

EVOLUTION OF TEACHING METHODS FOR ENTREPRENEURSHIP: A COMPARATIVE ANALYSIS OF IN-CLASS AND ONLINE TRAINING APPROACHES FOR ADULT LEARNERS

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Abstract

This study investigates the shifts of applied teaching methods in entrepreneurship education, focusing on the transition from traditional in-class training to innovative approaches, using online platforms specifically tailored for adult learners. Drawing from two distinct large-scale projects conducted in 2017 and 2023 in Romania, involving the training of more than 270 individuals in the course "Entrepreneurial Competences", this research explores the adaptations made in teaching methodologies to align with the changing educational landscape. The 2017 project employed a conventional in-class format, while the 2023 initiative embraced an online delivery model. Through a comparative analysis, this article highlights the nuanced shifts in andragogical strategies necessitated by the transition from physical to virtual learning environments for adult learners based on new, collaborative, adaptive methods especially designed to support remote training activities.

The study presents concrete examples of transformation of activities from in class to online environment, aiming to optimize the learning experience of participants, create engagement and overall support the achievement of the learning outcomes.

Findings contribute to a deeper understanding of the dynamic interplay between teaching methodologies and instructional environments in the context of entrepreneurship education for adult learners, offering valuable insights for educators navigating the evolving landscape of andragogy.

Keywords: teaching methods, online training, entrepreneurial competences, CARTA method, Colltrain.

1 INTRODUCTION

1.1 Adult learning

In the European Union, adult learning is identified as participation in education and training for adults aged 25-64, also referred to as lifelong learning. Aspin and Chapman see lifelong learning as a concept that implies that learning-related activities are performed throughout a person's life to improve his or her knowledge, skills, and competence in a particular field, given personal development aspirations and societal or employment-related motives [1].

In general, adult learning includes all purposeful learning activities, whether formal, nonformal or informal. The learning is undertaken on an ongoing basis with the aim of improving knowledge, skills, and competences among the participants. In recent decades, aspects concerning digitalization and automation in the labour market have become increasingly relevant for educational purposes, as employees need to adapt and gain digital skills and, in some cases, reskill, as some types of jobs have become obsolete due to technical development.

Adult learning tends to improve employability, boost innovation, ensure social fairness and close the digital skills gap. The importance of adult learning is reflected in the EU-level target that at least 60% of all adults will participate in training every year by 2030. At the European level, in 2022, the share of people aged 25 to 64 who had participated in education or training was 11.9%, an increase of 2.8% compared to 2020 and a greater share than in 2019, before the COVID-19 pandemic (Eurostat, 2023). Sweden, Denmark, the Netherlands, and Finland had the highest shares of people aged 25 to 64 years participating in education and training. At the bottom of the list were Bulgaria (1.7%), Greece (3.5%) and Croatia (4.4%). Romania, with a rate of 5.4%, also ranked toward the lower end of the participation scale [2].

1.2 Entrepreneurship and Entrepreneurial education

Entrepreneurship is considered the capacity to act upon opportunities and ideas, thereby creating social, cultural, or financial value in diverse contexts [3]. The examination and development of this competence

hold significant relevance in enhancing employability because it equips individuals with the essential skills, knowledge, and attitudes required to actively participate in civic life within an entrepreneurial culture.

Several studies argue that entrepreneurship represents a major engine for economic growth and job creation [4] [5] and that entrepreneurship learning is the basis for creative and innovative ideas to succeed in the 21st century [6].

Entrepreneurship education has emerged as a critical component of modern learning ecosystems, empowering individuals to navigate the complexities of the business landscape and foster innovation and economic growth. With the global shift toward digitalization and the proliferation of online learning platforms, the methods and modalities through which entrepreneurship education is delivered have undergone significant evolution. This evolution is particularly pronounced when considering adult learners, a demographic group often seeking to enhance their entrepreneurial competencies later in their professional trajectories.

Entrepreneurship is widely recognized as a pivotal driver of economic growth. This assertion is underpinned by various compelling arguments, including the enhancement of the economy's innovative capacity, increased market flexibility, heightened organizational efficiency, and the generation of employment opportunities. Consequently, entrepreneurship holds a prominent place on the agendas of policy-making entities at the local, national, and international levels, as many of the grants and EU-funded projects include certain requirements.

For the purposes of this article, we describe “entrepreneurial education” as a formal course entitled “Entrepreneurial competences” created for people who have achieved the minimum education required in Romania. The course for Entrepreneurial competences is a 40-hour course split into a theoretical part, assisted by trainers and practical application (self-study) by participants.

The legal base for the certification for this course is supported by Romanian legislation: Ordinance 129/2000 republished, Order of the Minister of Labor, Social Solidarity and Family 701/2003, and Order 51/2007. The participants who passed the formal evaluation at the end of the course received a certificate of professional competence recognized in Romania by the Ministry of Labor, the Ministry of Education, and the National Authority of Qualifications.

This certificate for entrepreneurial competences was included as a formal request for applicants in various grants, such as *Start-up Nation*, *Start-up Diaspora*, *Femeia Antreprenor*, *Groups for Local Actions (GAL)* projects, *SUN*, *Digitalizare IMM* and others. The certificate could have additional uses, such as consulting and professional credit for professional development.

The “Start-Up Nation” programme was an initiative for encouraging and stimulating the establishment and development of small and medium-sized enterprises (SMEs), implemented by the Ministry for Business, Commerce, and Entrepreneurship from Romania the Territorial Offices for SMEs and Cooperation, in accordance with the provisions of the Emergency Ordinance 10/2017 to stimulate the establishment of new SMEs and the Government Decision No. 23/2017 of the Ministry for Business, Commerce and Entrepreneurship. The main objective of the program is to stimulate the establishment and development of SMEs; improve their economic performance; create new jobs; integrate disadvantaged individuals, unemployed persons, and graduates into the labour market; and increase investments in new innovative technologies. The program was applied nationwide across all eight development regions of Romania. The program was initiated at the beginning of 2017. Among the eligible and funded activities through the program are the courses/trainings for entrepreneurial skills development conducted in Romania or in another member country of the European Union.

1.3 Recognizing the need to adapt to the online learning environment for entrepreneurial competences

From a historical perspective, traditional learning, with its face-to-face interactions, has deep roots in educational history. Its effectiveness in facilitating discussions, fostering a sense of community, and providing immediate feedback were key benefits to the learning process. Especially in the case of entrepreneurship, networking among participants during training serves many purposes.

However, recent advancements in technology and changes in societal dynamics have opened new opportunities for education, challenging the traditional paradigm. In addition, the unprecedented circumstances brought about by the COVID-19 pandemic have played a pivotal role in advancing the use and interest in online education or hybrid formats. With the beginning of the pandemic, in Romania, most in-class training was suspended until 2022, but by 2023, many training suppliers avoided in-class

training as a mitigation measure and kept classes in an online format. Therefore, the training sessions in 2023 discussed in the present study were organized using the Zoom platform, which has a duration of five consecutive days and nine hours a day, including one hour for a lunch break.

Traditional learning environments offer a range of advantages, such as the immediate clarification of doubts, real-time interaction with peers, and the cultivation of interpersonal skills. The physical presence of a teacher allows for nuanced communication, and the traditional classroom setting can be conducive to focused learning. On the other hand, online learning and online learning platforms provide flexibility, allowing students to tailor their learning experience to their individual pace and preferences [7]. The convenience of remote access has expanded educational opportunities for diverse audiences.

2 METHODOLOGY: ADAPTING TRAINING TO THE ONLINE ENVIRONMENT USING THE CARTA METHOD

This article delves into the evolutionary journey of teaching methods in entrepreneurship education, specifically focusing on the transition from traditional in-class training to online platforms tailored for adult learners aged more than 25 years, as authors have direct experience in teaching “entrepreneurial competences”.

Drawing upon data from two distinct projects conducted in 2017 and 2023 in various counties in Romania, each involving the training of several hundred people in the course “Entrepreneurial Competences,” this research investigates the adaptations made in teaching methodologies to align with the changing educational landscape for the groups that the authors have direct contact with (approx. 270 individuals). By exploring the nuanced shifts in andragogical strategies necessitated by the transition from physical to virtual learning environments, this study aims to contribute to a deeper understanding of the dynamic interplay between teaching methodologies and instructional environments in the context of entrepreneurship education for adult learners.

The adaptation of the training material for the online environment was supported by the application of a newly designed method by training professionals entitled Collaborative, Adaptive, Remote, Training Activities (CARTA). Developed in 2020 by a Romanian team as a reaction to the pandemic context, CARTA is a method for designing and delivering remote training sessions in ways that maximize participants’ active involvement [8]. By “remote training”, we mean a course format that is supported using video, audio, and specific remote technologies for synchronous interaction with the course participants.

The CARTA method has ten principles: focus on the participant, positive mood and low tension, compensation principle, interchangeability, content minimization, individual engagement, tolerance, complete content, value realization, and structured process [8]. We will briefly explain how some of these principles supported the transformation of the training content for “Entrepreneurial competencies” in 2023.

The first principle, focus on the participant, states that the course participant needs to be opened and actively involved in the learning process. The activities in the online version of the training managed to put the participants in their centre of experience by giving them much more control on the training resources (individual online notebooks, ability to participate in discussions or simply observe).

Based on the compensation principle, stating that since there are few or no kinaesthetic elements in the online format of training, they need to be compensated by audio and visual elements (for a diverse and amplified experience). Therefore, the course material was adapted to include movie debriefs and short music for specific interactions or transitions from activities.

A major role in the transformation of the training material was the principle of content minimization. The remote delivery of courses requires that the content transmitted in “presentation” or “lecture” formats be minimized and that the content be converted for usage in practical activities. These practical activities must represent a significant percentage (65-75%, if not more) of the total duration of a course. This is a pivotal step in the transformation of training materials and their adaptation to the online environment.

Another major impact is the principle of complete content, which refers to the fact that the content created by participants can be disseminated through a variety of software tools. All the results of the various group activities were introduced in the material delivered to participants and at the end of the training session. By incorporating these results, the participants lived and experienced true “peer learning”, as the trainer was not the sole source of knowledge.

Finally, the principle of value realization refers to the fact that participants seldom spontaneously understand the value received through a remote training course. The trainer included several activities that enhanced the understanding of this value among all the participants. Activity debriefing at specific moments in the training supported this principle.

Upon the transformation of the training activities of the entrepreneurial competences course, the authors summarize points of comparison between the two target groups in the two distinct periods. Additionally, considering the data availability, the authors decided to compare and analyse the in-class versus online versions of a training programme in entrepreneurship education for adult learners by using a mixed-methods approach combining quantitative and qualitative methodologies. The quantitative analyses used were post training assessments of participants (referring to the formal certification process) and training performance metrics (attendance for training and exams and intention to initiate a business in the next 6 months). From a qualitative perspective, we examined participant perceptions via participant interviews, observational data regarding engagement (collected directly by trainer), and feedback from participants (regarding training content, reaching educational objectives and trainers' performance). This mixed approach allows for a better understanding of the effectiveness, outcomes, and experiences associated with each mode of delivery.

Ethical considerations: For all the target groups, the data were collected and coded to ensure participant confidentiality.

3 RESULTS

3.1 In-class and online activities for the entrepreneurial competence training

It is relevant to mention that the training objectives and the knowledge contained in the training material and transferred to participants are viewed as constant in the two projects involving the teaching of entrepreneurial competences. Only the exercises, applications and activities of participants have evolved considerably as they have been updated to be suitable for the online environment. The training presentation was also adapted in the sense of an increased focus on practical discussions about the online environment compared to the in-class presentation. In the following paragraphs, we present the in-class and online types of activities associated with the agenda point of the training (see Table 1).

Table 1. In-class and online activities for entrepreneurial competence training

Agenda point	Competence	Training activity as used in class	Training activity in the online environment
The business model (using the business canvas model)	Understanding and creating the value proposition of the business, together with the other eight building blocks of the business canvas	Business Model Canvas (paper sheets handed to participants)	Online interactive board based on the Business Model Canvas implemented in Colltrain
The entrepreneur's profile	Identifying the elements of the entrepreneur's profile and self assessment based on predefined list of skills, competences and attitudes	Self assessment questionnaires on paper	Interactive self assessment form, linked to definitions and examples, examples
SWOT analysis	Ability to identify the S.W.O.T for the specific subject of the analysis	SWOT analysis – sheets and small cards to be used by teams/individual participants	Online interactive SWOT analysis template (Colltrain)
SMART objectives	Ability to define objectives using the SMART methodology in the business context	Discussions on SMART objectives, exercise in the training material	Online interactive board for SMART objectives containing links to definitions and examples, icons for visual representations. Contrast activity for Objectives vs Deliverables (Colltrain);
Business Financing	Understanding of the purpose and characteristic of each of the financial statements; Listing of several financial indicators and their manner of calculation	Working with a paper set of financial statements (real life examples for several types of companies); Calculation of the financial indicators. Exercise for identifying real life sources of financing;	Discussion on short term vs long term financing options (breakout rooms in small teams) with support on calculation of financial indicators in a shared excel file. Contrast activity: advantages and disadvantages in context of the business idea;

<i>Agenda point</i>	<i>Competence</i>	<i>Training activity as used in class</i>	<i>Training activity in the online environment</i>
Financial management	Understanding the implications of the cash vs profit perspective in the business context	Business simulation on paper, 3 decision rounds	Business simulation in online excel files, based on a financial model, allowing for 9 decision rounds
Marketing mix	Creating the marketing strategy for the targeted business	Reading short cases studies on the 4Ps. Creation of the brief presentation of the 4 Ps for teams.	Creation of a visual board of the 4Ps, using pictures, icons and tables
Organizational communication	Listing elements of organizational communication (i.e., types of organizational communication, their scope and frequency)	Discussion based on a case study about a team, presenting types of productive/counterproductive behaviors	Short films on communication and debriefing (online notebook in teams). Breakout rooms – role play based on a script, highlighting productive/counterproductive behaviors followed by debriefing
Business negotiation	Identifying elements of a successful negotiation interaction	Role play based on written instructions by 2 pairs of participants followed by discussion in class	In teams of three (breakout rooms) -short round of negotiations as role play (roles of negotiators and observers) followed by debriefing done as survey in class – using Colltrain
Human resources	Creation of a sketch for a candidate profile for a specific job	Creating a job description starting from a template provided (paper)	Analysis on competences; fit for the job – possibility to research a series of online examples of job descriptions

Source: own data

As per the principle of “focus on the participant”, the online versions of the activities allow for more flexibility in solving the exercises as per the current level of the participant, allowing for grouping based on interests (i.e., similar business intentions) and allowing more control in building the projects. Since 2017, all the training materials were based on paper, allowing for limited space and only a few possibilities for correcting or improving the business plans through iterative procedures. In 2023, all training material is fully in a digital format (individual online notebooks) and online platform, allowing the trainer to gather all the results of all the participant teams and share them with the entire class, creating an environment where peer learning is more tangible.

As mentioned in Table 1, some of the activities were implemented on a dedicated platform, Colltrain (colltrain.com), which is specially designed for training activities and supports the participants’ interactions among themselves and with the trainer via a browser. Based on the compensation principle, train activities allow, by design, the use of colored shapes, posts, pictures, symbols, and sounds. These elements not only amplify the learning experience by allowing participants to develop a degree of creativity that cannot be replicated using physical materials, as their cost could become prohibitive. The use of short movies followed by debriefing exercises creates dynamics and increases engagement considerably since participants displayed more interest in watching short movies for organizational communication in 2023 than in 2017.

Regarding content minimization, the authors reduced the amount of text on slides, limiting the amount of information presented as a lecture and creating more time for participants in activities that allow peer learning and discovery in teams. This is a pivotal step in the transformation of the slides but not in the written training material, which remained mostly unchanged.

As per the principle of value realization, five “elements of value” types of activities were introduced as part of the training. During the 2017 trainings, there was no equivalent for this activity; this was a point of innovation in 2023 as a result of the application of the CARTA Method. The participants had several moments to reflect on what is valuable for them and highlight the applicability of these elements in their specific and individual context. This activity, which was introduced to the training landscape, also supported engagement.

In 2017, the participants received a printed manual, and the participants' notebook contained a series of exercise sheets and case studies. In 2023, the participants had access to the digital manual, digital individual notebooks, short movies, and the Colltrain platform (and all the resulting creations of all the participants) distributed after the training to all participants) along with the results captured on the virtual flipchart. In 2017 and 2023, the trainer used PowerPoint slides for presentation.

3.2 Comparative analyses of in-class vs. online training

As mentioned before, the projects involved training hundreds of individuals, but in the present study, we included only the sample that was trained by the authors. Therefore, 144 participants were included in 2017; 66% were females, and 134 were included in 2023, out of which 76% were females. In 2017, the geographical area was composed of Constanta County (45%), Tulcea County (16%) and Vrancea County (39%). In the 2023 project, the participants were almost equally distributed among Caras Severin, Mehedinti, Gorj, Dolj and Olt Couty. For the distribution of age groups, in 2017, 45% were aged 25 to 35 years, compared to 39% in 2023. The next age bracket was 36-50 years, with 37% in 2017 and 42% in 2023. Among participants older than 50 years, 18% were in 2017 and 19% were in 2023.

The post training assessments of the participants in these groups took place several days after the completion of the course but no later than two weeks. As per the project objectives, at the end of the course, all the participants underwent a formal, standardized evaluation, which resulted in a professional certification issued by the National Authority for Qualifications (ANC). The course assessment has two parts, one involving a written test for the theoretical part (testing the knowledge) and the second involving an oral presentation of the business plan project, which participants prepare during the self-study period, with support from the trainer. We also examined the percentage of participants who attended the formal examination training compared to the percentage of those enrolled. We notice that attendance at the examination did not significantly differ between the two groups; in 2017, 96% of the patients attended the examination, while in 2023, 96.5% of the patients attended the exam. However, out of those attending the exam, those who passed and received the formal certification in the first exam session reached 89% for 2017, compared to 95% of those in the 2023 group.

Since many of the training activities are directly related to the topics of the assessment, attendance at the training is considered a success factor for passing the examination. The time spent by the participant in training (physically present in class on logged in the Zoom call) was considered attendance time. In 2017, the average percentage of participants missed was 14%, while in 2023, this percentage decreased to 7%.

The training performance metric we decided to use was the "intention to initiate a business in the next 6 months". The authors collected quantitative data on intentions to initiate a business at the moment of training completion. In 2017, 15 participants (10%) declared that they intended to start a business within the next six months and assessed themselves as "highly confident" in achieving this intention. Unfortunately, no follow-up was conducted to determine the materialization of such intentions. Moreover, out of 144 participants in 2017, six obtained a grant of 40,000 euros in the Start-up Nation programme. For these six winners, the researchers have information regarding their success in maintaining their respective three and a half years later.

From a qualitative perspective, the trainers gathered feedback by conducting an average of two brief interviews per group (class). These interviews were designed to explore the participants' perspectives on several aspects of the received training, namely, training logistics, their experience in solving practical problems and their interaction with the training manual. This comprehensive approach aimed to provide a thorough qualitative analysis of the training program's effectiveness and participants' perceptions.

The feedback survey, completed by almost 70% of the participants, was meant to gather data on several aspects, regarding the attainment of educational objectives, the ratio between theory and practice, the trainer's performance and questions regarding the intention to initiate a business. In 2017, the average rating for the training was 4.23. This rating included the perspective of the usefulness of the concepts for professional activities of the participants, the balance between theory and practice of the trainings, the achievement of the learning objective and the sequence of the concepts presented. In 2023, the participants provided an overall score of 4.81 for this category. Additionally, there was also an improvement in the feedback of the trainer. In 2017, participants rated the overall performance of the trainer at 4.82, while in 2023, the rating reached 4.92.

The observational data collected during the actual training sessions were meant to capture participant engagement, interaction patterns, and instructor facilitation styles in both in-class and online settings. For the online classes, the trainer closely monitored the completion of the sheets and exercises in paper

format and team results via flip chat sheets. In the online environment, the trainer monitored the dynamics in breakout rooms, engagement with the online notebooks, and engagement with the Colltrain platform, as well as actual responses to questions. An overall qualitative indicator was not developed, but the trainer could make a professional judgment that the overall engagement and energy level in the class improved in the online environment compared to the in-class environment. Judging solely by engagement level, the trainer could assess that the online version of the training seemed to be better received by the participants.

3.3 Challenges and opportunities in adult learning in the online environment

Adult learners face several challenges during the learning process in the online environment, which can impact their engagement, motivation, and overall learning outcomes. Some of the main challenges include technological barriers, distractions and interruptions, and motivational factors.

ICTs can provide greater access for various target learners and have become vehicles for enriched pedagogical or andragogical experiences, especially for distance educators and learners who are separated by time and space. Education providers must confront the challenge of increasing access to education while ensuring the quality of education and finding innovative and creative solutions for teaching, learning, and engaging learners [7].

In the context of online training, the various devices used by participants create a mixed environment, with background noise and technical glitches sometimes occurring. All these aspects were not detrimental per se in the learning process; however, for some participants, they had created a higher tolerance to some of the technological aspects of the training logistics while for other provoked disengagement.

In the first days of training, there was a technological barrier in the sense that lacking familiarity with online learning platforms or facing technical difficulties, there was a clear learning curve for adapting and using the learning platform (zoom). The trainer had constant technical support as a dedicated assistant that facilitated any specific technical issues so that the group could progress in an adequate manner. Issues such as slow internet connection, software compatibility issues, or limited access to devices that could have hindered the participants from fully engaging with online learning materials were mitigated consistently before the actual training sessions and during as they arose.

Another challenge that seems to be particular to the online training environment is the distractions and interruptions that the participants may face, which are completely outside the control of the trainer. The trainer was fully aware that these distractions can disrupt participant focus, concentration, and ability to fully engage with course materials and structured the training activities to constantly recapture the focus of participants.

Adult learners may struggle with maintaining intrinsic motivation and engagement in online learning courses. Without the immediate accountability and interaction present in face-to-face settings (valid for no open camera in our case), online training success may be negatively impacted by a lack of motivation to actively participate, complete assignments, or stay committed to one's learning goals. The strategy utilized to mitigate these difficulties refers to the principles involved in course structuring and a range of activities.

4 CONCLUSIONS

As we look at the training market, it looks like the online training is here to stay. Therefore, the curricula of in class and teaching methods need to be adapted to suit the new environment and make use of all technological possibilities (virtual flipcharts, online platforms that support training activities, and videoconferencing software).

Considering the experience of two distinct large-scale projects conducted in 2017 and 2023 in Romania involving the training of more than 270 individuals in the course "Entrepreneurial Competences", this research detailed the adaptations made in teaching methodologies to align with the changing educational landscape by presenting concrete examples of training activities for in-class and online environments based on the CARTA Method. The transformation of training activities aimed to optimize the learning experience of participants, create engagement and overall support the achievement of learning outcomes.

The comparison of the training results in 2017 and 2023 revealed that as the engagement level increased, the number of activities allowed for a concrete peer learning experience increased, the overall feedback for the training improved and became highly relevant, and the passing rate improved.

Of course, as the online version of training delivery is still in its infancy compared to traditional methods, there is still a long way to go before we can judge it better or worse. Even though the creators of the CARTA method state that the online version of the training could be at least as good as in class and even better, the researchers feel that this can be true for a trainer who is highly acclimatized to all the digital benefits and might take a longer time before we can say that, on average, all the training in the online environment across industries and higher education is performing in a satisfactory manner.

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