowadays as an essential fundament for citizenship [1, 2]. Moreover, digital competence needs to be updated accordingly to reduce digital exclusion risks [3]. Indeed, such a risk is increasingly connected to the lack of competence, while access to digital tools is continuously increasing. For example, mobile phone use, which in 2019 has reached coverage of 100% in all continents except for Africa, has a penetration rate of 80% (ITU Statistics, 2019). At the same time, digital competencies have become crucial for employability and in the workplace [4].

In a world permeated by media messages, training design means dealing with multiple media that simultaneously represent information vehicles and specific study objects characterized by their languages and cultures [5]. The subjects involved in media education cannot ignore specific training planning skills and specific media education skills [6].

In this context, a European project, "BoostClass 2.0", has been funded under the Erasmus Plus programme to define a common framework among the partner countries (Italy, Bulgaria, Romania and Spain) for the identification of a teaching and learning approach to promote and implement the integration of new technologies in adult education effectively.

Based on the results achieved by previous European and national initiatives, the project proposal intends to be further developed in designing a new curriculum and didactic open resources for the promotion of Classes 2.0 in adult education.

In this regard, the Consortium considers the use of technology as a feasible tool to actually increase students' learning motivation and flexibility in assessment and evaluation system in distance learning. Moreover, it can let learners progress towards higher qualifications through identifying individual learning needs for better-personalized learning paths.

2 METHODOLOGY

In order to construct the common framework, an initial survey was submitted in Italy, Bulgaria, Romania, and Spain to analyze in details, which are the most used teaching and learning approaches for the use of technology in adult education in these partner countries.

In total 106 answers among teachers or other professionals in adult education were processed. The responses were grouped according to the corresponding activities related:

- Analyzing and comparing the teaching and learning approaches;
- Identification and mapping of the digital skills required for the integration of the technology into the classes for adult education at the national level;
- Analyzing and comparing the assessment and evaluation systems in distance learning (formative and summative) through the specific tools and techniques at the national level.

To understand the key elements of digital competence and how to assess it, the European Commission developed a Digital Competence Framework for Citizens. The Digital Competence Framework for Citizens, also known by its acronym DIGCOMP, was first published in 2013 by the European Commission with subsequent revision and update [7]. DIGCOMP provides a common language on identifying and describing the key areas of digital competence and is the main reference in Europe today for the development and strategic planning of digital competence initiatives. In addition, the DIGCOMP describes the competencies necessary today in order to use digital technologies in a confident, critical, collaborative and creative way for carrying out activities and achieving goals related to work, learning, leisure, inclusion and participation in our digital society.

Below the primary findings and the research work related to the three groups of responses outlined previously are briefly presented.

3 RESULTS

3.1 Analyzing and comparing the teaching and learning approaches

Concerning this dimension, the authors provide the common insights that were used by the partner countries before the start of every national inquiry. In this sector, learners enter the teaching site with very different life and learning experiences; therefore, a good teaching strategy will entail differentiated plans. Many adults who come to the teaching site have strong resources in special fields and want to be visible and accepted because of their abilities. Good teaching activities will enhance the self-esteem of learners and use their large potential. Adult students want to see a clear connection between the learning process and a future life situation where they will be actors and enhance their value. Therefore, good practice in teaching situations will clarify the connection between formal learning activities and a future reality where students will act in.

E. C. Lindemans book, The Meaning of Adult Education [8], published for the first time in 1926, was the precursor for the modern view on adult education [9]. Lindeman stresses that adult education must aim to improve the quality of life and provide "new meaning for life and new reasons for living". He states that all learning must be based on significant experiences from many different situations in life.

Lindeman stresses that the ultimate aim of all learning should be to master familiar and new situations: "What is important is that the mind should be sensitive to problems and skilled in methods of attack and solution" [10].

M. S. Knowles bases his book The Modern Practice of Adult Education [9] on his own experience with teaching adults. In 1984, he systematized his ideas for adult education in the book Andragogy in Action [10] and explains his position of adult education versus "ordinary" pedagogics in five points. A summary of these five points is following:

1. The adult learner is self-directing, one who has arrived at a self-concept of being responsible for her/his own life, of being self-directing.
2. The andragogical model assumes that adults enter into an educational activity with both a greater volume and a different quality of experience from youth. This difference in experience has several consequences for education; the adults are the richest resources for one another. There is more significant heterogeneity in groups of adults. Consequently, in adult education, greater emphasis is placed on individualized learning plans.
3. The andragogical model assumes that adults become ready to learn when they experience a need to know something to perform more effectively in some aspect of their lives.
4. Adults are motivated to learn after they experience a need in their life situation; they learn to solve a problem or live more satisfyingly. This attitude stresses organizing learning experiences (the curriculum) around life situations rather than subject matter units.
5. Although adults will respond to some external motivators – a better job, salary increase, and the like – the andragogical model predicates that the more potent motivators are internal - self-esteem, a better quality of life, self-actualization, and the like [11].

The adults' education teaching principals are different from traditional education:

Individual differences

- Adults have their interest and needs;
- The intellectual and social level of the adults is different;
- It is a long time since adults left their school;
- The time for achieving results is different;
- Adults have their style of learning and acquiring knowledge.

Self-esteem

- Adults like to be noticed, evaluated and appreciated as individual personalities. The relationship between students and adults' teachers is based on symmetrical role relations, both working together in a learning process.

Responsibility

- Adults understand that learning demands efforts; sharing the information and experience, they are responsible for the results themselves;
- The learners must see the immediate connection between the teaching program and improvement of future knowledge, theory and practice.

Flexibility and sensitiveness

- Adults can change the aims and even their point of view in the process of education quite flexibly. Andragogy has to react to learners' needs, aims and even change the teaching material if necessary. Due to the adults' changing mood and conditions, teachers must change teaching strategies to hold learners' attention and interest.

3.2 Identification and Mapping of digital skills identified for the integration of technologies into the classes for adult education

To improve the teaching quality and reinforce both teaching and learning processes in adult education, the needed skills for the use of technology should be defined.

In this framework, two theoretical perspectives are identified as follows:

1. Lifelong lifewide and lifedeep learning;
2. Competency-based Education.

Lifelong lifewide and lifedeep learning refers to the three dimensions of learning: vertical (long), horizontal (wide) and in-depth (deep).

First of all, **lifelong learning** (vertical dimension) is defined as "all learning activity is undertaken throughout life, to improve knowledge, skills and competencies within a personal, civic, social and/or employment-related

perspective" (COM 678, 2001). It is often considered learning that occurs after the formal education years of childhood (where learning is instructor-driven—pedagogical) and into adulthood (where the learning is individually-driven—andragogical). It is sought out naturally through life experiences as the learner seeks to gain knowledge for professional or personal reasons. These natural experiences can come about on purpose or throughout life's unpredictable course. 'Knowledge results from the combination of grasping experience and transforming it [12]. The concept of lifelong learning has become vital with the emergence of new technologies that change how people receive and gather information, collaborate with others, and communicate.

Secondly, **lifewide learning** (horizontal dimension) concerns all contexts of life. It represents the overcoming of proper places dedicated to education, so in addition to the formal context, "informal and non-formal contexts" are relevant for life experience. It recognizes that learning occurs in multiple contexts within a learner's life: school, home, work, etc. It is how an educational institution encourages, supports and recognizes students' lifewide learning. Finally, it is a concept that is compared and contrasted to lifelong education, recognizing that not only does learning occur continually throughout one's life, but it also occurs broadly across every situation in one's life [13].

Finally, the third dimension (deep) occurs in **lifedeep learning**. It concerns beliefs, values and orientations for life [14, 15] to participate fully in the community life. This dimension shifts the focus from economic competition to the community's joint commitment and each person for their full development (transformative dimension, depth, transformative learning). Therefore, it regards what is related to the social, cultural, moral, spiritual, communicational and ethical values that lead people to act, learn, believe and think in a particular way.

Competency-based education [16] is addressed to develop key competencies necessary for the successful participation in social life: "skills in processing information, solving problems, critical thinking, possessing native and foreign languages, systemic thinking, life-long learning competence" [17]; values experiential learning [18]; "integrated and problem-based curricula" [19], the attainment of competencies can be also assessed by observation and roleplaying in simulated situations [20].

Usually, teacher education providers have opted for isolated ICT courses or units, often positioned early in the students' qualification programme to improve their digital literacy [21]. The aim is to provide students with essential knowledge and skills to support them in completing course assessment requirements, for example, using "technology integrated" units of learning [22]. This approach's success is focused on building students' confidence and attitudes towards digital resources in teaching and learning [23]. However, based on different surveys, this approach fails to build broader and deeper understandings of the knowledge and capabilities needed to prepare future students for their future life. The result is a decontextualization of the use of digital resources and an acquisition of isolated technical skills [24].

Therefore, from the traditional approaches based on developing students' digital literacy, we need to move towards digital competencies development to ensure a broader understanding of technology's potentialities in the class.

3.3 Analyzing and comparing of the assessment and evaluation systems in distance learning through specific tools and techniques

Since summative assessments are usually higher-stakes than formative assessments, it is essential to ensure that the assessment aligns with the instruction's goals and expected outcomes. In this regard, the following main issues have to be considered:

- using a **Rubric or Table of Specifications** to layout desired performance criteria for various grades. Rubrics will describe what an ideal assignment looks like and "summarize" expected performance at the beginning of the term, providing students with a trajectory and sense of completion;
- **designing clear and effective questions** that meet criteria by allowing students the freedom to express their knowledge creatively and in those ways how they constructed or mastered meaning;
- **assessing comprehensiveness** - effective summative assessments provide students with an opportunity to consider the totality of a course's content, making broad connections, demonstrating synthesized skills, and exploring deeper concepts that drive or establish the course's ideas and content;
- **making parameters clear** - when approaching a final assessment, instructors can ensure that parameters are well defined (length of assessment, depth of response, time and date, grading standards); knowledge assessed relates clearly to the content covered in a course, and students with disabilities are provided required space and support;

- **considering blind grading** - teachers/educators may wish to know whose work they grade to give feedback on a student's term-long path. If teachers/educators wish to provide truly unbiased summative assessment, they can also consider various blind grading techniques.

3.3.1 Formative assessments

Ideally, formative assessment strategies improve teaching and learning simultaneously. Teachers/educators can help students grow as learners by encouraging them to self-assess their skills and knowledge retention and give clear instructions and feedback. Seven principles (adapted from [25]) can guide Teachers/educators strategies:

- **clear criteria for what defines good performance should be specified** - teachers/educators can explain criteria and encourage student discussion and reflection about these criteria;
- **students' self-reflection encouragement** - the students could be asked to utilize course criteria to evaluate their own (or a peer's) work and to share what kinds of feedback they find most valuable;
- **provide detailed and actionable feedback to students** - teachers/educators can consistently provide specific feedback tied to predefined criteria, with opportunities to revise or apply feedback before final submission. Feedback may be corrective and forward-looking, rather than just evaluative. Examples include comments on multiple paper drafts, criterion discussions during 1-on-1 conferences, and regular online quizzes;
- **teacher and peer dialogue around learning encouragement** - teachers/educators can discuss the formative learning process with the students on the course, and teachers/educators respond to student concerns. During the feedback sessions, the students can also identify examples of feedback comments they found useful and explain how they helped;
- **promoting positive motivational beliefs and self-esteem** - students will be more motivated and engaged when they are assured that teachers/educators care for their development. Teachers/educators can allow for rewrites/resubmissions to signal that an assignment is designed to promote learning development. These rewrites might utilize low-stakes assessments or even automated online testing that is anonymous and (if appropriate) allows for unlimited resubmissions;
- **provision of opportunities to close the gap between current and desired performance** - teachers/educators can improve student motivation and engagement by making visible any opportunities to close gaps between current and desired performance such as opportunities for resubmission, specific points for task-based assignments, etc.;
- **collect information that can be used to help shape the teaching** - teachers-educators can feel free to collect useful information from students to provide targeted feedback and instruction. Students can identify where they are having difficulties, either on an assignment or test or in written submissions. This approach also promotes metacognition, as students are asked to think about their learning. A classroom observation or conduct a small group feedback session can also be performed to provide teachers-educators with potential student struggles.

3.3.2 Assessment solutions based on DIGCOMP

As in other implementation steps, using the DIGCOMP framework involves selecting the relevant competencies to be assessed, based on the target users and goals of the initiative. Assessment solutions can also be based on adapted DIGCOMP frameworks. Then, DIGCOMP components (competence descriptors, learning outcomes at different proficiency levels, examples of skills, knowledge and attitudes) can be used:

- to prepare self-assessment questions directly or with some variations;
- as a reference to prepare more detailed and contextualized questions (referring to specific tools, application domains etc.), both in self-assessment or knowledge-based perspectives (most experiences);
- to inspire the preparation/description of authentic tasks and challenges for evaluation, both in knowledge-based and performance-based perspectives.

Concerning assessment methodology, different approaches with different pros and cons can be adopted, depending on one's goals and target users (e.g. population at large, specific worker categories etc.), circumstances and resources:

- **self-assessment questions,** where individuals are asked to evaluate how well they perform ICT related tasks and what they know about related issues or agree/disagree through a declarative questionnaire with statements about one's behaviour in different digital situations. This approach is useful to raise awareness about digital competence and make users reflect on their perceived strengths and weaknesses;
- **knowledge-based tests**, where individuals are presented with real problems in various real-life situations and have to indicate what they would do in a given situation, what would happen in reality, etc. This approach measures factual knowledge (knowing that…) and procedural knowledge (knowing how to perform digital tasks) or both. It can thus produce a more accurate picture of a user's digital competence;
- **performance-based evaluation**, where users are requested to solve digital challenges, reflecting real situations they may face and entailing using browsers, word processors, spreadsheets, etc. This approach generates the most accurate picture of one's competence seen as 'knowledge in action. However, it can be very demanding (also in terms of technical complexity and costs) for test providers and challenging for users. So it is usually adopted given issuing a certification;
- **a mix of the above methods**. To offer a complete assessment and resulting profile, a test can integrate other elements beyond competences.

3.3.3 Online Assessments

In light of the online learning context and to best support academic integrity, it is important to consider the format of the assessments (e.g., multiple-choice, short answer, project-based), the level of thinking the assessments require, and the established grading structure of the instructional flow. Specifically, the following considerations should be discussed:

- **selection of assessment formats that ask students to explain their thinking** - academic integrity can be increased by asking students to explain their approach, logic, or thinking. This can involve short-answer items, written work, annotated portfolios or recorded/annotated presentations. Multiple-choice exams can also be adapted to ask students to explain how they came to an answer. These explanations are harder to replicate than selecting the correct answer. This approach has the added benefit of improving students' reflection on course content, which supports deeper learning;
- **selection of assessments requiring deeper processing levels - deepening the level of engagement required to answer items correctly can reduce the likelihood of an** easily found online or in textbooks. For example, multiple-choice items that ask students to compare among options or apply a specific concept instead of asking for definitions reduce opportunities for cheating. These higher-level items require a working knowledge of a concept, demonstrating a desired level of competence;
- **usage of a grading structure that supports the building of knowledge over time -** altering the grading system to provide credit for students' learning as they go through the course (i.e., formative assessment) as opposed to high stakes assessments at the middle and end of courses (i.e., summative assessment) can be especially beneficial. Smaller assignments or quizzes allow students to study less material more deeply, provide feedback on their learning with enough time for them to adjust their studying, and can reduce student anxiety compared to having a low number of high stakes exams;
- **increasing academic integrity in multiple-choice and short-answer exams** - utilizing the options of the quiz development apps for randomization of quiz questions' order and the order of the responses within questions. Considering small edits to a question that change the correct answer between students while testing the same concepts. In this approach, the basic concepts are retained across questions but with subtle factors that change the outcome;
- **considering options and implications for when to take the test** available to students and how long to give students complete it, particularly if students vary across time zones. For example, some teachers/educators prefer to leave the exam open for 12-48 hours to allow for time zone and technical challenges. Another option - to "chunk" exams into smaller sections spread out over time, allowing students to focus on particular content while decreasing the stress on any single section of the exam;
- **practising the process** - giving students a chance to try out the selected assessment approach using a low-stakes exam or assignment can help teachers/educators and students work out any technical challenges (e.g., uploading files, accessing links) that may arise during a higher-stakes exam. This will also allow students to experience what an online examination may be like, which can help alleviate student anxiety;

- **provision of possibility for students to be able to upload their work**. Creating questions that ask students to demonstrate their knowledge through models or figures can help students practice their learning. This approach also allows for the consideration of partial credit options.

These approaches, mainly when combined, essentially give each student a distinct test form. This can decrease the likelihood of dishonesty by increasing the effort associated with sharing or searching for answers. Students and instructors can focus on the course content rather than spending energy concerning academic integrity by taking these measures. Moreover, the selected assessment approaches have to ensure equity and fairness in grading and the process's complete transparency.

4 CONCLUSIONS

The possibility to promote and implement the integration of new technologies in adult education effectively is found in encouraging an innovative teaching approach such as the project-based multimedia learning, which meant a teaching method in which students acquire new knowledge and skills during designing, planning, and producing a multimedia product [26].

Thanks to project-based learning, adult learners can acquire new knowledge and digital skills related to the seven key dimensions: core curriculum, real-world connection, extended time frame, decision making, collaboration, assessment, and multimedia.
According to the Buck Institute for Education (BIE) [27] vision, all students (including adult learners) should have access to high-quality project-based learning (PBL) to deepen their learning and achieve their success in all life fields. This is allowed by the fact that the potentialities of PBL are to inspire learners to think differently about themselves as learners, collaborators and leaders through the development of critical thinking, problem-solving, collaboration, communication and self-management skills. This guarantees teachers to make a difference in their learners' lives—academically, socially and emotionally— and experience the joy of teaching by promoting educational equity and empowering youth and adult furthest from opportunity.

Thus, based on the results achieved so far, the next stages of the project will be to test the project methodology and tools with educators and teachers working in adult education with their students. The results achieved during the piloting will be available in August-September 2022.

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