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Second Language Distance Learning: The Issue of Language Certification in the Time of COVID-19

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Abstract

Language teaching has undergone numerous changes as a result of COVID-19, and has adapted to the new scenario and digital tools. While the programs for university and language school courses have been modulated to the new teaching conditions, language courses aimed at obtaining certifications require the final exam to remain the same. The present study focuses on eight adult students of Italian as a foreign language. These adults are interested in certification and were previously enrolled in a language course in Italy, but this course was transformed into an online offering due to the coronavirus. Some questions arose: how can one ensure the continuity of the new online language course? What didactic activities and teaching materials could be applied to facilitate online teaching aimed at obtaining a language certification? The aim of this study is to look at the pros and cons of online teaching for obtaining a language certification, and at effective methods and operational procedures for online teaching during COVID-19. The study results have been collected from the teacher's own didactic experience and through distance learning questionnaires to which the students were subjected.

Keywords: language certification, Covid-19, adult education, second language distance learning, Italian as a second language

Introduction

The critical health situation we have faced in the past five months has forced teachers and students of all levels of education to change the way they teach and learn.

In Lombardy, the region in northern Italy where the first patient tested positive for the virus, schools, universities and all educational institutions have not provided face-to-face courses since February 24 and courses are unlikely to resume until September. Consequently, the need arose to reprogram all the teaching, from kindergarten to university courses, to allow all students access to educational services and to exercise their right to study.

In this series of changes, there were two different scenarios in the field of language teaching: school and university language courses, in which teachers modified the structure of the courses and the contents of the exams according to distance learning, and online language courses for a language certification.

In this article, I will discuss a case study related to the second scenario presented regarding a course for Italian as a second language (L2) involving eight adult students, which took place before and during the lockdown period; the aim of the course was to pass level B1 of the Common European Framework of Reference for Languages (CEFR) exam certification.

During the lockdown, three main problems were encountered in the management of the course and the content of the class. The first one concerned the desire to guarantee the continuity of the lessons during an emergency in which nobody—neither the institutions, nor the politicians, nor individual citizens—knew what to do. What could be done to guarantee continuity to the course? A second issue concerned the contents. Since it was a language course with the aim to prepare students for a language certification, how could the contents be adapted to distance learning? The third issue concerned the activities and materials proposed to the students. It was necessary to motivate the learners to become more aware of the health situation and the final exam. As it was no longer possible to guarantee the presence of the teacher in the classroom, how could the learners be stimulated? What kind of tools could be used to guarantee the teacher's guidance? What activities could be proposed and which of them would actually prove useful for passing the exam?

In this article, we will try to answer these questions. After a theoretical introduction to the new technologies in distance language learning and an in-depth analysis concerning linguistic certifications in general, we will focus on Italian language certifications. The problems that arose during the transition from a face-to-face course to distance learning will be then commented on, and proposals and solutions will be sought through a data collection tool consisting of a questionnaire administered to the students at the end of the course.

The aim is a reflection on distance language learning related to language certifications. Operational suggestions and recommendations will be proposed drawn from the teacher's experience and the learners' opinions in order to contribute to the training of language teachers by providing practical and effective solutions for dealing with emergency situations such as the one we have experienced.

Review of the literature

2.1 Distance language learning

Distance learning is defined by the Cambridge Dictionary as “a way of studying in which you do not attend a school, college, or university, but study from where you live, usually being taught and given work to do over the internet”; while in the Oxford

Dictionary it is described as “a system of education in which people study at home with the help of special internet sites and send or email work to their teachers”. The two definitions are very similar, and in both cases the term ‘distance education’ is used as a synonym of ‘distance learning’. We can therefore assert that distance learning is a form of teaching that does not take place in the presence of a teacher and within institutions such as schools or universities, but at distance and within one's own home, and the transmission of contents is mediated by the Internet.

In general, distance learning is a controversial issue from many points of view including the access to education, the process of adjustment to new learning environments, individual development (White, 2005), the development of learning autonomy, the knowledge and the awareness of students, and the active participation of students in the learning process (Jimenez Raya & Perez Fernandez, 2002; Reinders & White, 2011). Nevertheless, in recent years a great deal of research relating to distance learning of foreign languages has been carried out (Blake, 2013; Shelley, Murphy & White, 2013; White, 2014). Distance language learning is considered different from other online disciplines because it is more difficult to learn a language by this method and consequently language learners require a high degree of self-regulation when compared with learners of other subjects (Hurd, 2006). In relation to the distance learning of languages, Hurd (2006, p. 304) argues that “It is also true that learning in distance mode has always been seen as problematic for the acquisition, practice, and assessment of foreign language speaking skills, given the physical absence of a teacher, the isolated context, and reduced opportunities for interacting in the target language.”

The main factors influencing distance learning are the capacity to be autonomous (Cotteral, 1999), the teacher feedback (Hyland, 2001; White, 2003; Hurd, 2006) and, undoubtedly, maintaining strong motivation for the duration of the online language course (Liao, 2006). As asserted by Hurd (2006, p. 305) “In the case of the distance learner, motivation is directly implicated, given the demands of the distance setting and the need to persevere, sometimes against overwhelming odds. Both the distance tutor and learner are engaged in a dynamic relationship at a distance; as the locus of control moves from one to the other, students increase their metacognitive awareness and skills, and perceptions and behaviours evolve and change”. As we will see later, the teacher assumes a fundamental role in distance learning, guaranteeing his or her presence through feedback and motivating students.

White (2005, p. 166) identifies different distance learning methods including "distributed learning, online learning, asynchronous learning networks, telematics, e-learning and blended learning". The possibility of taking an online language course is an opportunity that has been given to learners for decades, but the choice of where and how the course is delivered is almost always made by the student or institution. In the specific case of this article (and in the vast majority of teaching situations

during the last five months) it was not a choice, but a necessity due to an emergency; consequently, the teachers and institutions were not prepared for it.

There was considerable uncertainty regarding issues such as when the distance learning period would end and when and how classroom courses would restart. Today, in Italy, it is still not possible to answer these kinds of questions. Therefore, all schools, universities and cultural institutions have equipped themselves to guarantee access to online courses and exams, and the same applies to courses for language certifications.

2.2 Language certification

A language certification is a document that attests the linguistic and communicative competence of a learner in a specific language. It is a certificate that has international value and it is recognized in schools, work places and associations; it is part of the qualifications that students should have to build their career trajectory (Angouri, Mattheoudakis & Zigrika, 2010). Having a linguistic certification means being able to certify in a transparent and comparable way that you have reached a certain level of knowledge in a language (Chini and Bosisio, 2014).

This recognition has not only a personal utility because it attests to the level reached in mastering a certain discipline, but also a professional one because it constitutes a recognized testimony of one's own skills. According to Chini and Bosisio (2014), language certifications have two common macro features:

The division into levels, since with the diffusion of the CEFR and the respective rating scale, the levels are now approved and all certifications, at least in Europe, refer to the six levels of competence of the Framework from A1 to C2.

The administration of different tests for each level, aimed at certifying the basic skills and, generally, the metalinguistic competence.

The skills attested by the certifications mainly concern the so-called “common language”, although in many cases the individual institutions offer targeted certifications, limited to a certain sector-based language (for example economics) or to a certain type of person (immigrants, children or adolescents).

The linguistic certifications are characterized by their autonomy and independence from specific educational paths (Barki et al. 2003): in fact, external institutions carry out the certification tests. The importance of language certificates is demonstrated by numerous studies and in-depth analyses on their construction (see https://www.cambridge.org/elt/catalogue/catalogue.asp2cidE37[1]) and, consequently, all students clearly recognize the usefulness of the certificates (Angouri, Mattheoudakis & Zigrika, 2010).

[1] The date of the last consultation of all the links to websites present in this contribution is July 3, 2020.

2.3 Italian Language Certification

For the Italian language, there are four certifications recognized by the Ministry of Foreign Affairs (https://www.linguaitaliana.esteri.it/lingua/corsi/certificazioni/ricerca.do):

CELI: University for Foreigners of Perugia(http://www.cvcl.it/categorie/categoria-64?explicit=SI) Certificate of the Italian Language.

There are 6 levels of the CELI based on the model of the CEFR.

Regarding the targeted certifications, there is the "CELI Immigrati" (immigrants) for the first three levels of CEFR (A1, A2, B1), that is a certification only aimed at low educated adult immigrants with the purpose of promoting their integration in the Italian context; while for adolescents there is "CELI Adolescenti" (adolescents), on the three levels of CEFR A2, B1, B2, which shows adequate knowledge of the language related to this age group.

The University for Foreigners of Perugia also manages the "CIC", the Certificate of Knowledge of Business Italian, which is aimed at people who work or intend to work in business and verifies the knowledge of commercial Italian suitable for professional figures able to move in a business context. It is divided into two levels B1—intermediate, and C1—advanced.

CILS: University for Foreigners of Siena (http://dls.unistrasi.it/79/82/I_LIVELLI_CILS.htm) Certificate of Italian as a Foreign Language.

The CILS covers all of the six levels identified by the CEFR, and certifies linguistic and communicative skills suitable for social, professional and study contexts. Anyone who studies Italian, works and studies in contact with the Italian reality and wants to obtain a long term residence permit can take a CILS.

The CILS tests are not tied to particular methods or language courses: each candidate can prepare for the CILS exams in the way he or she deems most appropriate. CILS exams require minimal knowledge of Italian society, history, geography and culture. For children and adolescents, specific A1, A2 and B1 Level Certification forms have been created.

CERT.IT: Roma Tre University (http://www.certificazioneitaliano.uniroma3.it/) Certificate for knowledge of Italian as L2.

This certification has only four of the six levels provided by the CEFR (A2, B1, B2, C2). For each level, the basic skills and use of Italian in everyday life situations are tested.

PLIDA: Dante Alighieri Society (http://plida.it/) Dante Alighieri Italian Language Project.

The PLIDA certification is divided into the six levels of the CEFR. The exam includes four tests: oral comprehension, written comprehension, oral production and written

production. In addition to the six levels, there are also the "PLIDA Juniores", intended for teenagers, with four levels (from A1 to B2) and the "PLIDA Commerciale" (for commerce) intended for those who work in the commercial, financial and industrial fields, which consists of three levels (B1, B2 and C1).

All the certifications described are valid in Italy and abroad and aim to improve study opportunities, as they allow access to courses in Italian universities, and boost career prospects.

Research design and methods

In this paper, we deal with a case study on foreign students who attended an Italian L2 course to prepare for the PLIDA level B1 exam. The Italian L2 course was aimed at eight students who needed a language certification to be admitted to the Theological University of Northern Italy in Milan.

Table 1 shows some sociolinguistic data of the learners.

Country	European languages
Nigeria	English
Nigeria	English
Nigeria	English
Nigeria	English
India	English
India	English
Tanzania	English
Rwanda	French

Table 1: Sociolinguistic data of the students

As can be seen from Table 1, two of the learners come from Asia and the rest come from Africa. The European languages known by the students are English and, in one case, French. In any case, the language used throughout the course was Italian.

The course started in October 2019 and ended in April 2020, and when the course started all the students were beginners. A month and a half before the end of the course, on February 21, 2020, the first case of COVID-19 was registered in Lombardy. On February 24, 2020 an order by the Lombardy government imposed the closure of all schools and universities. During the first week of closure, the lessons were suspended: it was not clear what was going on and how serious the situation could be.

The following week uncertainty reigned, so a solution was devised and proposed by the Italian teacher to avoid the loss of too many lessons. The face-to-face course was thus converted into an online course via the Skype platform; the student group was

divided into two groups of 4 students each, to allow a better interaction and to ensure a better content transmission.

It should not be forgotten that the aim of the course was to pass the level B1 PLIDA certification and, consequently, many of the proposed face-to-face activities were designed according to the certification exam.

The online lessons were therefore divided into three different parts, trying to maintain continuity with the face-to-face course: the first part included a grammatical explanation by the teacher, starting from an input text and an analysis of the morphosyntactic, communicative and lexical structures; the second part included exercises designed to simulate the exam; and the third part was a conversation between the students or between the teacher and the students on topics covered during the lesson, that could be useful for the oral part of the exam.

At the end of the course, in April 2020, a questionnaire, consisting of ten questions, was administered to the students via Google Forms (https://www.google.it/intl/it/forms/about/). The aim of the questionnaire was to obtain feedback from the students on the activities offered during the period of distance learning to start a reflection on the usefulness and validity of the teacher's proposals.

The first three questions refer to sociolinguistic data (age, transfer to Italy and Italian study period) and aim to provide a context to the case study; questions four and five include a selfassessment of knowledge of Italian at the beginning and end of the online lessons. As stated by Reinders and White (2011), the self-assessment is useful for encouraging reflection and awareness of one's own learning, and in the case of adult students and online lessons it is necessary to stimulate the development of autonomy in learning.

Questions six and seven concern the utility and use of the teaching materials proposed by the teacher; the aim is to understand which materials have been used and which of them were appreciated by the students.

Question eight asks the students to indicate on a scale from 1 to 5 (where 1 is the minimum and 5 is the maximum) the usefulness of some of the activities carried out ("Skype lessons; classroom lessons; homework; exam simulation; self-correction of homework; video on YouTube"). Finally, the students were asked to indicate a positive and a negative aspect of distance learning (question nine) and a suggestion for organizing a potential online Italian course (question ten).

The answers allow us to analyse the work done by the teacher, trying to understand if it was useful for students in order to pass the certification exam and to propose good practices and tools for future online courses for language certifications.

Data collection and analysis

This section collects the data of the questionnaires which the students of the Italian L2 course completed, following the research methodology outlined above. A critical discussion on the results is proposed. In this research work, the data were collected through the personal experience of the Italian L2 teacher, her observation and the answers of the questionnaires. The comparison and interpretation of the data made it possible to identify some useful activities and materials for online courses to obtain a language certification.

From the first answer, concerning the age of the students, as shown in table 2, it emerged that 38% of the interviewees are over 45 years old; 25% are aged between 40 and 45; 12% are between 35 and 40 years old and the remaining 25% between 30 and 35 years old.

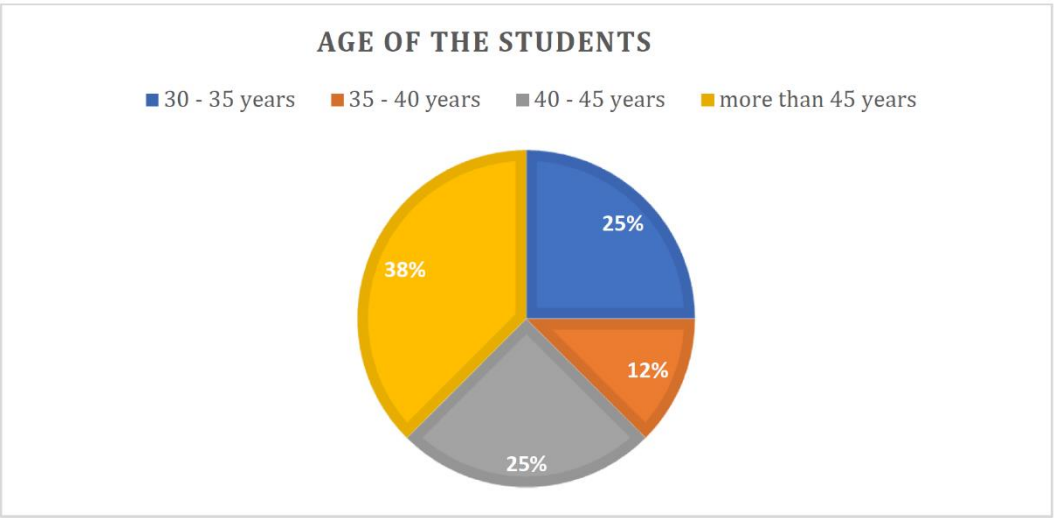

Table 2: Age of the students

The second question, relating to the transfer to Italy, had the objective of understanding whether the students were integrated into the Italian context. The answers were the following: one student had been in Italy for a year and eight months[1]; one student for eleven months; three students for eight months; one for seven; and one for five[2]. None of them turned out to be fully integrated in a context external to the Italian class. It is likely that one of the causes can be attributed to COVID-19 because when the students were about to make the transition from the basic variety to the post-basic variety (Gilardoni, 2005) of the language they were forced to stay at home.

[1] He is a repeating student. He attempted the PLIDA language certification exam last academic year, but failed.
[2] He is the only student from Rwanda.

Regarding the study of Italian, however, one student indicated that he had been studying Italian for more than a year; one student for ten months; three for eight months; two for seven months; and one only for four months.

Regarding the self-assessment of knowledge of the Italian language before starting the distance learning, as shown in Table 3, it emerged that 12% of the students considered themselves to be at level 1, 64% at level 2, 12% at level 3 and 12% at level 4. It is likely that the majority of the students indicated Level 2 because they did not feel completely sure about their knowledge of the language, especially regarding oral production and grammar. At the end of the online course, however, the general picture, as shown in Table 3, showed an improvement: level 1 has disappeared, level 2 has decreased by 52%, level 3 has increased by 24% and level 4 has increased by 38%.

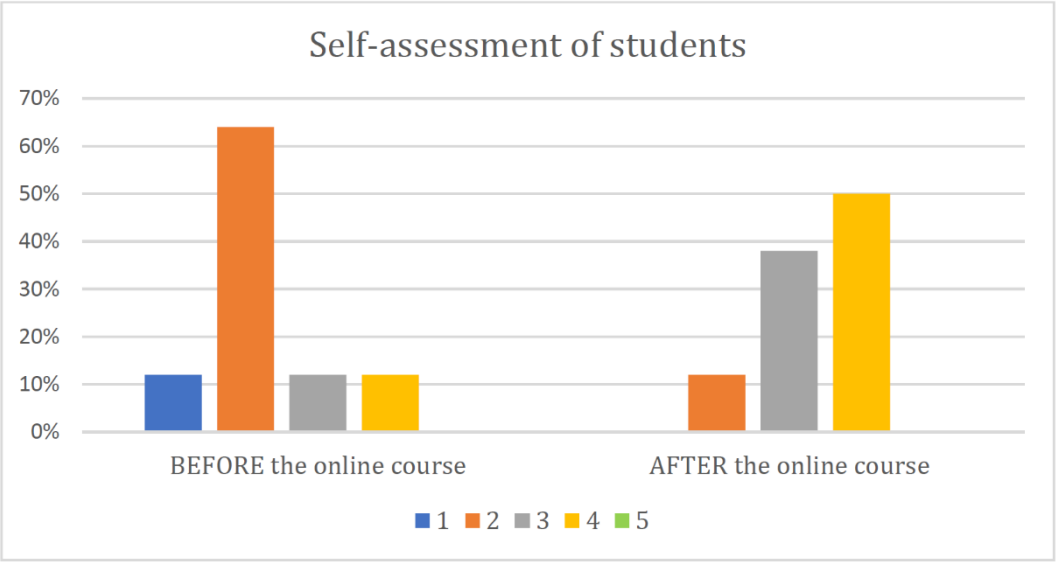

Table 3: Self-assessment of students before and after the distance learning

As is evident, despite the difficulties due to the lack of face-to-face interaction and the problems related to the transmission of content via an online platform, the average of the selfassessment before the course was at a level 2.24, while after the course the average has achieved a level of 3.38, with an increase of 51%.

One of the possible causes of this increase is attributable to the materials provided by the teacher. During class lessons, supplementary materials were rarely provided: in most cases, these consisted of exam simulation or summarizing charts and tables containing particularly difficult grammatical rules. The textbook chosen for the face-to-face course is *"Il nuovo affresco italiano"* by Maurizio Trifone and Andreina Sgaglione, Mondadori Education, which contains exercises for written and oral comprehension and production and many exercises to improve the grammar and the

phonological and lexical aspects of the language. Consequently, during the face-to-face course it was not considered necessary to provide additional materials so as not to overload the students.

It was different matter with the distance learning. The book chosen for the face-to-face lessons was used during the online course exclusively as a guide for the topics to be covered and as a workbook. However, during the meetings on Skype, it was not possible to carry out a large number of the exercises in the book and for this reason, teaching materials of various kinds were integrated into the lessons.

The students were asked to indicate on a scale from 1 to 5 (where 1 is the minimum and 5 is the maximum) their opinion on the utility of the materials provided by the teacher during the online course. What emerged (Table 4) is that 26% of the students considered the materials useful at level 3, while 37% considered their utility to be level 4 and 37% indicated level 5.

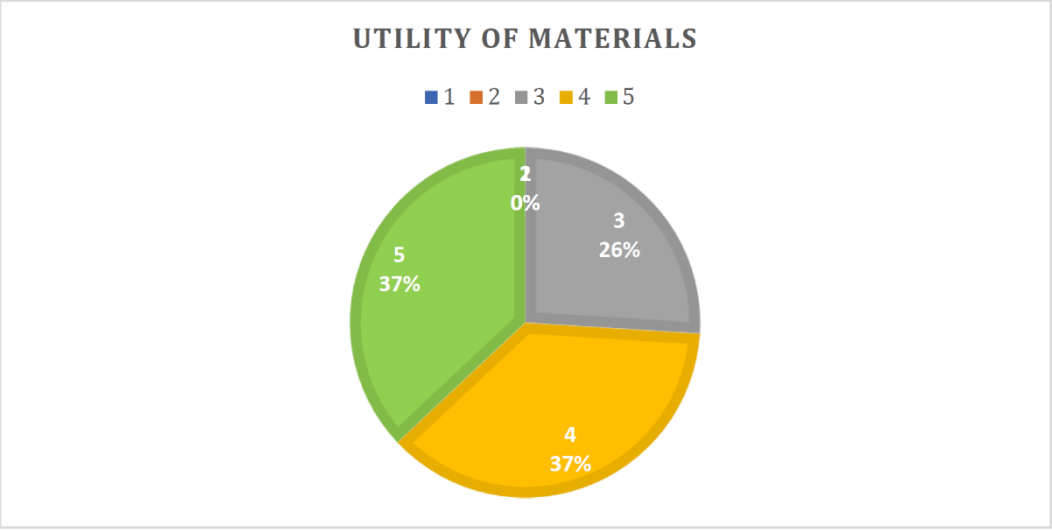

Table 4: Utility of materials

The idea of using supplementary materials was therefore appreciated by all the students. In particular, the following resources were proposed: cards containing grammatical explanations prepared by the teacher; websites of publishing companies dealing with Italian L2 which provide free materials such as videos and exercises; Italian online newspapers and magazines; Italian dictionaries; dictionaries of

synonyms and antonyms; dictionaries of idioms; Treccani encyclopedia[1]; videos on YouTube; and the RAI website[2].

The most used materials, as can see from Table 5, were grammar cards prepared by the teacher and videos on YouTube. This preference is due to the facility with which the contents are transmitted.

Websites with Italian L2 exercises and dictionaries, verb conjugators and encyclopedia were used but to a lesser extent than the grammar cards and videos because using them in the correct way requires cognition, self-determination and self-study. The RAI website was not utilized very much despite the fact that it contains exercises, teaching videos and grammatical explanations. Perhaps this was because the website requires a high level of autonomy and motivation.

Finally, online newspapers and magazines were never used by students. This is probably due to the fact that strong motivation and interest are needed to read news and entire articles in L2. Furthermore, the journalism lexicon is notoriously rich in rhetorical devices which are difficult for foreign students to understand.

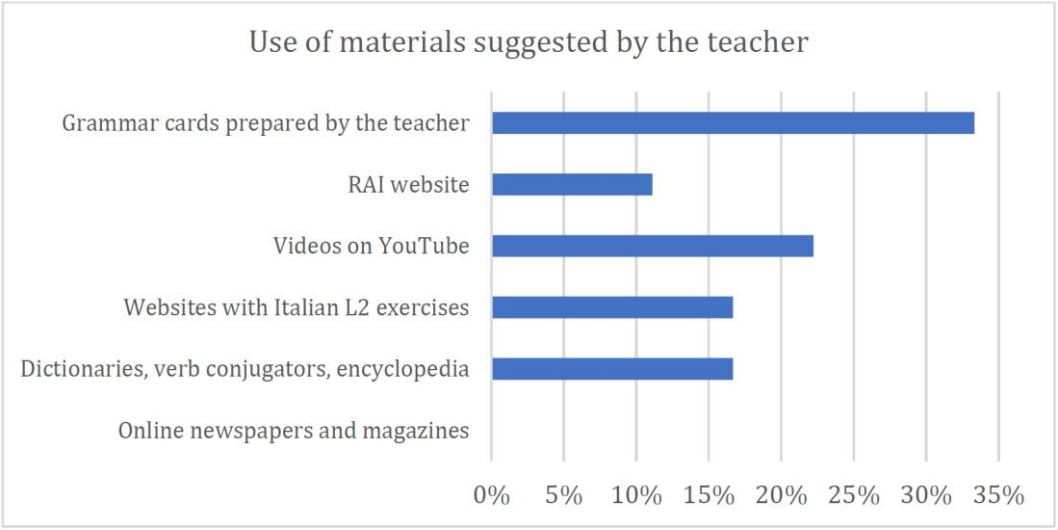

Table 5: Use of the materials suggested by the teacher

As we can see, question eight concerns the usefulness of the activities proposed by the teacher. Table 6 shows the activities proposed by the teacher during the whole Italian course: the activities that were most appreciated are the face-to-face lessons, homework and their selfcorrections and the exam simulations. The PLIDA exam

[1] The Treccani encyclopedia deals with the compilation, updating, publication and dissemination of the Italian Encyclopedia of Sciences, Letters and Arts for the development of humanistic and scientific culture, as well as for educational, research and social service needs. (Source: http://www.treccani.it/istituto/la-nostra-storia/).
[2] The RAI *"Radiotelevisione italiana"* (Italian radio and television) website has a section dedicated to Italian L2: http://www.italiano.rai.it/.

simulations consisted of short compositions (150 words) that the students had to write and which were corrected by the teacher (face-to-face before the lockdown and via email during the lockdown). These simulations allowed the learners to prepare for the exam using the past exams and taking advantage of personalized corrections.

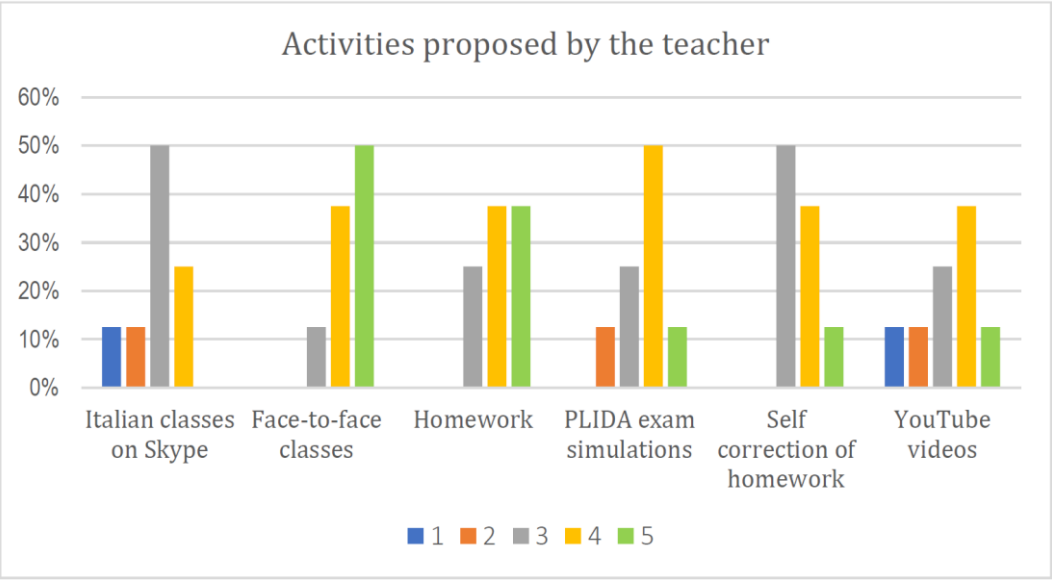

Table 6: Activities proposed by the teacher

Compared to the question on the activities, the lessons on Skype were underappreciated which is reflected in the answers to the next question that concerns the request for a negative and a positive aspect of the distance learning experience.

Among the negative aspects, half of the students indicated problems with internet connection. Unfortunately, the problem of adequate tools for distance learning constitutes a huge obstacle in Italy, especially among the less well-off segment of the population and among younger students.

One student defined distance learning as "incomplete" and “ineffective” learning because of the lack of interaction, especially if compared “to what you have in class with your classmates and with the teacher”. Clearly it is not possible to compare the solitude and the lack of contact of distance learning with the physical presence of classmates and the teacher.

At this point, the teacher's role deserves a reflection: although the face-to-face course was interrupted and the teaching methods changed abruptly, the students kept their attention threshold high during the online lessons; they worked independently, taking advantage of the materials suggested and sent by the teacher and they carried out the assigned exercises and the PLIDA simulations demonstrating interest and awareness. This can be seen by the numerous emails received by the teacher for the

correction of the exercises and for the review of PLIDA simulations. Teacher feedback was found to be fundamental for students, especially in the emergency condition in which they were forced to change the entire course setting despite the fact that the final exam was the same. White (2003, p. 187) asserts that "feedback plays a critical role for distance language learners, not only as a response to their performance, but also as a means of providing support, encouragement and motivation to continue." Needless to say, the teacher had an important role in the management of the course and in the transmission of the contents, even if at a distance.

Among the positive aspects of distance learning, however, three students noted that this was the only way to be able to go on with the study of the language in an emergency, making the most of the time during the quarantine. Other students highlighted the convenience of following the lesson from the comfort of home, saving money and time. One student found it useful because of the online learning materials that he would otherwise have been unable to use.

Regarding the last question, the students' suggestions for a possible future online language course were:

Limit the number of students to enable an effective interaction.

The idea of dealing with a limited number of students was a good solution. The initiative to divide students into two groups of four was a success because it was possible to guarantee greater participation of learners and a development of oral production.

Avoid too long grammatical explanations as they would appear as a monologue.

It is extremely easy to get distracted during an online lesson and it is difficult to be able to keep the attention of students high without being able to count on the movement or visual stimuli given by the physical presence. For these reasons, efforts were made to make the lessons as interactive as possible, often stimulating the students to intervene.

Introduce the topics of the next lesson in advance.

The students particularly appreciated the idea of being sent an introduction to the next lesson. It allowed them to have a complete picture of the work to be done and the teacher to have a more interactive engagement with the students.

Use a fast internet network and a better video calling program.

As already mentioned, the problem of the tools available to students and teachers affected all the teaching activities at all levels during the entire lockdown period and continues to represent the greatest obstacle to any distance learning that is expected to begin with the new school year. In the case of this experience, what could have been improved is without doubt the use of Skype. Today there are many programmes to

carry out video lessons, but when it was decided to start the online course, the most immediate and easily available solution for students was Skype.

Overall, the students showed a positive and proactive attitude towards the course, suggesting ideas and advice to be integrated into the work we have already done.

The experience was positive both for the teacher, because she was able to test herself in a completely new field, and for the students who appreciated the methods of using the contents, the teacher's corrections and the materials.

Conclusion

The article dealt with an unusual subject: the experience of distance courses aimed at obtaining language certifications. The topic is interesting, first of all, because it is widespread all over the world and therefore involves numerous students and teachers, and secondly, because it is a current topic for which a definitive solution has not yet been found; therefore, it is important for teachers to gather and share their experiences to suggest good practices.

The work involved the sudden transformation of a face-to-face language course into distance learning, without any preparation on the part of the teacher and no choice made by the learners. The health crisis forced the teacher to adapt the tools available and to reinvent the teaching activities.

This article aimed to examine the work done by the teacher through the opinions and suggestions of the learners. It thus emerged that, despite the difficulties caused by the distance and the lack of organization and advance notice, it was possible to offer a distance learning course to obtain a language certification. The activities that were most useful for the students were the exam simulations with the teacher's corrections, self-corrected homework and teaching videos on YouTube, while the most used materials were the grammar cards prepared by the teacher. Moreover, the students' responses revealed the importance of teacher feedback in distance learning (Hyland, 2001; White, 2003).

In addition to the activities and materials preferred by the students, suggestions were made for future distance courses such as that of forming small classes, avoiding too long grammatical explanations and introducing the topics of the next lesson in advance.

Thus, the strengths and weaknesses of distance language teaching emerged. The advantages include saving time and money and being able to take advantage of new multimedia teaching materials. On the other hand, among the critical issues "incomplete" learning and the need for a fast internet network with better video calling programs have been reported.

Although it is my personal belief that face-to-face teaching remains the most suitable method for the transmission of linguistic content, the case presented has shown that it is possible to adapt resources and content to distance language teaching. There is

still a lot of work to be done on online teaching, although the tools have evolved and in the few weeks during the period of COVID-19 many digital teaching materials were made available free of charge to help students and teachers. At university level or in adult courses, motivation and awareness have made online teaching a good solution, while the hardest work will certainly have to be done in kindergarten and primary school courses.

The hope is that the teachers continue to share experiences and materials so that distance courses will continue to be improved.

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Digital Culture and Learning in Higher Education After COVID19: A Collaborative Approach in a Virtual Environment

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Abstract

This article is the result of a critical analysis of the incorporation of Digital Culture into methodologies and interactive approaches that drive collaborative and meaningful learning processes for higher education students. We will analyze a specific course, Science, Technology and Society in Arts, Languages and Culture, with students from the 1st. Semester of the Portuguese Language and Literature for Teacher education Course of a Private University. Our goal is to demonstrate the planning, implementation, and learning outcome in a course with a hybrid methodological approach that makes use of interactive tools in the students' learning trail. We will highlight an interactive evaluative activity that consisted in the construction of a collaborative mural using the *Digital Padlet* tool as a resource for a critical reflection done by students on the chapter of a book from the basic bibliography: "What is Society?" (Bazzo, 2003). We adopted the qualitative analysis of the data from the Collaborative mural itself and the records of the students' Digital Learning Diaries, which was performed after the collaborative activity. This allowed us to observe the relationships between the methodological approach, the use of digital tools and the perception of significant learning in higher education, as well as to establish a critical reflection on the incorporation of digital culture in pedagogical practices.

Keywords: digital culture, collaborative learning, meaningful learning, teaching methodologies, hybrid teaching

Introduction

Faced with a moment so unique that one lives all over the world from the emergence of the "New Coronavirus" causing COVID19, education is seen at a crossroads.

It is a watershed moment, which will bring, if properly reflected and systematized by educational networks and by teachers themselves, new practices, which can put into

action the much-desired curriculum that promotes meaningful learning, the emancipation of the student and that promotes a teaching practice focused on the development of the student's protagonism.

Many schools, and many teachers, have implemented creative solutions for the time of remote teaching. There are surveys showing what some schools in the state of Sao Paulo, Brazil have done. These actions range from caring for infrastructure, economic actions up to those related to curriculum reorganization. But it is necessary to look directly into the classroom, the teacher-student relationships, the solutions that are being proposed in the micro world of the teacher and his students. Schneider, former municipal secretary of education of Sao Paulo, in a column in *Folha de Sao Paulo*, confirms this idea in his recent article, which states that:

Making the curriculum more flexible, having a good information system and learning metrics, betting on the connection between the school, students and the school community and investing in the connectivity of all students, regardless of their income, are good learning from the experiences mentioned. But we will only wake up better from this nightmare that has been remote teaching if we are able to rethink educational practices from this experience.

The pandemic taught us that teaching is not a simple craft and unveiled the enormous professional commitment of Brazilian educators. Our greatest tribute to these professionals should also be to believe in their ability to design the educational policies they will implement (SCHNEIDER, 2020).

This is what we will do in the brief words of this article, by sharing a teaching and learning experience during the quarantine period caused by the COVID pandemic19. We will highlight movements made by the teacher and the students that reveal conceptions of education. Can this lockdown and remote teaching experience impact educational concepts and paradigms?

Our objective is to point out the learning experienced by these students and conceptualize the actions performed by the teacher, so that it can be evidenced that technological resources well employed, intentionally and promoting collaboration, can be rich in the teaching and learning process.

We believe the teaching experienced during this pandemic lockdown might bring forth new possibilities for curriculum organization post covid19. Nevertheless, for this to actually take forth, the savoir-faire needs to be conscious, reflected and intentionally practiced. Active learning, flipped classroom, blended learning, as discussed by Bacich and Moran, (2018) can be done in regular (no distance learning) classrooms and the digital culture can be incorporated.

We do not intend to defend digital education (distance learning) exclusively. But, rather, reflect on the possibilities of a curricular reorganization that can be

implemented using digital tools and that can expand the possibility of developing skills such as collaborative learning, autonomy and protagonism.

Literature Review

Levy (1991) states that the good use of technology can empower and amplify our cognition. That affirmation is in complete accordance with Vygotsky's concept of how our cognition increases. The more interaction with different instruments and meaningful signs, the greater capacity for developing cognition.

We have been forced, in the last decade, to confront our teaching methods because our students have different cognitive capacities due to their high use of technology. Our teaching methods have not always kept up with them.

There have been many researchers pointing out new ways of teaching that promote protagonist students. We can recall Mazur (2013), with peer instruction; we can also call on Duch, B. J., Groh, S. E, & Allen, D. E. (2001) with Problem Based Learning. But all these new methods draw originally from Dewey (1916), Vygotsky (1998), Piaget (2003), Wallon (1995), Paulo Freire (1996) and D. Ausubel (1980).

Education has long demanded new ways of making students active and not passive, through teacher's methodologies. But lately, with the advent and rapid development of digital culture even more emphases have been put for teachers to change their ways of teaching.

Dewey (1916) pointed out the importance of putting students in real life situations so that they might experience different solutions for solving situations and for reflecting on principles.

Piaget (2003) enlightened us with the child development theory and how one learns by assimilation and accommodation of new facts and new habits, increasing therefore their knowledge.

Vygotsky (1998) put all his effort and studies demonstrating how culture and interaction makes it possible for one to learn. He postulated that teachers need to intentionally challenge their students so that they might interact with signals, signs, meanings and so increase the significance of their world, increase their vocabulary, and consequently increase knowledge.

Wallon (1995) developed his theory of how the human is an integration of cognition, motor, and affection, and that these dimensions need to be put in action and be observed by teachers while organizing their teaching plans and methods. A teacher needs, according to him, to pin out students' needs so that in permitting experiences that will help them fulfil these needs, they will necessarily perform effectively. Vieira (2020) also points out that Wallon's theory leads us to the understanding that amidst afflictions, cognitive responses will be compromised. In this pandemic moment we live, teachers need to be aware of their students need for interaction, even in virtual environments, so that they can figure out their emotions and, in doing so, they can

resume their learning experience. In part, that is one of the demonstrations this paper will focus, as students are encouraged to interact with each other and with their teacher.

Freire (1996), in Brazil, defended the need for teachers to part from students' reality in order to introduce new knowledge and make it possible for them to emancipate from states of ignorance, in different levels.

Finally, among our choice of researchers and intellectuals of education, Ausubel (1980) proposed that teachers seek for their student's previous knowledge, so to build upon it, enhance it. He also argued that to reveal meaningful learning, students needed to demonstrate and be conscious of how the new knowledge was assimilated in his cognitive structure. That can only happen, also, if the student is active in his learning experience.

From these educational fathers, we derive all other active teaching methods, as already mentioned. One that has called much attention lately is the inverted classroom method, through which the students can collaborate, can individually reflect and systematize their learnings, can interact with the teacher and can learn to search for information, evaluate information and use it in favor of his development. But for this to happen, the teacher needs a careful and detailed plan of action, with phases; a kind of trail for the student to track in order to promote exploration, recognition of former knowledge of the subject of study, collaboration, reflection and meditation, systematization and application. This is where the digital culture contributes. It makes all these phases possible and mobilizes the students.

It is important to observe how much this digital culture, marked by the ubiquity of digital devices, drives and impacts the processes of knowledge construction, since "for the first time ordinary citizens can not only have access to information, but also produce and distribute their productions and carry out these actions collaboratively." (BANNELL, et al, 2017, p. 104).

In this sense, the so-called culture of convergence (JENKINS, 2008) refers to a stream of images, ideas, stories, sounds that can be shaped by the subjects immersed in this new reality, who appropriate the countless possibilities of media and languages to become authors and protagonists of new knowledge.

It becomes relevant, therefore, to understand how methodological approaches that combine the use of digital technologies can enhance interactive, collaborative, and authorial learning processes. Levy (1994) pointed out, for more than two decades, how collective intelligence can become viable as resources drive new ways of learning and teaching, incorporated into cyberspace. Thus, possibilities are created so that the student of higher education can develop cognitive abilities, exploring different senses and languages and different spaces and times.

Thus, digital culture brings to education the possibility of building new skills and abilities, given the plasticity that the virtual expresses in its constant modification.

Technology should not be thought of unilaterally, as it is also configured by the use, we make of it. [...] its dynamic interactivity changes the user socially and culturally, activating different intelligences and abilities, demanding, and favoring the construction of new competence. That is, adopting ICT in our daily lives changes what we want to accomplish, what we try to accomplish and what we think it is possible to accomplish: it changes our goals, actions, interpretations and meanings, as well as the neuronal organization in the brain. (BANNELL, 2017, p.108).

We understand that adult learning occurs as an awareness of learning and what meanings they attribute to it. Therefore, it is of great relevance to understand the need to establish relationships that take place in the virtual space, through the experience of narratives in network, so present in the daily life of students, especially higher education. (LOPES, VIEIRA & HARDAGH, 2018). "If the school ignores the breadth of the community to which the new generations belong, it will be excluding much of the daily social and cultural experience from school life." (BANNELL, 2017, p.117).

In this sense, promoting actions that awaken new possibilities of interaction between teacher, students and knowledge, creating a network and a perspective of collective construction of learning that allows the student to be active, inspires new forms of pedagogical practices, more consistent with the scenario presented (LOPES, 2018). In this way, it is necessary that "teaching-learning activities boost independence of thought and propose significant challenges for the student". (BANNELL, 2017, p.118).

Our research establishes a critical reflection on Digital Culture to incorporate methodologies and interactive approaches that drive collaborative and meaningful learning processes for higher education students. We will analyze the course: Science, Technology and Society in the Arts, Languages and Cultures, with students from the first semester of a Bachelor's degree in Language Teacher Education of a Private University in Sao Paulo, Brazil. Our research object implies a blended learning methodological approach with the use of interactive tools that permeate the students' learning trail.

We will examine an interactive evaluative activity that consisted in the construction of a collaborative mural, using the *Digital Padlet* tool as a resource. Students were assigned a critical reflection of the chapter of a book from the basic bibliography "What is Society?" (BAZZO, 2003).

We adopted the qualitative analysis of the data from the Collaborative Wall itself and the records of the Students' Digital Learning Journals after the collaborative activity, so that we could observe the relationships between the methodological approach, the use of digital tools and the perception of significant learning in higher education, as well as establish a critical reflection on the incorporation of digital culture in pedagogical practices.

Unfortunately, the incorporation of new methodologies and of technology in the classroom is still a dream. What we perceive are teachers repeating practices inherited from their teachers, and so on. School culture, in general, is difficult to change. Many will defend that change can come through crises. But a crisis cannot bring change if the desired change is not brought to consciousness by serious discussion and reflection. We understand that actions such as the one we present in this paper can contribute to an effective reflection and to change in educational paradigms, since only the fact of the existence of a crises, a phenomenon caused by the need for social isolation due to COVID19, does not guarantee a change of culture, nor, the incorporation of digital technologies in everyday school practices.

Methodology

The methodology consists in the analyses of teaching and learning experience carried out during the COOVID19 pandemic lockdown with first semester students taking *Science, Technology and Society in Arts, Languages and Culture* of Portuguese Language Teacher education Major, in a Private University in Sao Paulo, Brazil. The class counted with the participation of 30 students.

During the lockdown, the classes were held on-line, with students that did not have experience with online learning. This experience that is being presented consists in an analysis of both the learning journals and the collaborative mural constructed as products of a study topic "What is Society", given during that period.

For the construction of the Collaborative Mural, the Padlet digital tool was used, which allowed the collective construction of posts (according to the chosen model and lay-out) using various media resources such as: texts, audios, videos, images and links. The reason for this choice of resource is that the Padlet is considered a tool that allows the "convergence of media" for the collaborative construction of knowledge and for authorship by the students.

The students were initially given the task of performing the full reading of the chapter "What is Society" (BAZZO, 2003) and, from there on, the teacher divided the contents covered in the chapter into five topics and divided the class in five groups. The class was presented to the Padlet resource and told that each group had the assignment to present their understanding in a critical manner and through the use of associations and relations with other media resources that could be produced and authored by the group or be selected in other virtual environments, in social networks or other communication vehicles.

The construction of the mural was carried out collectively and collaboratively by each group during a two-week period and culminated in the online presentation during a remote (online) class. After this experience, a critical reflection on the activity and on the individual learning process was proposed through the registration of the on-line learning journal, created on the Moodle Platform.

Our analysis is built from a qualitative perspective and presents the construction of the Collaborative Mural as a collective production of knowledge. It also establishes, through the observation of the personal records taken from the learning journals, what the students perceived about their learning process.

The analysis seeks to identify and reveal the significant impact that a teaching strategy with clear pedagogical intent, involving collaborative construction and, at the same time awareness of the individual learning process through personal records, can establish new ways of involving students as protagonists of their learning process.

Using multisensory media tools and resources, the teacher seeks to create conditions for the incorporation of digital culture in higher education teaching practices, especially in the quarantine period, due to the COVID-19 pandemic. To ensure aspects related to research ethics, the names of students in activity records are fictitious.

Analysis and Discussion

The construction of the collaborative mural presented itself as an interesting and stimulating synthesis activity for students to experiment in various formats for consolidation and presentation of knowledge incorporated during the learning process.

Mental maps, conceptual maps, infographics, comics, among other products used for the discussion of the topics were created to stimulate the establishment of various cognitive relationships with student's prior knowledge (AUSUBEL, 1980; FREIRE, 1996). The creativity and appropriation of the media to express the new knowledge also had peaks in which students created “Tweets” of the authors and subjects studied and, also, a video of a conversation on WhatsApp to discuss the concepts studied in the class. We can highlight how the appropriation of technologies and languages more consistent with the student's profile, drive the processes of building meaningful knowledge while promoting engagement and active participation in online classes (BANNELL et al, 2017). This can also be observed in the registers put in the learning journals.

The following image shows the completed padlet, after each group inserted his observations about the chapter studied. We will, in sequence, demonstrate parts of this padlet.

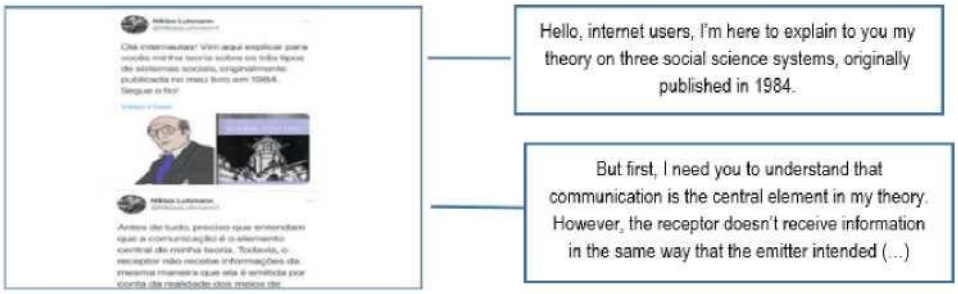
https://padlet.com/analusouzalopes/x3ummopfm5gr

This set of materials and media shown in the *padlet* link was organized by the students. This digital resource was proposedly used and configured in the teacher's class plan as "a place" of media convergence (JENKINS, 2006) in which students become the producers and consumers of their own knowledge. This can be attested by the fact that the collaborative mural was complemented by other themes brought by the students' elaboration over the original text. At the end of the assignment, the "product" of knowledge was a critical and expanded reflection of the concepts of the chapter proposed as a basic reading from the bibliography, constructed collaboratively by all students.

It is worth highlighting the language used to express the understanding of theoretical concepts, associated with the profile of the 21st century student. The appropriation of media languages is significant in that this possibility of expression through various media allows the construction of narratives that students experience daily in social networks and virtual environments (BANNELL, et al, 2017) and that often have no place in the contexts of formal education.

The construction of the mural allowed students to expand their sources of knowledge, expanding the themes, presented in the chapter, through research, leading them to build knowledge and establish relationships beyond the text proposed for reading.

Some exemples:



Miklas Luhmann tweet presenting his social science theory.

WhatsApp group video that explains Aristotle's idea of Polis.

The comics was created by one of the groups to express the concepts seized from the reading of the text and the teacher is portrayed as if she were in the physical

classroom. Their teacher uses the Socratic method and in the "comics" they produced, the students use the same "methodology" to present the concepts learned.

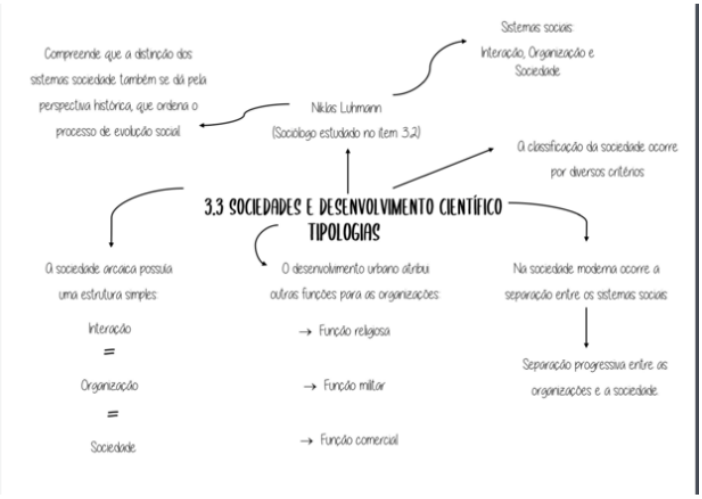
In this sense, it is possible to identify how students establish relationships with previous knowledge, contextualized experiences (in the classroom) that allow them to "anchor" new knowledge and create new scenarios to express their learning in a meaningful way.

Comics on Social Change.
Teacher: "Hey guys.! Today we are going to discuss different interpretations about social changes. What comes to your minds when I speak of social changes?
Student 1: "revolutions"
Student 2 – "Ideologies and Heroes."
Teacher: "Congratulations! You are both right. Both ideologies, revolutions and agents of change, the heroes, represent mechanism of change (….)."

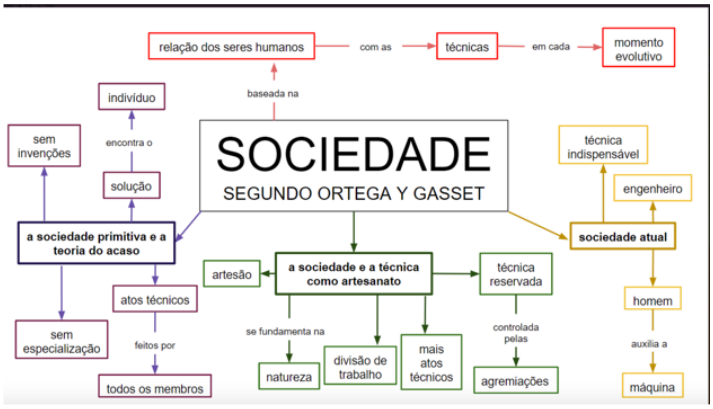
Mackenzie Newspaper to discuss Science, Technology and Society in Arts, Language and Culture

Moreira & Masini (1982) point out Ausubel's (1968) proposal "(...) the essence of the meaningful learning process is that symbolically expressed ideas are related in a non-arbitrary and substantive (non-literal) way to what the learner already knows, that is, to some relevant aspect of his knowledge structure." (1982, pp.13-14)

In addition to creative products that were incorporated into the mural, it is important to highlight the resources of organization and systematization of ideas such as mind maps, conceptual maps, schemes and timelines that demonstrate students' understanding of concepts, appropriation and synthesis of knowledge. In this sense the exploration of digital tools was also used for the elaboration and presentation of visually attractive and engaging materials.



Conceptual Map on Society according to Ortega y Gasset



Mental Map on Society and Scientific Development: typologies

In this regard, it is worth mentioning, once again, that in Ausubel's proposal, the systematization and hierarchization of knowledge should be considered from the concept of "progressive differentiation". Thus, mind maps are useful instruments for incorporating this principle, since diagrams that indicate relationships between concepts facilitate visualization and, consequently, can be used to integrate, reconcile, and differentiate the contents studied. (MOREIRA & MASINI, 1982).

To have clarity of students' learning process and so that students might have full consciousness of their learning process, it was intentionally planned by the teacher a second activity in which the students reflected on their process of knowledge construction through a Learning Journal, using a tool available in the virtual environment of the discipline (Moodle). Observe part of a text taken form a learning journal, that contemplates and reveals a meaningful learning process:

During the studies we used some methodologies that helped us learn the content. Among those that helped me the most I quote here the reading of the texts and the elaboration of visual schemes. (Diana, Learning Diary, 2020).

The teacher's clear and planned intention needs to be present in the conduction of the proposal, so that the results can express the learning possibilities of the students. For this reason, active and collaborative participation should be conducted by the teacher with a clear approach that allows the student to experience moments of collaboration, systematization and application of knowledge, but it is extremely relevant that he reaches a moment of reflective synthesis, in which he can be led to identify and recognize his learning process.

From the records of students' journals, we can identify how the recognition of the learning process drives the awareness and the strength of deep and meaningful learning. In the theory of Meaningful Learning "it is consciousness that attributes meaning to the objects that surround the individual" (MOREIRA & MASINI, 1982, p. 2). This is also evident in the following extracts, remembering that these students are studying to become teachers themselves, what they perceive is of significant value:

With regard to knowledge, I can say that the discovery of the process of knowledge formation was something new for me, and to know that knowledge is something so particular for each person, since each one processes information in a unique and exclusive way, is really stunning. (Murilo, Learning Journal, 2020).

A methodology that helped me a lot was to read the texts given and indicated, do research on them and then make a summary of what was read, I realized that this is how I learn more. I learned about the kinds of knowledge and societies. (Leticia, Learning Journal, 2020).

The awareness of the learning process also occurs to the extent that students perceive themselves as active in their learning experience. It is this contextualized relationship that allows them to identify how and what they have learned and, also, the impact of this new knowledge on their cognitive structure and lives.

In my personal life, in a way, it has helped me gain confidence, because I feel like I am making more and more progress. I use the content in discussion of a more intellectual level, even if it's just a discussion at the table with my parents. In general, even in the short class time we had, I was able to develop more. (Isadora, Learning Journal, 2020))

(...) I cannot leave out the impact of the methodology applied by the teacher, who, to give us a broader view, engaged us in dynamic and creative projects, which materialized our vision of the concepts seen in the classes, such as the PADLET tool, the mental map (....). In short, I affirm that the classes were of utmost importance to my life, and that I will take their teachings to my professional and personal space. (Anne Bianca, Learning Journal, 2020)

The combination (with pedagogical intention) of the organization and systematization of activities, allows the creation of conditions for an active learning process and makes it possible for student to recognize their learning path. In addition, student engagement and involvement in activities contribute to a meaningful process. The use of digital tools, especially *padlet* (object of this investigation) stimulates dynamic interactivity and activates the different intelligences and abilities. As pointed out to us by Bannell et al. (2017), it can be identified in the following reports:

The tools used for evaluations and group work have aroused in me a great interest in the subject and all that surrounds the course. Being able to use tools such as padlet to expose the learned content brings a more technological and new practice to the classroom (face-to-face or virtual), explores our skills in connecting content to images, videos, news, websites and even gifs. (Jessica, Learning Journal, 2020)

Perceiving one's learning process is also significant to boost student autonomy, as we can see:

I find the teacher's work amiable, her goal of always engaging us in class discussion, with our impressions and worldviews. (...) bringing and presenting us remarkably interesting platforms, such as Padlet and other digital resources, where we simultaneously set up a mural of words. Learning like this instigates curiosity, takes some of the burden off obligation and seriousness, gives space to light, fun learning, done together. That is, there is not only concern with content, but also with methodology, in how this knowledge will reach us students. (Juliana, Learning Journal, 2020).

We read chapters of a book and introduced them to the room. I believe this is because we have been encouraged to read and research the subjects of these works on our own and introduce them to our colleagues as a teaching. (La^s, Learning Journal, 2020).

It is possible to perceive the students' engagement through activities, especially the construction of the mural that mobilized them collaboratively, even in the context of social isolation experienced during the pandemic. The learning experience is expressed in the learning journal records that contribute to helping the student in this process of recognizing his own learning process.

In the last unit, where we discussed the theme of society, we had to do group work (in times of quarantine). I was suspicious of the effectiveness of a task like this at that time, but with my group I had a great experience. We read the text, presented the ideas and one of our colleagues made herself available to draw a comic by hand. (Carina, Learning Journal, 2020)

One of the most interesting things about this first semester is how we are going through an experience that shows us the importance of human relationships and the intelligent use of digital technologies. Like all the other events that mankind has gone through and overcome, this pandemic is causing and will cause significant change in the world. It gives a little chill in the belly to see all this happening and know that you are living in a

situation that, without a doubt, will be the reason behind the future news. It is seeing history live and in color. (Julia, Learning Journal, 2020)

Finally, it is worth mentioning that all the work developed, when intentionally planned, finds in the learning trails a strong methodological resource to lead the student in his/her learning process, providing various ways of interacting and building knowledge. In this sense, the trail must rely on potentially significant materials that allow the student to understand and establish the relationships proposed for his/her journey.

When we study "What is society? ", we had video class, responses in the forum and, to complement, we built a collaborative mural, once again, which would be difficult to understand only with reading and a summary, became innovative and more efficient, with each group sharing their knowledge, exploring various tools, applicability, concepts, theories... Creativity always flows, each working one way and making it work together. (...)We learnt that each theme relates directly and influences each other, contributing to the development of society. (Clara, Learning Journal, 2020)

I really enjoyed the creative exercises we did during this semester, practicing and developing various ways to learn the same subject. I found this very cool since it does not impose a limit on the imagination or ability of the student. (Inara, Learning Journal, 2020).

Thus, stimulating exploration, contextualization, reflection, application, and synthesis of knowledge are fundamental elements for the construction of learning trails for students.

Conclusion

From the discussions proposed through our theoretical framework, we were able to reflect on the need to rethink pedagogical practices that incorporate intentionally the use of digital technologies in the learning processes, creating conditions for meaningful learning and more consistent strategies for the profile of the 21st century student.

When discussing the need to incorporate digital culture into school practices, we took as an object of investigation a methodological experience based on the assumptions of meaningful learning, with organization and systematization of curricular activities during the period of the pandemic lockdown with students of the first semester of a bachelor's degree in Language Teacher Education, in the course: Science, Technology and Society in the Arts, Languages and Cultures.

The methodological proposal involved the organization of learning trails and, in particular, we analyzed an activity of creating a collaborative mural, associated with a learning journal, identifying how students engaged themselves in the activity and, also, how they recognized their learning process, built autonomously, collectively and collaboratively, mediated by technologies.

The results presented show us the effectiveness of the strategy used, since students demonstrated great involvement with the proposal and, even going through a tough crisis, a moment of pandemic lockdown, identified themselves with a digital resource that offered the possibility of incorporating multiple media resources, placing students as protagonists and producers of knowledge. The collaborative experience contributed to an expansion of knowledge and the learning journal made it possible for students to be aware of their formative process, of their own learning trail.

During the pandemic, the use of remote online classes was obligatory and promoted the necessity for teachers to teach with technology. We affirmed that this might bring change to education. But we questioned if the mere existence of this crisis would be significant for change to happen in the teaching-learning process. What we take from this experience is that change will come if we effectively and intentionally insert technology in the teaching-learning process; if we plan activities in a collaborative manner and if we create circumstances for students to be autonomous and develop authorship.

We also believe that teachers need to share and to read about the different experiences with technology during this period. This will promote the possibility of establishing consciousness of class plans. As teachers, we need to go beyond registering our class plans, we need to do so consciously organizing phases and resources to intentionally sponsor and stimulate student's learning goals.

To advance meaningful learning in students of the XXI Century, the use of collaborative platforms and virtual resources is a great possibility and needs to be explored in teacher education programs, in colleges and in continuous education experiences offered for teachers by the institutions in which they work.

Once again, we emphasize that change is not automatic due to a crisis. With the purpose of change, of encouraging innovation, it will be important for serious reflection to take place among educators, aiming to understand the needs of our students, from the XXI century, and our society and its demands.

This is what needs to happen in our traditional schools and classrooms. It is not the insertion of computers, of apps, or of any type of technology that guarantees the incorporation of digital culture into teaching; it is, though, the insertion of all these mechanisms, nonetheless, with planning, with clear learning goals.

Technology can be a resource that enhances opportunities for development of abilities, alongside subject contents. Technology can be a teacher's ally but cannot substitute a teacher’s intention for student's achievement.

Thus, we understand that, given the challenges posed by the pandemic, the issue is more complex to the extent that incorporating digital culture into formative processes involves a pedagogical paradigm shift. We understand that looking at the theories of education presented by : Piaget (2003), Wallon (1995), Freire (1996), Vygotsky

(1998) and Dewey (1916); the latter that inspired the movements of systematization of active methodologies, combining the use of digital technologies, allows us to accomplish formative experiences in virtual environments, which also become "a place" of learning, experiences and experiences in the construction of new knowledge.

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Higher Education and Globalization in the Context of the COVID-19 Crisis

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Abstract

The competition of civilizations forced the European universities to adapt to the competition with the Chinese and American universities. European integration cannot advance without the collaboration between European universities. An answer to these challenges is the CIVICA project, the European University of Social Sciences, a consortium of the following universities: Bocconi University (Italy), Central European University (Hungary), European University Institute (European Intergovernmental Organization), Hertie School of Governance (Germany), The National University of Political Studies and Public Administration (Romania), Sciences Po (France) and the School of Economics in Stockholm (Sweden). This experiment aims to become one of the European pilot universities, in the first round of applications for Erasmus+ in February 2019. The experiment takes into consideration the most important resource of a country: the human resource. The network of universities that are part of the CIVICA consortium will group approximately 38,000 students, 7,000 teachers and 3,000 people from the administrative apparatus. The London School of Economics is part of the CIVICA consortium, as an associate partner. At the Bucharest conference, the public presentation of the consortium and its objectives, the rectors of the seven universities set out to educate the future generations of professionals in social sciences, in order to solve the most pressing problems of the world. Creating a European identity is essentially the long-term, fundamental objective of the CIVICA consortium. In the context of this conference, we interviewed a few representatives of CIVICA, and their answers will be analyzed in this paper's section dedicated to the results of the research.

Keywords: globalization, higher education, CIVICA, E-learning, Covid-19

Introduction

Recent years have shown that in order to survive in a globalized world, institutions, citizens and society as a whole must adapt to trends of uniformity and the expansion of ideas and practices in various fields, including higher education. In Romania, top institutions, like The National University of Political Studies and Public Administration (SNSPA), have embraced the opportunities offered by globalization or, at least, agreed to join a "European family" of prestigious universities. The example we will focus on in this paper is the entry of SNSPA in the consortium CIVICA - European University, which includes other important universities, such as Sciences Po, Bocconi University and Hertie School of Governance, and London School of Economics is, also, partner in this project.

It is necessary to understand that in the new decade we have an obligation to be more open than ever to changes and challenges, as we have already felt such phenomena due to the COVID-19 pandemic, which led to the closure of universities. Since March, distance learning has been used in Romania, through e-learning platforms specially created for teachers and students, so as not to miss a semester of studies. At the same time, however, we must be aware that investments in modern distance communication technology via the Internet are mandatory. SNSPA, more precisely the College of Communication and Public Relations, has a multimedia laboratory, with high-performance equipment to offer multiple educational services in such a way that teachers can record courses for students or make videos. In addition, there is the issue of copyright. If these creations of the teachers are available for free on the Internet, YouTube, Facebook and other social networks, such teaching resources could be illegally copied by third parties and thus lead to conflicts and unwanted litigation. Therefore, it is preferable that the publication of teaching materials that are normally discussed at the university, at a course or seminar, be conditioned by an access password, so that only certain people can see and download those materials.

In Romania, the Ministry of Education and Research has entered into a partnership with the Romanian Television (TVR), through which the 8th and 12th grade students will be offered courses on the TVR2 channel in order to prepare for the National Evaluation and Baccalaureate. The admission of high school students and, respectively, the admission of students to college depend on the results of these exams. Universities, including SNSPA, have introduced online admission for future students, both for submission of papers and for the actual examination, and the average in the 11th grade, and not the 12th grade, will count in the tie between candidates. The same procedure was introduced for the master's degree, mainly consisting not necessarily of an actual exam, but a letter of intent.

As for the university graduation exams, they are also taken online, on the university platform. This is a completely new system for everyone, as it is really unusual to take the exam from home, from a distance, even more because it is a work of capital importance in a young person's career. It remains to be seen what the consequences

of such actions will be. Even if they were difficult, these decisions were mandatory so as not to endanger the health and even the lives of students and teachers, knowing that the COVID-19 virus is highly contagious and is spreading rapidly, as there is no vaccine to fight it at the moment.

Beyond the coronavirus pandemic, we are facing a new decade of the 21st century, a century of speed, high-tech, robotics and digitalization. It is inconceivable to live a day of our lives without using the smartphone or other mobile devices, or the Internet, which offers endless possibilities today, from e-commerce to courses and even prescriptions sent by the family doctor for those who can't or may not go to the office. Many imagined the fight against the coronavirus as an invisible war, without weapons, but with an even greater psychological and economic impact than in the case of a real war. The crisis we are facing will affect us, experts say, at least 2-3 years from now, and this year 2020 is a difficult one for everyone, including the education system that needs to be rethought and adapted to the new requirements imposed by this challenging context. We certainly live in a new world and we must learn how to respond, on the one hand, to the threats and, on the other hand, to the opportunities of the contemporary era, but also to the phenomenon of globalization, which has been noticed since the 20th century.

Literature Review

In a study conducted in Romania during the coronavirus pandemic (Florian & Toc, 2020), it was found that there is an inequality of opportunities in education, one of the fundamental challenges of the Romanian education system. Romanian society is polarized, with a great number of young people at risk of poverty or social exclusion, with a high percentage of young people living in overcrowded housing and an inefficient social protection system. In the context of the interruption of the usual activities, generated by the pandemic with SARS - CoV - 2, the socio-economically disadvantaged students are more likely to disconnect from school. Disconnection from school is closely linked to early school leaving and poor school results. We could say that these poor school results have a negative impact on the university environment, because, in time, there will not be enough candidates, and the absence of students, at least in the case of private universities, will lead to their bankruptcy and dissolution.

Another aspect is the need for the development of digital skills and the use of new technologies among teachers, in particular for adapting teaching content and activities to the requirements of online tools. The Ministry of Education does not assume responsibility for ensuring free access to education for all students in the context in which 38% of children and young people under 16 are in a precarious financial situation aggravated by the restriction of economic activities. It is obvious that in this school year, but certainly in the next one, the educational system is and will be affected by the evolution of the SARS epidemic - CoV - 2. Mobile phone access to the Internet may not be enough to support a long learning process, in the context

in which the transition to online involves more than meetings through audio-video platforms or topics sent through messaging applications. The entire teaching / learning methodology must be transferred online, requiring a systematic reorganization of the learning process through the computer (Florian & Toc, 2020, p. 13).

Since 2014, the European Council has recommended to EU Member States an improvement in teachers' digital skills: "The rapid spread of digital learning tools and open educational resources also creates the need for teachers to gain a sufficient understanding of them in order to develop relevant digital skills and use them effectively and appropriately in teaching. These new tools can also help to ensure equal access to high quality education for all." (Official Journal of the European Union, C 183, 2014, p. 23)

Globalization has a major role in higher education and for this it is necessary for the countries to have superior technological preparation. As stated by Varghese (2013), „knowledge-based production has become the distinguishing characteristic of globalized economies. The intellectual capital produced by universities and research institutions has become a crucial factor of production in a globalized knowledge economy. Technological developments, especially in information technology transformed the way the world economy is organized and the way higher education is provided". (p. 7) The so-called 'academic capitalism', a term introduced by Slaughter and Leslie (1997), describes the 'marketization' of public higher education and the rise of research and development for commercial purposes, an aspect which is typical to globalization, too.

Since the medieval period, the academic institutions have played a significant role in the internationalization of knowledge, and the European model, particularly the Paris model, was the landmark, as many foreign students came from all over the world to study in such prestigious universities like Sorbonne. In the post-World War II period, the governments in the developed countries relied on higher education as a means for building relationships with foreign nations (Varghese, 2013, p. 9). In the era of globalization, the perceived role of universities changed from national development to contributing to producing for the global market. Universities became autonomous, less reliant on state funding, and market-oriented in their operations (Varghese, 2013). Higher-education institutions were thriving to reposition to remain relevant to the globalized production. The globalization of higher education was in response to these changes in the external context of education. The external context introduced changes whereby the process in higher education changed from internationalization to globalization. Internationalization of education implies the imparting of knowledge, skills, and values that have a universal application. Globalization implies a flow of people, knowledge, and culture across borders as a market-mediated process stemming from commercial motives. It is a designed activity to introduce an international and multicultural outlook to suit the requirements of the global market

centered on knowledge economies. Economic rationality and commercial interests act as major incentives to promote cross-border education in the context of globalization. Institutions of higher education become yet other organizations engaged in producing and selling education to the global market, very often, for a profit. In other words, higher-education institutions become corporate entities functioning on the basis of the operating principles of the market process (Varghese, 2013, p. 9).

All the needed changes to reposition universities and to align with the requirements of the global market imply the globalization of higher education. Universities are revising their curricula, instruction methods, and language of instructions to reflect globalized higher education and promote cross-border education, which has become the means to globalize higher education. The most common form of cross-border education is through student mobility and institutional mobility. Increasing demand for the higher educated for the global market and an insatiate demand for higher-education degrees to enter the global market both put pressure on the cross-border institutions to offer courses and student places. Further, it has become an attractive area of investment at times producing more profit than in other sectors (Varghese, 2013, pp. 11-12). The cost of education and the visa rules became major factors influencing the choice of country for study by the cross-border students. In some countries, there is a provision to extend the visa for one year after the completion of studies while the students look for a job. The two factors that seem to influence demand for crossborder education may be employment opportunities and perceived high-quality education in the host country. A foreign degree enhances employment opportunities and higher returns to investment. Cross-border education became a source of future labor supply in the developed world since a majority of those who enter as students in the developed countries would like to stay there after their studies (Varghese, 2013, p. 15).

Many analysts have argued that the implications of globalization for higher education in particular are substantial, especially in terms of its relation to national development and to academic work within universities themselves. There are several reactions of higher education policy to globalization and its impact on changes at the institutional level. Significant per capita government budget reductions have been experienced in higher education with higher education institutions expected to do more with less, a significant push to diversify income by increasing nongovernmental resources from the private sector. Alternative sources include tuition/fee increases, the recruitment of overseas students paying full fees, competition for research grants and centers, more emphasis on consultancies, the packaging and marketing of various intellectual products, and appeals to alumni for gifts and bequests. An increased commodification of knowledge as intellectual property has occurred, particularly with regard to connecting the intellectual work of universities with community, business, and government interests and priorities. Reorganization of higher education has been promoted by national governments or in some cases

state/provincial governments, to relate it more closely to national economic agendas. "Quality" movements in higher education have been established by governments, which are intended to monitor or audit institutional processes and outcomes, and funding is increasingly tied to the results. For example, in the United Kingdom, the external assessment of teaching and learning is done through both institutional and subject reviews and research performance is monitored separately. Concerns with social justice and equity issues in higher education have been evident and can be seen most clearly in expanding access to higher education in terms of numbers of places, and types of entry, and in increasing diversity of modes of study, both campus and technology-based. A preoccupation with higher education finance issues has developed at national levels. The increasing demand for higher education and the expansion of higher education systems at a time of constricting government budgets has resulted in financial crises for many universities. This in turn has led to considerable public debate about the appropriate balance of public versus private contribution to postsecondary education, and in particular the size of the student contribution in relation to government funding (Porter & Vidovich, 2000, pp. 455-457).

We find that the importance of higher education is reflected at both the individual and national levels, as universities can develop and compete in a globalized world. Globalization can bring new opportunities for universities and increase the cooperation between professors, students, scholars or researchers from all over the world.

A study carried out by SNSPA on access and equity in higher education showed that European policies on education and employment emphasize the need for further education for as many young people as possible, as this is the only way to which we can build a knowledge-based economy. Therefore, increasing the percentage of people who have completed high school and are still pursuing a university degree is a key objective of the European Union, both in the field of employment and education. The study also revealed an acute lack of information, both among school populations, parents, teachers, and among decision-makers about the concerns and training options of young people, on the one hand, and, on the other hand, the areas of intervention that should be taken into consideration by the competent institutions (Pricopie et al., 2011).

In the context of the coronavirus pandemic, Universities are taking intensive measures to prevent and protect all students and staff members from the highly infectious disease. Faculty members are already in the process of transitioning to online teaching platforms. Several universities have already suspended the semester-end final examinations, whereas continuous assessment will go on along with the online classes. The transition from face-to- face teaching to online delivery has a serious impact on assessments and evaluation. Technology in higher education is still under-developed and applying assessments online on those courses designed for

face-to-face learning is a challenging task. Also lab tests, practices, and performance tests are not possible to conduct online. In addition, students who do not have an Internet facility will suffer a clear disadvantage while participating in the evaluation process, which would adversely affect their grade point averages (GPAs). The COVID-19 pandemic may have a serious impact on the careers of this year's university graduates. They are experiencing major interruptions in teaching and assessment in the final part of their studies. They may likely graduate late due to the postponement of the final examination. Further, the graduates are going to face the severe challenges of the global recession caused by the COVID-19 crisis. It is the right time for faculty, students, and administrators to learn from this critical situation and to overcome these challenges. Online learning could be a greater opportunity as a result of this crisis. University authorities should encourage students and faculty to stay connected through the online or any social media platform and move forward together during this extremely difficult time. Faculty members should embrace technology and pay careful attention to student experiences to make the learning rich and effective (Sahu, 2020, pp. 3-5).

There are growing pressures on universities across the world to equip greater proportions of the population with higher order skills that can be used productively in the knowledge economy (Naidoo & Jamieson, 2005, p. 38). With the pace of globalization accelerating and its impact expanding, universities have begun to change as well, seeing increasing numbers of students flow from beyond national borders, coordinating if not standardizing degrees and calendars, and collaborating both in research and in teaching. Despite these efforts, there is still no consensus about what globalization will ultimately mean for how universities educate students, interact with peers, collaborate with governmental and private partners, and define their fundamental missions (Dirks, 2015).

Globalization is also related to the idea of developing relations with different cultures. In responding to and giving expression to contemporary geopolitical shifts, universities around the world are increasingly entangled in intersecting local, national, and global relations. Transnational students are using the internationalization of higher education to extend and deepen their capacity for thinking and acting globally, nationally and locally in order to enhance the viability of their life trajectories (Singh, 2005, p. 9).

The international context of education has changed significantly over the last decade, and in today's more globalized world it is no longer possible to ignore the effects of global macro socio-economic changes on both national and local education systems. Emerging as part of the trend brought about by economic globalization is the focus on the internationalization of higher education. The internationalization of higher education might be understood as a response of higher education to globalization (Tuinamuana, 2005, p. 199). Moreover, the globalization processes "affect national education systems directly as well as indirectly in different ways. Most countries have

restructured their education systems during the past two decades. The fact that the formulated policies are rather similar everywhere, indicates that ideas related to the construction of education have been borrowed from the world models" (Daun, 2005, p. 99).

Partnerships between universities are very important in a globalized world. The initiatives include various activities in the academic field, such as research, teaching, professional development, and mentoring. The National University of Political Studies and Public Administration (SNSPA) from Romania has become a member of the CIVICA consortium, which gathers major European universities in a major academic collaboration. This partnership and the opportunities that come with it are the topic of the analysis which will be presented in the following pages.

Methodology

The CIVICA consortium, European University of Social Sciences, is a consortium of the following universities: Bocconi University (Italy), Central European University (Hungary), European University Institute (European Intergovernmental Organization), Hertie School of Governance (Germany), National University of Political Studies and Public Administration (Romania), Sciences Po (France) and Stockholm School of Economics (Sweden). This experiment aspires to become one of the European pilot universities in the first round of Erasmus + applications in February 2019. The experiment considers a country's most important resource: human resources. The case of Finland is a successful example, which shows that a quality general education can lead to sustainable, economic and social development.

At the conference in Bucharest, for the public presentation of the consortium and its objectives, the rectors of the seven universities set out to educate future generations of social science professionals to solve the most pressing problems in the world. Creating a European identity is essentially the fundamental, long-term goal of the CIVICA consortium. In the context of this conference, we had the pleasure and honor of interviewing several representatives of CIVICA, and their answers will be analyzed in the section of the paper dedicated to research results.

The research method that was used was the interview. We interviewed 4 persons from the CIVICA consortium:

- Aurelien Krejbich (Sciences Po), executive director of CIVICA
- Karin Wistrom, director of Stockholm School of Economics Executive Education
- Nikolas von Hoffmann, Manager Office of the President (Hertie School of Governance)
- Kate Vivian, Deputy Vice President for International Affairs (Sciences Po)

SNSPA is a partner in this consortium and organized at its headquarters a working meeting on February 4, 2020, attended by the Rector of SNSPA, Professor Remus Pricopie, PhD, and guests from partner universities abroad and from state institutions in Romania, including the Ministry of Education and Research.

With this research, we aimed to find out what will be the role of CIVICA in the academic environment in Romania and how it will facilitate Romania's contacts with countries like Great Britain, Italy, Germany, Sweden, Hungary and others in this European partnership, because CIVICA is European University of Social Sciences.

The questions for the interview were:

What is your opinion about the CIVICA project?

What do you expect from this project?

What will be the structure of this collaboration?

What kind of programs do you intend to develop and how do you intend to apply the results of the research?

The answers offered by the persons who were interviewed will be analyzed in the section dedicated to „Discussion and Analysis".

Discussion and Analysis

After the year 2000, globalization began to accelerate in all areas. Digital technology has changed everything and continues to bring fundamental changes to the daily lives of every European citizen. Education was an area that benefited from the momentum of an explosion of knowledge in all areas. Unfortunately, the European Union is not a global player in the digital world, if we think only of 5G technology, where it has only the role of added value for the two giants: the USA and China.

In the field of university education, we can easily identify two major models in the world: the European model and the American model. The European model is generally based on stable teaching positions, for an indefinite period, with compulsory retirement at the age of 65. The best teachers are immediately called to the US where they can teach as much as they can physically. Funding is dominated by state budget revenues. Students may or may not pay tuition fees. The study organization model is known generically as the Bologna model.

American universities are organized according to another model. The funds are provided mainly by large American companies that recruit their future employees from universities. Students usually pay considerable fees, which have, among other things, a role of making students responsible, in order to determine them to treat the university period with the utmost seriousness. Research is a major component of activity in American universities, funded and supported by large American companies, which are ready to take the results of research and introduce them into

industrial production or commercial activity, or the results in the field of social sciences.

Creating a European identity is very difficult and studies in the field of communication have shown that, at least so far, it has not been possible to create a European public sphere, in the sense proposed by Jurgen Habermas (2012).

In the short term, the project will contribute to a greater integration of the elites of the European Union countries. The spread of knowledge will accelerate, the best students will get to work in Western European companies. Global competition requires the concentration of the most enlightened minds for the development of the European Union, in the global competition with the USA and China. It remains to be seen how the smaller European countries will develop, which do not have the opportunity to pay the best graduates properly. Will the economic gaps increase or not? It is a question that will be answered in time.

An urgent issue that needs to be clarified within the CIVICA consortium is how to finance the consortium. Too much pressure on the national education budget for consortium projects could create a national rejection reaction.

The project is very ambitious, but beyond the optimism needed to start such an important collaboration, we can identify some elements that could hinder or even block the development of the project.

First of all, the fact that the university system has a very strong national color, would reiterate the dilemma of European integration: a Europe of nations or a Europe of regions? The year 2020 is the beginning of the work of the new European Commission, elected in 2019, which proposed as a strategy the European Green Pact - a roadmap to ensure the sustainability of the EU economy, by turning climate and environmental challenges into opportunities in all policy areas and by ensuring a transition that is fair to all and inclusive.

(**https://ec.europa.eu/romania/news/20191211_pactul_ecologic_european_ro**)

The CIVICA consortium should help raise awareness of environmental issues as part of a complex European awareness. This objective could face conflicting interests at the level of European countries. More specifically, sending rubbish from Western European countries to former communist states should no longer be possible in any form. Today we find that the export of garbage, disguised in various forms is expanding. The end of February was dominated in the Romanian media by the issue of burning waste from Great Britain to Romania, because destruction by burning in Great Britain costs 400 pounds / ton, and in Romania 30 euros / ton (Niculescu, 2020). From this perspective, environmental issues are seen differently in Romania and the United Kingdom.

Another example in the field of environmental protection that could generate differences of approach between EU member states is the logging of virgin forests in

Romania, as a result of the complicity between the corrupt authorities in Romania and a well-known Austrian company. If CIVICA aims to contribute to the consolidation of a common European ecological consciousness, how will this consciousness be expressed in the case of the destruction of virgin forests in Romania? The situation is so serious that on February 12, 2020, the European Commission activated the infringement procedure for Romania due to illegal deforestation. There was no consistent civic reaction in either Romania or Austria. The consortium explicitly aims, at the licensing level, to focus in particular on civic engagement.

The network of universities that are part of the CIVICA consortium will group approximately 38,000 students, 7,000 teachers and 3,000 people from the administrative apparatus. The London School of Economics is also part of the CIVICA consortium, as an associated partner.

At the conference in Bucharest, for the public presentation of the consortium and its objectives, the rectors of the seven universities set out to educate future generations of social science professionals to solve the most pressing problems in the world. Creating a European identity is essentially the fundamental, long-term goal of the CIVICA consortium. In the context of this conference, we had the pleasure and honor of interviewing several CIVICA representatives, and in the following we will analyze the answers provided by CIVICA representatives in the interviews. These answers reflect the mission and vision of CIVICA, the way the activity is carried out, the benefits offered to students and teachers and the perspectives regarding the development of this educational project in the future.

Aurelien Krejbich (Sciences Po), Executive Director CIVICA, Sciences Po:

"I have a very positive impression about the project. It's a very inspiring initiative to gather such a nice selection of great institutions in the social sciences. My priority are the students, I really want to make the difference on the ground and to make sure we can offer interesting and exciting opportunities for the students in terms of mobility, degrees, access to libraries, sports, cultural events. My main ambition is to make sure that for the students, CIVICA is a true experience (...). CIVICA is a pilot programme (...). The idea is to create a platform, to create a market of positions for young researchers where they could identify with themselves within a European model and start their career in Europe."

Karin Wistrom, Director of the Stockholm School of Economics Executive Education:

"We are very much looking forward to work together as a truly European university, with this great spread that we have and the different perspectives, from Sweden in the north to Romania in Southeast Europe so we think this opportunity is going to be a fantastic offer for our students, and also work together, both as faculty and the staff (...). We will work together with the Bachelor programme to offer the students the opportunity to study at various, different places and we hope also in the future to be able to do executive education studies together."

Nikolas von Hoffmann, Manager Office of the President, Hertie School of Governance:

"We want professors, students, staff at the universities to really develop this alliance together. There is a clear work programme that we have that involves joint courses and research cooperation, student ambassadors that we will set up (.). Over time, we will move into developing degree programmes for students and really relevant topics for all of the European Union at this stage, what's going to be the future of Europe, how to deal with climate change and changes in the environment and the future of democracy and also how we can use data better to inform research in social sciences."

Kate Vivian, Deputy Vice President for International Affairs, Sciences Po:

"The focus is very much on we can innovate within a university environment at a collaborative level, so we're on a European level, how we can work together to create new, exciting opportunities for students and to provide also opportunities to respond to very serious challenges facing Europe and the world today. So that takes a huge amount of diverse forms: joint courses that are going to be across the network between two, three or maybe more institutions where students will be able to learn and benefit from faculty and classes and students amongst the institutions. I am thinking about collaborative research, exciting initiatives, such as the sports tournament. There are a whole range of opportunities for us to collaborate at every level and to really ensure that we are creating something new and dynamic (.). We will create knowledgebased teams that will be both researchers, faculty, but also students, who will be working collaboratively together to produce solutions, recommendations on different topics that can be used in the political perspective, for public policy orienting, as community outreach engagement tools, as well, so as knowledge for the greater community."

The answers offered by the interviewees show us that CIVICA is an ambitious, future-oriented project, focused on quality higher education, on providing a useful educational experience for students and teachers, on collaborative research, on the exchange of experience between universities, etc. We identified a few key words, such as "true experience" and "platform" (Krejbich), "alliance" (von Hoffmann), "executive education studies" (Wistrom), "network", "knowledge-based teams" and "collaborative" research "(Vivian).

As we have seen in the literature review section, university education occupies an essential place in a globalized world. Universities seek to form partnerships based on specializations and sometimes according to geographical criteria, and the faculty, researchers and students communicate in a real international academic network. Of course, funds are also important. In Romania, according to the law, universities have autonomy and manage their human and material resources according to the particular situation of each of them. Some perform and become known abroad, others remain in a certain place nationally. SNSPA is a relatively young university, founded in 1991, after the 1989 Revolution, has graduates who now work in various fields, from communication and public relations, to politics, diplomacy and public

administration, some of them becoming prominent members of the European Parliament.

In the conclusion of the data analysis, we can say that CIVICA is a very good opportunity for the Romanian academic field to be part of the elite of European universities, especially those focused on social sciences, even more because we have the experience of the successful Erasmus + program. All these are a proof of the opening of Romanian education abroad, thus keeping pace with the globalized world and with the challenges that are affecting us, such as the COVID-19 pandemic. We can also say that the pandemic has accelerated the collaboration between European universities. London School of Economics, probably one of the best schools of Economics in the world, is part of the CIVICA consortium, as an observer. British participation is essential because in this collaboration the EU membership is not important. The pandemic did not take account of this aspect of membership.

The crisis generated by the COVID-19 pandemic needs special attention in matters of education through e-learning. It is necessary to focus on the technological requirements in this period. In the case of the College of Communication and Public Relations (National University of Political Studies and Public Administration), for instance, we use a platform where we can upload courses that are accessed by students with username and password. Also, electronic mail and social media are used in order to communicate with our students. In the future, the equipment for distance learning needs to be improved and adapted to the various methods of teaching and evaluating students who take online courses and seminars. Currently, an expert team is working on several scenarios for the opening of schools and universities in September 2020, depending on the evolution of the coronavirus pandemic.

Conclusion

In parallel with the challenges imposed by the phenomenon of globalization, the COVID-19 pandemic crisis has generated major changes. Universities around the world, including those in Romania, had to adapt their courses and seminars to the new conditions - everything is now online, including graduation and college entrance exams. Teachers and students keep in touch through various platforms, but the problem is given by the difficult access, for some, to the Internet and mobile devices, such as tablets. In pre-university education, the situation is even more dramatic, as there are few children (especially those in rural areas) who have access to the Internet. The Ministry of Education is obliged to find solutions for all pupils and students, as well as for teachers, so that the school is not too much affected by the negative effects of the crisis generated by COVID-19.

In addition, globalization has imposed a different strategy at the university level, topics such as attracting funds and preparing students to become specialists in important institutions being on the agenda. A network of universities facilitates a

medium and long-term partnership, with benefits for all parties involved, as long as the collaboration will be very good and will allow students and faculties to have an educational experience that is really "a true experience", as mentioned by the coordinator of the CIVICA project, Mr. Aurelien Krejbich.

But, at the same time, we need to pay attention to the challenges of the global crisis, caused by the coronavirus pandemic, but also to the changes in various areas, including education and health, in terms of technological requirements. Artificial intelligence and digitalization are essential factors in the development of today's society and higher education plays a major role in preparing new generations of specialists to work in different places and assume responsibility in a globalized world.

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EYSIER Charter Mark with ABCDE and Assessment for Personal and Social Learning; a Bottom-up Approach to Building Faculty of Judgement with an Open Access Knowledge Base of Science with and for Society (Swafs)

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Abstract

Civic society must mobilise education and training to move from Covid 19 disruption to recovery to meet the goals established by the President of the European Commission « A Union that strives for more » and promoted through the European Education Area. Using Five stages of 'A Blueprint for Character Development for Evolution' (ABCDE), citizens map their journey to making good decisions in a new social contract to amplify recovery. A is European Qualifications Framework (EQF) Level 1 to ask good questions to solve problems; What is social distancing? How can I optimise success in virtual-classrooms? How can I safely create a new job for myself? B is EQF Competence Level 2 and focusses to explore the best that has been thought and said from explicit Scientific/social knowledge and synthesise it with implicit personal knowledge/beliefs, to gain shared understandings of definitions of terms. C is EQF Competence Level 3 to develop robust methods for data-collection/handling to find solutions to personal and social, cultural, health, economic and political problems. D is EQF Competence Level 4 to develop theories of change from data as solutions to social and personal problems for recovery. E is EQF Competence Level 5 to develop moral and ethical principles in a new social contract. ABCDE is implemented with 'Assessment for Personal and Social Learning', A Massive Online Open-Access Course, and toolkit to gain the Empowering Young Societal Innovators for Equity and Renewal (EYSIER) Charter Mark to align commercial, humanitarian evolutionary and sustainable goals to propel recovery.

Keywords: EYSIER, charter, ABCDE, assessment, personal, social, learning, bottom-up, approach, building, open access knowledge, base of science, society, Swafs

Introduction

The Professional Challenge, its illucidation, and Objectives and Research Questions

Civic society must mobilise education to move from the unprecedented disruption caused by Covid 19 to recovery. A barrier exists to this recovery because civic society is locked out of fully and freely participating with the data collection and handling in the social quadruple helix that empowers community solutions to amplify recovery. The persistent inequalities in society are exacerbating recovery because of Society's deep mistrust of the role of scientific evidence, experts, and psychologies, philosophies and ethics of trust. In a quadruple helix of University, industry, government, and citizens and the social media there is a lack of mainstreaming innovative knowledge between the four sub-groups to underpin effective recovery from the unprecedented disruption caused by Covid 19. New partnerships are required to propel entrepreneurial economies with and for social cohesion that celebrates cultural diversity. These new partnerships align commercial goals that socialise risks, investments and rewards in a new ethical, logical and evidence informed social contract that does no harm to the self or the other, that all citizens explicitly understand in terms of duties and rights, such that they could have written the contract themselves (Kant, 1785) in a font size they can read.

The social contract is between subgroups of the quadruple helix; citizens and social media, the economy (industry) the government and their governance of institutional policies (including Universities) and systems of knowledge generation, exchange and transmission in Higher Education Institutions (HEI). HEIs supervise education systems to propel successful consumption of innovative knowledge on bridges between subgroups to align commercial, human evolutionary and sustainable interests/goals. Taysum (2019) identifies the independent legislator in the quadruple helix monitors and evaluates the alignment of commercial interests, humanitarian evolutionary interests, and the ethical and moral sustainable interests found in the complexities of the quadruple helix policies as text and policies as discourse (Taysum, 2019, Ball, 2006). Open Access bottom up data bases of Science with and for Society (SwafS 31, Horizon 2020) with education systems that provide EQF competences to assure acitizens know how to participate with these data-bases effectively can eradicate fake news. This is because a person meeting Competences of the EQF Levels 1 - 5 mapping to ABCDE has the cultural capital needed to make good decisions with good faculty of judgement using 'A; their own questions', 'B Science with and for Society', 'C methods', 'D developing theories of change and testing them for proof of concept', 'E arriving at principles that they can apply to other social problems'. Thus operationalising ABCDE allows citizens to penetrate fake news revealing the inequalities to the elites.

The best Universities in the world, including Oxford University, teach Philosophy, Politics, and Economics (PPE) to the future leaders of government. Knowledge is

power (Bourdieu, 1993) thus access to PPE knowledge bases for the elite assures the elite's human evolution, but not the human evolution of the masses which is a barrier to equity and arguably a a factor that if addressed could accelerate achieving SDG 1; Eradicating Poverty (United Nations, 2016). The gap between the elite and others in the mobilisation of knowledge of and with society needs addressing urgently for issues of equity and access to middle class benefits as a threshold of minimum wealth for all. For example, one definition of philosophy is to think about the problems of the world. Education systems currently operate to satisfy testing industries, rather than equipping students with the EQF Level 1 - 5 competences required to become self-governing autonomous mature citizens who i) explicitly understand the social contract, ii) could have written the social contract and iii) can name the prime moral principles that assure the social contract has logical, evidence informed and a sustainable ethical framework for human rights and duties that do no harm to the self or the other. Education policy with a goal of students attaining a high rank in the testing industries league tables, has narrowed the curriculum and left students memorising facts to pass tests (Taysum, 2019; Taysum and Arar, 2018; Taysum and Collins-Ayanlaja, 2020). The noble intention of PISA was to provide benchmarking data for nation's education systems. The reality of the PISA model took on an ontology (what is) of its own and became the model of reality (Bhaskar, 2008). The objectives of education systems became high performance in tests to deliver a high rank in PISA. Taysum (2019) identifies using both quantitative tabular data and qualitative narrative data there is no correlation between PISA ranking and a nation state's Unit Labour Costs, its Gross Domestic Product (GDP), GDP per capita, levels of crime, the healthy aging and happiness of citizens and levels of trust in governance systems.

Three objectives address the professional challenge that was the focus of the development of a bid to address the Horizon 2020 Call SwafS 31.

Build effective co-operation between science and society by training leaders of the four spheres of the quadruple helix to use a toolkit mapped to the MoRRi that optimises delivery of their organisation's strategic plan and delivery of the SDG targets through interactions with open access Bottom up SwafS knowledge bases that propels recovery from Covid 19;

Foster the recruitment of new talent for science using a toolkit that delivers interactions with a bottom up SwafS knowledge base that builds scientific groups for all in STEM, the Social Sciences and Arts and Humanities;

Pair scientific excellence with social awareness and responsibility raising awareness of what to do to interact with the 8 lines of action, how to do this using the methodology of this Research in Action, and why these intentions and acts are of personal and social benefit and amplify the main SwafS' objectives that aid recovery from Covid 19.

The consortium address these objectives with the following Research Questions:

How and in what ways can the consortium build effective co-operation between science and society to propel recovery from Covid 19 with leaders of the four spheres of the quadruple helix using a toolkit mapped to the MoRRi that optimises delivery of their organisation's strategic plan through interactions with open access Bottom up SwafS knowledge bases?

How and in what ways can the consortium foster the recruitment of new talent for science using a toolkit that delivers interactions with a bottom up SwafS knowledge base that builds scientific groups for all in STEM, the Social Sciences and Arts and Humanities for recovery from Covid 19?

How and in what ways can the consortium pair scientific excellence with social awareness and responsibility raising awareness of what to do to interact with the 8 lines of action[1] to propel recovery, how to do this using the methodology of this project and why these intentions and acts are of personal and social benefit and amplify the main SwafS' objectives to propel recovery from Covid 19?

Building effective co-operation between science and society with competences for selfgoverning autonomous citizens

Interacting with bottom up Open Access SwafS knowledge bases in terms of mobilising citizens' consumption of research to address the targets of the Sustainable Development Goals is important. This gives young people the chance to apply their new knowledge to the disciplines in their lifelong learning. This may enable young people in intergenerational and collaborative problem solving networks across the quadruple helix to ask good questions about their professional challenge(s)/problem(s) which is Stage A of ABCDE (Diagram 1). Stage B is engagement with knowledge bases that allow the synthesis between personal implicit knowledge and external scientific knowledge using Assessment for Personal and Social Learning (APSL) (Diagram 2). By using APSL at Stage B citizens have a toolkit to engage with Science with and for Society in new partnerships between science and society.

Diagram 1 A Blueprint for Character Development for Evolution (ABCDE) (Taysum, 2019, p.76)

Education Policy as a Roadmap for Achieving the SDGs

Stage of Character Development	Why?	Transition from Immaturity to Maturity	Impact on Mental Health	Participation in Constructing Social Contract	Likely % of Population to Turn Out to Vote

[1] The eight lines of action are science careers, gender equality, public engagement, science education, open access/open data, governance and ethics, the precautionary principle, science communication.

Al, Obeys rules driven by fear	Senses fear of punishment	Continues to fear institutions in behaviourist fight of flight mode	Poor mental health	None	Low
A2. Obeys rules driven by getting even	Senses fear and seeks revenge if they arc wronged	Continues to fear institutions and seek revenge for wrongs done - may be high vigilance	Poor mental health	None	Low
B. Obeys rules underpinned by beliefs	Believes in doing things right but does not know why in practice	Confused which is linked to ambiguity which can lead to perpetuating VUCA	Poor mental health	Low	Low - medium
C. Obeys rules and chooses to do duty within the law with methods and theories to help predict consequence of acts with missing information	Developed methods to find out how others have done the right thing or not with good application of concepts in practice for a good social contract and embedded economy.	Potential for enlightenment and human evolution	Potential for good mental health	High	High
D. Obeys rules and chooses to do duty within the law and develops hypotheses to test for proof of concept to inform future good decision making.	Developed hypotheses to do the right thing with good application of concepts for a good social contract and embedded economy	Potential for enlightenment and human evolution	Potential for good mental health	High	High
E. Obeys rules and connects duties with rights systematic moral inquiry into the ethical rules and leadership of institutions	Has arrived at and is guided by universal ethical principles applied to the social life that have stood the test of Assessment for Personal and Social moral inquiry	Enlightened human in becoming contributing to human evolution	Good	High	High

Fig. 4.1. Taysum (BERA, 2018c) Five Stages of Character Development to Build Trust in the Social Contract Applying ABCDE.

Diagram 2 Assessment for Personal and Social Learning (Taysum, 2020, p. 58)

Education Policy as a Roadmap for Achieving the SDGs

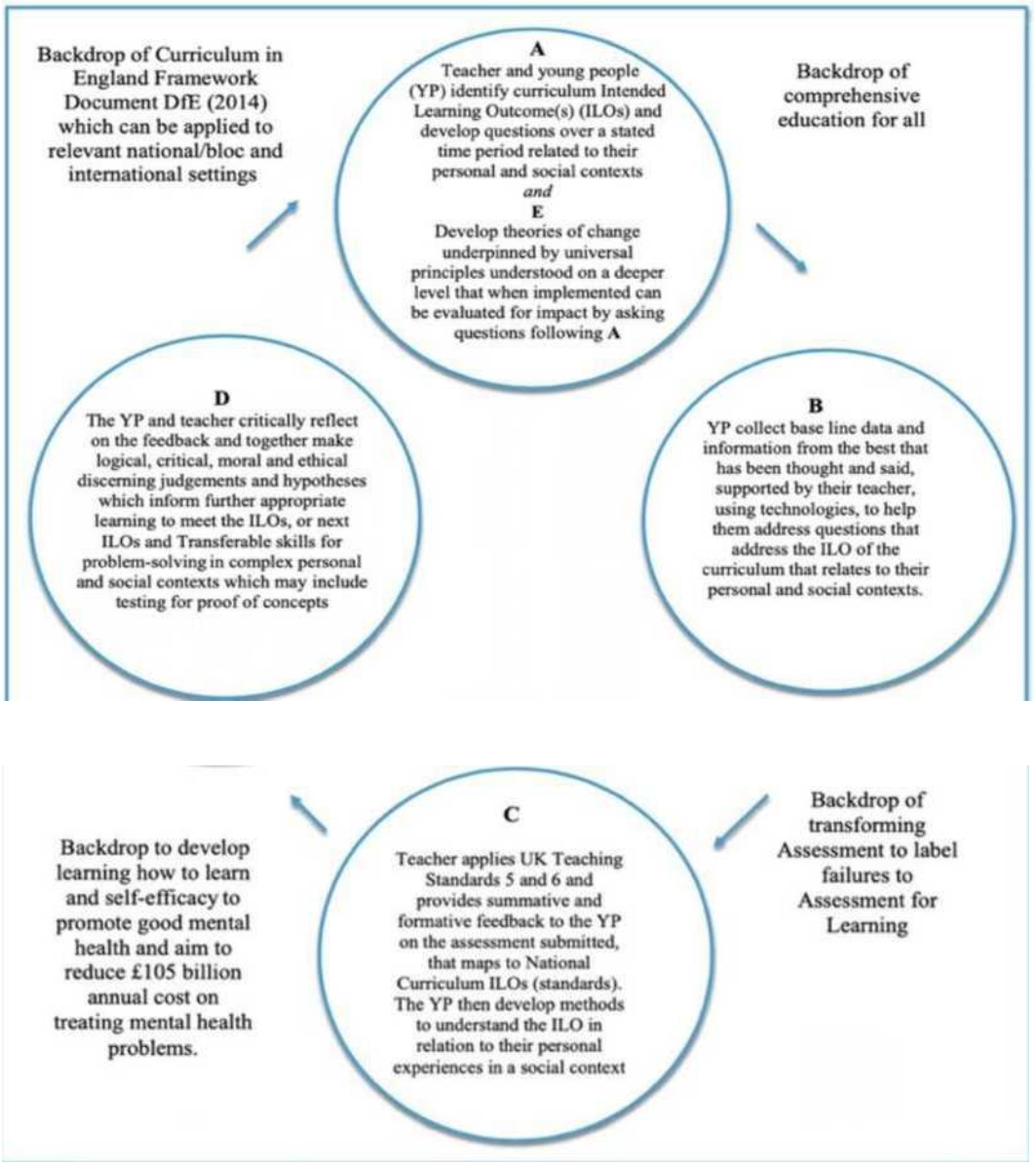

Fig. 3.1. A Framework for Assessment for Personal and Social Learning Taking a Deweyen Perspective.[4-5]

A competence for becoming autonomous self-governing mature citizens is that citizens move from being helped to construct their own questions, to being able to

articulate their own questions. Mayssa (2020) draws on Dewey (1916) that a well articulated question holds half of the answer. Therefore, citizens can develop the competence of becoming their own midwife as wise leaders and gatekeepers of SwafS to examine their lives on a personal and social level using APSL (Diagram 2). Such autonomous citizens can address their professional challenges and move from a position of fear with a clear understanding that citizens are not afraid of the shadows, they are afraid of what is in the shadows that might harm them. Thus citizens can use ABCDE with APSL as a toolkit to fully participate with SwafS knowledge bases. The toolkit gives them the thinking tools to understand the self and identify the root causes of their confusion and fear of the things and the people that could do them harm in the quadruple helix. This aligns with Kant's (1785) Groundwork of the Metaphysics of Morals that the supreme principle of morality is that an autonomous rational being expresses a rational goodwill. This goodwill is expressed and the expression is fully explicit and fully known to that rational being, and they can make the moral laws and abide by the moral laws that all others would be happy to also arrive at if they had to make them as rational beings.

Integration of MOOC types within the quadruple helix approach of the SwafS knowledge base

To address all the four spheres of the quadruple helix - helix 1: academia/universities, helix 2: industry/business, helix 3 state/government and helix 4: Media based and culture-based public and civic society - (cf. Carayannis / Campbell 2011, 327), the consortium decided to have a focus on the design and adjustment of MOOCs. "A MOOC is a Massive Open Online Course, which is a series of seminars or workshops provided via internet for a group of people that is in most cases huge and that is easy and free to access and which is provided in most cases without fees or payments." (Beutner 2020, 2) MOOCs have fundamental potential for a change in education in the digital age over the past few years (cf. Buchmann 2013, 5). This potential can be used to improve and enhance the communication of science as well as the collaboration and cooperation within the quadruple helix. Also with regard to the quintuple helix, where the natural environment of society is addressed as well, meaningfulness and efficiency of using MOOCs can be fully realised.

The aspects that MOOCs can be *massive*, which means that they are able to address many people all over the world with the course, and that a group of participants can be very large and diverse is a crucial aspect, when it comes to the use of MOOCs within the SwafS knowledge base. Here, the core idea is to address different target groups and offer a perspective to provide learning and teaching to many people.

The characteristic of *openness* of MOOCs provides conclusions about the modality of use (see as well Buchmann 2013, 14). MOOCs provide knowledge in an open way which means open for everybody and this includes all four groups of the quadruple helix. Open also refers to the opening of education to underrepresented classes, which is achieved through the free availability of learning material (cf. Karall 2015, 22).

xMOOCs, or extension MOOCs are based on traditional university courses which is a strength, but do not provide the student-teacher relationships Universities offer. They represent the most well-known form of *MOOCs in the media. They contain clearly defined learning objectives and follow a strict schedule which can deliver and test existing knowledge. Frequently, certificates or degrees can also be* obtained through these MOOCs.

More openness with regard to openness of thinking can be reached with cMOOCs, the connectivism MOOCs allows knowledge sharing and knowledge creation and therefore provide opportunities to innovate which, propelled with the digital age for which the required competences for successful engagement with the labour market are not yet known, can offer a very attractive learning as a self-organized process in networks. Unlike the xMOOCs, the learning objectives are not so clearly defined because they allow for innovation. Nevertheless, they are based on the interaction of the participants. The participants of a cMOOC can contribute to the course environment through blog posts, videos or forum articles and actively shape them. This makes cMOOCs less predictable, since the participants autonomously control how they organize the course. And this also means that this form of MOOCs also require a certain degree of digital competence.

Using MOOCs as an online approach offers the opportunity to combine real-time interaction with eLearning elements and interactive knowledge provision using the scope of the internet, the hyperlink possibilities and combinations with face-to-face learning like in so-called bMOOCs, the blended MOOCs. Basically, this concept is based on the combination of online course formats and traditional face-to-face events.

In 2020 Beutner could find that MOOCs are usually available for a longer time, are easy to structure, offer the opportunity to integrate tasks and tests, provide innovative learning and increase the motivation of learners and knowledge exchangers (cf. Beutner 2020, 5). Moreover he could underpin authentic learning with MOOCs via the integration of real pictures and images, video documentation and integration in MOOCs and via emotional connections (cf. Beutner 2020, 5). The core aspect in transferring knowledge and competences via MOOCs is putting skills/competences into practice. These link to the ET2020 Four Strategic Objectives. This can be reached by integration of practical problems/professional challenges, initiating group work possibilities, offering networking opportunities and interactivity as well as via real examples within the MOOC. This can also be fostered with links to additional real life materials and additional pedagogical materials (cf. Beutner 2020, 5). Thus the MOOCs afford opportunities for participatory grassroots up databases of Science with and for Society.

The specific focus of MOOCs should be on the processes and practices of learning and teaching and not so much on technical issues. According to Beutner 2020 the structure of the MOOC and its content, providing feedback opportunities, and adequate addressing of different target groups are much more important and often

go hand in hand with content development and the use of Open Educational Resources (OER). Within a SwafS knowledge base approach there will also be the crucial element of evaluating the MOOC as tool, the learning and knowledge exchange processes provided by the MOOC, and the project aims and objectives. A basis for such an Evaluation are the approaches of Scriven (2007) with his distinction of summative, formative and ascriptive evaluation which is the evaluation of the evaluation process (see as well Beutner 2018, 120 ff, Dewey, 1909.)

Michael Scriven consequently stated: "Evaluation is the process of determining merit, worth, or significance; an evaluation is a product of that process. Professional evaluation is evaluation done in a systematic and objective way with a degree of expertise that requires extensive specific training or learning (Scriven 2007). In addition to the Scriven approach also elements of other qualitative and use-oriented evaluations are taken into account. These are approaches like the responsive evaluation of Stake (Stake 1975) and constructivist evaluation of Guba / Lincoln (Guba/Lincoln 1989), the levels of evaluation according to Kirkpatrick (Kirkpatrick 1959a, 1959b, 1959c, 1960a, 1960b) as well as the new Context -Input - Process - Product (CIPP) model of Stuffelbeam (Stuffelbeam 2004). Designing the knowledge base and the evaluation process will include a focus on blind spots of research and innovation. People's needs and concerns have to be taken into account, as well as scientific uncertainty, means of measuring the integration of MoRRI in science and innovation, and the gender dimension in research content. MOOCs can foster understanding the co-evolution of science and society. Moreover they use of MOOCs within the knowledge base supports anticipatory policy making and a transition to open science. Here also the already mentioned open educational resources may help to work on the changes in the relationships between science and society.

Open Educational resources

As Beutner found in 2020 OER - open educational resources are directly connected to MOOCs, elearning and this means also that they are important for aspects of MoRRI (Monitoring the Evolution and Benefits of Responsible Research and Innovation) and the provision of knowledge within the knowledge base for SwafS.

Open educational resources (OER) are useful for teaching, learning, assessment and research purposes. Usually, OER are freely accessible. They are openly licensed texts, media or digital educational assets. Interest in open educational resources has been increasing both internationally and in the European educational landscape for several years. However, the different diverse interests have been changing during the years. In this way, drivers of an ideological, political and economic nature staying equally strong. In contrary, the focus on learning and teaching implementation for the purpose of designing learning and teaching environments are largely ignored.

As early as 2012, the first UNESCO World Congress on Open Educational Resources with over 400 participants was held in Paris, at which the "2012 Paris OER

Declaration" was adopted. The declaration called on UNESCO member states to promote the creation and use of OER. At the second World Conference on OER, the definition retained its existence and was not changed due to its still existing acceptance:

"OER are teaching, learning and research materials in any medium-digital or otherwise-that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions. Open licensing is built within the framework of intellectual property rights as defined by relevant international conventions to respect the authorship of work." (UNESCO 2017)

The resources usually appear under a public licence like the creative commons licences or GNU General Public license.

Typically the discussions about OER are concerning the aspects: (a) create, (b) share and (c) use (see Mc Greal 2013).

The creation processes and standards for the creation are crucial to make sure that many people are informed how to deal with OER and to make sure that they possess the needed knowledge to design OER and so to increase the number of OER available. Sharing OER is often addressed by databases, where the OER are provided to teachers and learners. But, sharing is more than storing, sharing is also finding and creating the awareness that also own materials could be provided as OER. Using OER is very common for teachers, trainers and scientists who are looking for materials and resources available and who can then use them in their own contexts. This is often accompanied by aspects of adjustments, modifications and reuse (see Mc Greal 2013).

A core issue which is not tackled so often is the quality of the created OER and the ways to ensure high quality when there is no payment for the creators and no monitoring body that provides peer review to assure the high quality of the OER. It is important that OER do not lead to wrong knowledge, a lower level of knowledge, or even use tools that radicalise. Within the German project Mapping OER (cf. http://mapping-oer.de) a team of experts stated that Quality Assurance procedures based on criteria catalogues or test procedures are considered to be useful. Beutner ran a project on the design of quality criteria for OER called EUStORE (see Beutner / Schneider 2015, see Beutner Schneider 2016 and Beutner 2016). Within this approach the OER are rated by experts on an online platform using the categories:

- Rights and duties
- Technical Support
- Aims and focus of the OER
- Organisational Information
- Materials

- Usability
- Content
- Media
- Target Groups
- Sustainability and Sponsoring
- Community (Beutner 2015)

Such OER and quality criteria have to be enhanced in the future to be used within the knowledge base of SwafS. High quality and free public access are important aspects to make the transfer of knowledge between the helixes and especially between science and the public much easier and more effective.

Methodology

This project delivers on the objectives because it enhances access to the open access Bottom up SwafS knowledge base and provides social actors with the skills for participation with and co-creation of the Bottom up SwafS knowledge base. This is achieved through the methodology using the tool kit, MOOC and systematic training to use the Bottom up SwafS knowledge base mapped to MoRRi. Progress is measured against the scaleable incremental ABCDE rubric (Diagram 1) using Assessment for Personal and Social Learning (Diagram 2) to Empower Young Societal Innovators for Equity and Renewal mapped to the MoRRi and the Sustainable Development Goals. Each of the 12 workshops of the Open Educational Resource Massive Online Open Access Course (MOOC) maps to each of the 12 chapters of the Handbook that accompanies the EYSIER Charter Mark MOOC and Toolkit; Taysum, A. (2019) Education Policy as a Road Map for Achieving the Sustainable Development Goals. Scarborough: Emerald:

Chapter 1 Sustainable Development Goal 4 Quality Education, Inclusion and the Philosophies of Trust

Chapter 2 The Policy Context: Challenging the Crisis of Contemporary Culture and Popularism with ABCDE to Achieve SDG 4 23

Chapter 3 Assessment for Personal and Social Learning: A Deweyan Perspective for Education and Inclusion

Chapter 4 Creating Democratic Identities for a Social Contract

Chapter 5 Replacing the Hierarchical Master in a Social Contract with Autonomous Citizens Actively Participating within the Force of the Common Whole

Chapter 6 Educational Leaders Using ABCDE to Explore Human Behaviours in Social Contracts in Relation to Embedded and

Disembedded Economies

Chapter 7 Groundwork Case Study of Universities' Building Capacity for Education, Inclusion and Philosophies of Trust through Doctoral Study: The Literature and Methodologies

Chapter 8 Case Studies of Higher Education Building Capacity for Education, Inclusion, Identity and Philosophies of Trust through the Doctorate: The Findings

Chapter 9 A Masters 'Level 7 EQF' Training Course to Deliver ABCDE through APSL to EYSIER

Chapter 10 Step-by-Step Application of a Blueprint for Character Development for Evolution (ABCDE) and a Framework for Assessment for Learning and Progress towards Sustainable Development Goals

Chapter 11 To Rationalise a Priori or Not to Rationalise a Priori: Is That an Empirical Question?

Chapter 12 Conclusions to Education Policy as a Road Map for Achieving the Sustainable Development Goals

The target audience for engaging with the EYSIER Charter Mark MOOC and toolkit to achieve an EYSIER Charter Mark Award at Gold, Silver, or Bronze level, are leaders of organisations of the quadruple helix who work with organisational structures to train staff to meet the EYSIER Charter Mark Award criteria using open access participatory data bases with clear peer review guidelines. Each kind of organisation from the quadruple helix identifies the professional challenge they want to ask questions about from their strategic plan (Beutner, 2020, Taysum, 2019). Each organisation within the subgroups of the quadruple helix, has connections to University Faculties that are professional and/or disciplinary. These connections aim to focus on optimising the delivery of organisations' strategic plans efficiently and effectively by accessing and mobilising innovative knowledge created in the University as a hub of knowledge generation for and with society. Thus the MOOC delivers on the objectives of this project as a hybrid of University knowledge xMOOCs and the creation of new knowledge with cMOOCs that build good bridges between the University and the subgroups of the quadruple helix. The thinking tools, MOOC and handbook successfully propel and amplify the impact and reach of innovative knowledge within University faculties and shared in the quadruple helix through new partnerships created by the MOOCs networks to optimise delivery of states' strategic plans, and the participatory candidates/organisation of the MOOC. The University assures the safeguarding of an ethical social contract with and for society by mainstreaming Science With and For Society that is subject to ethical approval processes and practices within all regulatory Ethical Review Boards which helps focus on exploring the Prime Principles (Kant, 1785) of any theories of change that emerge from applying

ABCDE with APSL to EYSIER (Taysum, 2019). Therefore this project seeks to mobilise the SwafS within Universities, between Universities and between Universities and the subgroups of the quadruple helix in new partnerships. These new partnerships that are kind to people and planet focus on engendering peace and prosperity by meeting the ET2020 four strategic objectives: Making lifelong learning and mobility a reality; Improving the quality and efficiency of education and training;; Promoting equity, social cohesion and active citizenship; Enhancing creativity and innovation, including entrepreneurship, at all levels of education and training. Achieving these map to working towards, and meeting the targets of the 17 Sustainable Development Goals Targets (United Nations, 2016) using MoRRi.

First leaders across all sectors of the quadruple helix will be trained by the consortium including award winners from Science and Business. The training operationalised through the proposal's methodology empowers leaders to build open access bottom up SwafS knowledge bases with the leadership and management teams, their middle management and their staff. The teams engagement with the data to monitor and evaluate progress against the strategic plan are mobilised by the consortium's platform using technologies that cross geographical, intellectual, cultural and economic boundaries. Groundwork case studies to emerge from successful submissions of a Bronze, Silver or Gold EYSIER Charter Mark Award will demonstrate alignment between commercial/learning goals and Sustainable Development Goals. These are then published in the EYSIER Character Mark Award repository of Groundwork Case studies and Moral Principles Open Access Data Base. Those wishing to, may submit their Groundwork case studies for consideration for publication in the Open Access International Peer Reviewed Journal of Groundwork Case studies and Moral Principles (GCMP) to optimise impact and reach of the interactions with the bottom up SwafS knowledge base.

All successful ground work case studies map to the MoRRi and empower Small and Medium enterprises and public service professions to engage with large benchmarking data sets such as the SDGs data sets repository for delivering the 17 SDGs targets aligned to the commercial/learning and teaching/main strategic goals of the organisation.

The methodology includes participants' engagement with the synthesis of implicit knowledge with explicit knowledge, personal knowledge with social knowledge and traditional knowledge with innovative knowledge, new technologies and/or knowledge from previously marginalised groups (see 8 lines of action) and faith and reason (Pring, 2020).

The EYSIER Charter Mark Award (see alisontaysum.com and Taysum's EYSIER MOOC and Charter app on Itunes and GooglePlay) focuses on optimising young people developing the competences of ABCDE using APSL to progress through the incremental ABCDE framework. Citizens develop philosophies, psychologies and

ethics of trust to be able trust themselves and others and discern good from bad at all levels of interaction of the SwafS knowledge base personally and socially.

Strategy

The life of the project is 3 years and self sustaining thereafter;

Year 1 Each Consortium trains the leaders of organisations from the quadruple helix to meet the SwafS 31 objectives and outcomes, and to certify them as Associates to deliver SwafS 31 objectives. This is measured with a basket of indicators verified with 10 successful EYSIER Charter Mark Awards at Bronze, Silver or Gold per consortium member.

Year 2 Each Consortium trains and supports the successful EYSIER Charter Mark Award winners who successfully submit applications that meet threshold levels to train their first 10 leaders of organisations from the quadruple helix to meet the SwafS 31 objectives and outcomes, and to certify them as Associates to deliver SwafS 31 objectives. This is measured with a basket of indicators verified with 100 successful EYSIER Charter Mark Awards at Bronze, Silver or Gold per consortium member.

Year 3 Each Consortium trains and supports the successful EYSIER Charter Mark Award winners who successfully submit applications that meet threshold levels to be accepted to train* to be certified and mentored to train their first 10 leaders of organisations from the quadruple helix to meet the SwafS 31 objectives and outcomes, and to certify them as Associates to deliver SwafS 31 objectives. This is measured with a basket of indicators verified with 100 successful EYSIER Charter Mark Awards at Bronze, Silver or Gold per consortium member. The income generation makes the project financially self-sustaining with opportunities to offer a percentage of the surpluses as bursaries to organisations in nation states that are not cash rich to support their participation with the EYSIER Charter Mark Award.

Impact

Interactions with the SwafS knowledge bases empowers citizens to have a calm confidence that the pen is mightier than the sword. This is important for building psychologies, philosophies and ethics of trust that empower citizens to become self-regulating. The methods in this proposal using ABCDE with APSL train OA SwafS knowledge consumers how to command scientific argumentation as a tool in negotiation. Interactions with SwafS knowledge bases engenders faith in scientific principles of searching for truth, being inclusive, being critical and committed to generating new knowledge. These principles underpin mitigation processes where citizens as trained consumers of SwafS knowledge have a scientific disposition and belief their voices will be heard and respected when their beliefs and principles do no harm to the self or the other. This is part of the social contract in E of ABCDE when citizens mobilise their knowledge as consumers of scientific research to do their duty and take responsibility for their intentions and acts. This is summarised in Table 1

ABCDE Incremental Framework with 'Impact of Progress' and 'Measure of Impact of Progress' mapped to Competences of European Qualifications Framework (European Commission, 2020)

Table 1 ABCDE Incremental Framework with 'Impact of Progress' and 'Measure of Impact of Progress' mapped to Competences of European Qualifications Framework (European Commission, 2020)

Action	Impact of Progress	Measure of Impact of Progress	Competency European Qualifications Framework (EQF)
Stage A Community members start to develop their sense making from observations to their beliefs by asking questions	Communities will be able to define problems with clarity and ask good questions. This change is a first step to recognising fake news, and trustworthy news Mapped to the EYSIER Charter Mark Award to validate successful delivery of the objectives of this SwafS 31 proposal.	Communities demonstrate nuanced robust and discerning ability to identify a professional challenge, and the constructs within it, develop objectives to deliver new solutions to old problems and develop sharply focused research questions that address the objectives and the professional challenge, such that the questions contain half the answer.	Level 1 of the EQF Competences 'Basic skills required to carry out simple tasks
Stage B Competency to interrogate the best that has been thought and said about the constructs of the questions.	Communities will be able to engage with knowledge bases that allow the synthsis between personal implicit knowledge and external scientific knowledge using Assessment for Personal and Social Learning (APSL). By using APSL at Stage B citizens have a toolkit to engage with Science with and for Society in new partnerships between science and society by i) examining the constructs in the questions that map back to their objectives and particular challenge/problem, ii) identifying where the gaps in their knowledge are, ill) recognising different kinds of knowledge such as logical, empirical and/or ethical that they need to fill their gap in their knowledge and iv) to reflect on why these gaps exist	Communities demonstrate nuanced robust and discerning constructive critique of different world views in the bottom up SwafS knowledge base verified by successful submission of a grounded case study mapped to the incremental ABCDE with APSL and MoRRi that achieves an EYSIER Charter Mark Award.	Level 2 of the EQF Competences 'Basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools'

	in relation to their access to the knowledge bases,		
Stage C Competency to design and implement methods that are robust with high quality dimensions that yield baseline data and impact data	Communities will know how to collect data and mobilise it to co-create evidence informed, logical and ethical impact strategies that are culturally relevant to their educational organisation. Communities build interdependent and interconnected indusionary partnerships and communities of practice for the cultivation of impact strategies in their bottom up interactions with the SwafS knowledge base. This develops cultural alignment for equity which correlates with developing psychologies, philosophies and ethics of trust. Mapped to EYSIER Charter Mark Award basket of indicators at Bronze, Silver or Gold (MoRRi and SDG KPIs).	Communities demonstrate nuanced robust and discerning constructive critique of different world views in each of the partner institutions verified by tolerance for others supported by the HEIs delivered through the work packages.	Level 3 of the EQF Competences 'A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information'.

Stage D Competency to develop hypotheses from data that can be tested for proof of concept	Hypotheses are verified by indicators of progress with targets for an evolving post-racial community and evolving gender relationships that the community members set for themselves and regulate. Their communities are characterised by tolerance and understanding for those of different faiths and none, race, ethnicity, and citizenship status including refugees. Mapped to EYSIER Charter Mark Award basket of indicators at Bronze, Silver or Gold (MoRRi and SDG KPIs).	Communities will have benchmarked clear and transparent ways to resolve conflict in a supportive climate that does not disempower community members to make them fearful and more compliant with confusing systems. Any unresolved conflict Is reported to the Senior Leader of the Education Governance System who investigates and reports to the Governing Body and Parents' Teachers' Association who escalates to authorities if the conflict is not resolved.	evel 4 of the EQF Competences 'A range of cognitive and practical skills required to generate solutionsto specific problems in a field of work or study'.
Stage E Competency to extrapolate prime principles from hypotheses with proof of concept, from this point they can develop the competency to apply ABCDE in the Quadruple Helix to achieve ET2020 four Strategic objectives and SDG 4.7 which Empowers Young Societal Innovators for Equity and Renewal (EYSIER) to achieve all SDGs and build	The multiplier effect will be made possible by disseminating the results with policy makers, the Ministry of Education who will be attracted to mainstream the objectives, methodologies, results based on the evaluation through measures of indicators of progress and impact validated by the EYSIER Charter Mark Awards achieved. The capacity will also be built by an ambitious dissemination programme that will include social media with a reach in excess of 500,000, conferences electronic part of the civic society of the quadruple helix. Reach, and impact on interactions with bottom up OA SwafS knowledge base. Building effective co-operation between science and society by training leaders of the four spheres of the quadruple helix to use a toolkit mapped to the MoRRi that optimises delivery of their organisation's strategic plan through interactions with open access Bottom up SwafS	Policy makers mainstream ABCDE. The evaluation is benchmarked to a basket of indicators in the EYSIER Charter Mark rubric mapped to the incremental ABCDE with APSL and MoRRi to foster the recruitment of new talent for science using this proposal's methodology that delivers interactions with a bottom up SwafS knowledge base that build scientific groups for all in STEM, the Social Sciences and Arts and Humanities. As consumers of bottom up OA SwafS knowledge bases the methods will pair scientific excellence with social awareness and responsibility raising awareness of what to do to interact with the 8 lines of action, how to do this using the methodology of this RiA and why these intentions and acts are of personal and social benefit to amplify the main SwafS' objectives. This particularly focuses on developing calm climates that empower marginalised groups with scientific knowledge and dispositions for scientific deliberation to navigate turbulence	Level 5 of the EQF Competences 'A comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems'.

psychologies, philosophies and ethics of trust in bottom up Swaf S Knowledge Bases	knowledge bases. Mapped to EYSIER Charter Mark Award basket of indicators at Bronze, Silver or Gold (MoRRi and SDG KPIs)	and build self regulation of reactions to injustice such as bullying. The workshops from the MOOC will also be provided for policy makers who have the power to propel the multiplier effect and mainstream the results of the project through policy.	

F. Competency to apply ABODE in the Quadruple Helix to achieve ET2020 four Strategic objectives and SDG 4.7 which Empowers Young Societal Innovators for Equity and Renewal (EYSIER) to achieve all SDGs.	Ability to Provide ABODE with APSL to EYSIER with successful cohorts meeting ABODE with APSL Impact of Progress, KPIs, and successfully gaining EYSIER Charter Mark Award	Ability to evaluate the evaluation tool ABCDE with APSL to EYSIER	Level 6 of the EQF Competences 'Advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study'.
G. Competency to train teachers and teacher leaders to implement ABODE and develop leadership to build capacity with policy makers in the quadruple helix to mainstream ABODE with APSL to EYSIER	Ability to train providers of ABCDE with APSL to EYSIER with successful cohorts meeting ABCDE with APSL Impact of Progress, KPIs, and successfully gaining EYSIER Charter Mark Award	Ability to train evaluators of the evaluation tool ABCDE with APSL to EYSIER	Level 7 of the EQF Competences 'Specialised problemsolving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields.

H. Competency to teach the leaders to implement ABCDE with APSL to EYSIER	Ability to safeguard the empirical, logical, moral and ethical purpose of implementing ABCDE with APSL to EYSIER	Ability to safeguard the continuous evaluation of the evaluation tool ABCDE with APSL to EYSIER, particularly at the interface where traditional knowledge meets new technologies that reveal new professional challenges that can propel or otherwise, human evolution in meeting the targets of the SDGs.	Level 8 of the EQF Competences 'The most advanced and specialised skills and techniques, including synthesis and evaluation, required to solve critical problems in research and/or innovation and to extend and redefine existing knowledge or professional practice'.

The proposal focuses on evolving gender relationships as core to building equity and trust in bottom up OA SwafS knowledge base with the school as a hub and the Consortium's HEIs as a broker of the bottom up OA SwafS knowledge bases across faculties and the quadruple helix.

Community members will mobilise their knowledge skills and experience gained from the project to plan and implement full participation in the bottom up OA SwafS knowledge base to mainstream wider knowledge in the wider societal across the quadruple helix.

Community members can gain the thinking tools to make good decisions about the quality dimensions of the research they consume. They can readily transfer these skills to hold states people accountable for building infrastructure and effective co-operation between science and society that fosters the recruitment of new talent for science that pairs scientific excellence with social awareness and responsibility.

The ambition is to build effective co-operation between science and society by training leaders of the four spheres of the quadruple helix to use a toolkit mapped to the MoRRi that optimises delivery of their organisation's strategic plan through interactions with open access Bottom up SwafS knowledge bases.

Further, to foster the recruitment of new talent for science using a toolkit that delivers interactions with a bottom up SwafS knowledge base that builds scientific groups for all in STEM, the Social Sciences and Arts and Humanities.

Finally to pair scientific excellence with social awareness and responsibility raising awareness of what to do to interact with the 8 lines of action, how to do this using the methodology of this RiA and why these intentions and acts are of personal and social benefit and amplify the main SwafS' objectives.

An initial pilot of this study is reported in the Italian Journal of Sociology of Education (Taysum et al, 2020) and in the International Journal of Leadership in Education. For example Arar and Taysum (2020) found that a distinctive mark of distributed leadership using whole school inquiry led inter-cultural change. The change facilitated knowledge exchange, mobilisation, and dissemination activities that Empowered staff and young people to become Societal Innovators for Equity and Renewal which improved student outcomes between - 17% and 27% The research reveals that distributed leadership, sharing aims, themes and methods through whole school inquiry developed new inter-cultural understandings. It built respect, trust, and local research priorities and practices in communities of diverse race, ethnicity, culture, and religions, for both citizens and refugees. Members of diverse communities were able to hold each other to account, and became more autonomous in their plans for the future in coping with gaps in status in both studied contexts.

Conclusions

This paper presents a boundary crossing pilot study that addresses the professional challenge that civic society has a deep mistrust of scientific evidence, experts, and psychologies, philosophies and ethics of trust. At the same time, in the recovery from Covid 19 disruption, it is scientific data and its means of production, exchange, transmission and feedback from diverse contexts that will optimise a successful recovery. A successful recovery aligns commercial, cultural, political and sustainable goals in diverse contexts that respects diverse ways of knowing and being in a new social contract. The paper addresses the professional challenge with Empowering Young Societal Innovators for Equity and Renewal Charter Mark from Education Policy as A Road Map to Achieving the Sustainable Development Goals (Taysum, 2019) with Beutner (2020) use of MOOCs for leaders to deliver their organisation's strategic plan. Citizens from the quadruple helix; Universities, Industry, Governance Systems and Citizens and Social Media achieve this by meeting the Intended Learning Outcomes of curriculums in examinations that map to competences in the labour market. The competences provide ways of thinking and doing for problem solving, in a recovery context, that meet Organisation's Strategic Objectives. Meeting the competences from the European Qualifications Framework are mapped to A Blueprint for Character Development for Evolution (ABCDE) using Assessment for Personal and Social Learning (APSL) and MoRRi demonstrates that they can:

explicitly participate with intention and acts in an ethical social contract between citizens, the economy, the government and independent legislator drawing on Bottom up SwafS knowledge bases;

explicitly articulate how and in what ways participation with a social contract engenders inclusionary regimes of social justice and the precautionary principle for all;

build effective co-operation between science and society with leaders of the four spheres of the quadruple helix;

interact with open access Bottom up SwafS knowledge bases that foster recruitment of new talent for scientific careers in STEM, the Social Sciences and Arts and Humanities by pairing scientific excellence with social awareness, responsibility and eliminating intersectionalities of discrimination (gender, race, protected characteristics of Equality Act of 2010).

Our consortium's support of organisations preparing their EYSIER Charter Mark Award will engender research excellence using the EYSIER Charter Mark Toolkit and MOOC. Gaps in relation to people's needs and concerns are revealed in Stage A of ABCDE Level 1 Competence of the European Qualifications Framework (EQF) to ask good questions is developed. At Stage B of ABCDE Level 2 Competence of the EQF to access the Open Access bottom up SwafS knowledge base to engage and participate with the best that has been thought and said from the SwafS knowledge bases is developed. They will use the Open Access bottom up SwafS knowledge bases to synthesise their implicit personal knowledge and beliefs with explicit social knowledge. This can be done at Macro level (international level) for example Governance Systems, the SDGs databases, large international organisations, The Meso level at national level for example national governance systems, and micro level for example at regional levels and Small and Medium Enterprises. At stage C of ABCDE, Level 3 Competence of the EQF to create and implement robust and quality methodologies to assure the quality dimensions of the research to collect and analyse trustworthy and valid data is developed. At Stage D of ABCDE, Level 4 Competence of the EQF they will present evidence informed, logic and ethical theories of change that align commercial interests with humanitarian evolutionary interests and sustainable development interests and test hypotheses for proof of concept. At Stage E of ABCDE Level 5 Competence of the EQF they will be able to discern good from bad and identify prime moral principles. At this stage the implications of deep changes in science and innovation will be bridged to optimise impact in the quadruple helix through interactions with society, the economy for commercial, evolutionary and sustainable benefit. For example the transition to open science and open innovation are revealed. Stage F, Level 6 Competence of the EQF demonstrates Mastery in the successful implementation of ABCDE in the social helix. Stage G is a Level 7 Competence of the EQF demonstrating specialisation and Stage H is a Level 8 Competence of the EQF demonstrating expert, trainer of leaders and gate-keeper of the field.

All resultant changes in the relationships between science and society can be Assessed for Personal and Social Learning and the movement of knowledge up and down the communication lines mapped to ABCDE, MoRRi and the International, and National targets of the Sustainable Development Goals that realistically align commercial, cultural, and political goals of diverse organisations in an inclusionary, just, prudent yet risk taking quadruple helix that respects diverse cultural heritages and all faiths and none. These meet organisations' strategies and mission statements that socialise risks, investment and rewards in the quadruple helix logically, ethically and using the bottom up OA SwafS evidence base demonstrating social benefit.

ABCDE is an incremental rubric that organisation members, including students, can map their developing personal and social narrative capital against in their transition from immature to mature self-governing autonomous citizens in becoming and is therefore of personal benefit. Thus, at E of ABCDE, citizens can explicitly understand their duties and rights that do no harm to the self or other, in a new social contract they could have written themselves. This agrees with Kant (1785) who identifies this is a/the prime moral principle and optimises alignment of commercial interests, humanitarian evolutionary interests, inclusionary interests, and interests of social justice, prudence and risk taking in the amplification of ethical entrepreneurial economies with and for all the people.

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The Contemporary Vision of Universal Strategic Planning for Facing (COVID-19) Crisis in the Field of Higher Education Via Virtual Learning & Training

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Abstract

This is an analytical study for Global Education vision (2030 -2020) of The contemporary vision of Global strategic plan for facing (covid-19)or the renew corona disease crisis via virtual learning & training for higher education. The research builds in the virtual university configuring its concept and how could it simulate the environments of reality ,and its tools with a new contemporary vision for facing (covid-19) crisis via Global strategic plan of virtual learning & training for higher education, and deals with virtual reality as an effective way to simulate reality whatever the circumstances and difficulties in the environment of university, through which it can be configured for different environments tell the reality of an individual can't be accessed or coexistence with them. For example, the environment of space can't be educated to student in the university environment to live by realistic, and here comes the role of virtual reality in an environment similar to the environment of space and enables the student to interact with it as if in the real environment.

Keywords: the contemporary vision (2020-2030), universal strategic plan, (Covid-19) crisis, higher education, virtual learning, virtual training

Introduction

The research plan

The importance of research

The research has clear global strategy plan **for facing (covid-19) or the renew corona disease crisis** with both virtual education and training, where e-training will revolutionize the training sooner or later, whether we like it or not, and this fact that will certainly happen in every classroom in all the world. The electronic training will be the next generation in the visual training assistance. It will grow to become the largest of advanced wireless Communications programs. This research also deals

with the most important benefits of virtual education and what distinguishes it from traditional education.

The aim of research

This research introduces a contemporary vision of universal strategic plan for facing (COVID-19) or the renew corona disease crisis in the field of higher education via virtual learning & training.

This is An analytical study for Global Education vision 2020 - 2030**)**.The research has clear global strategy plan with its steps and terminology **for facing (covid-19) crisis** to overcome the obstacles of the impossibility of the presence of both the teacher and the student in one place. So it comes the role of both virtual education and training, where e-training will revolutionize the training sooner or later, whether we like it or not, and this fact that will certain happen in every classroom in all the world. Both are methods of education technology.

This research also deals with the most advanced education technology, as: hologram and virtual& argument reality and what distinguishes these educational technology tools from traditional education. **So this strategy plan isn't only introduce a solution for the immerging case of (COVID-19) or the renew corona disease but also it push the education process to get progress and developed with the rapid development of virtual technology which become used in different fields and to simulate these fields' environments virtually as realistic in the education process.**

The research problem this research and the challenges faced by virtual Education

The difficulty & resistance of teachers 'accepting deals with technical and educational change in the university education level

The legal, administrative and technical barriers.as Students' resistance actively takes responsibility for the learning process, Legal, administrative and technical challenges

The resistance of students to work without a "teacher" in front of them. It is necessary to recognize that, most of our students generally have become lazier. There are many factors that play an important role, like:

1. Lack of motivation of teachers to know turns, and moves to students.
2. The absence of social idealism made from the study effort a lofty goal
3. Cultural work faces mental resistance.
4. All of this must take in consideration the methodology.
5. When the student notes that he must move from its negative position, preferred to start a protest, and attacks: the teacher, the classroom, and even

the school or university, telling everyone that he will leave the educational institution. This feature exists mainly in the private sector, and in the face of an economic crisis, forcing some institutions to surrender in their efforts to promote the knowledge of the assets of active education, without realizing the damage, and without seeing the results of the community, who will receive a graduate of the University isn't qualified by itself. For this particular case, the policy requires the promotion of the assets of the active education for the first semester, because it is necessary to start the entire process of adjustment that replaces the assets of the passive former science to active pedagogy science that promotes a passion for knowledge and isn't boring to learn.

Time limits:

The near future (one decade=10years) of the period2020-2030

Spatial borders:

The Arab Republic of Egypt in all governmental, private and international universities& universal universities, as: American & European universities especially Cambridge universities.

Introduction computer simulations is used in educational purposes for many years - even before small computers, and then in the late of seventies and eighties this kind of simulation becomes common in classrooms and laboratories computer in Western countries, it ranged in complexity from simple simulation to play a coin in order to learn the binary possibilities distribution. for example, the creation of (ecosystem)-shaped lake in which a various animal organisms interacts, and these types of simulation were introduced textually or digitally, while the development of hardware and its potentials, the programs have been developed to introduce pictorial output.

If we accept that the three-dimensional drawing and based on the screen is a form of virtual reality, it can be said that the virtual reality has been used for a period in education, and one of examples can be seen in the work of (Veronica Pantelidis) And (Lawrence Auld) , who are the co-directors of the virtual reality education laboratory(VREL), in the East of Carolina University, in which a package of programs ,called Virtues VR are been used by primary school children to form the inner parts of a room or building, including using the design of walls, doors, windows, furniture and then put it in the right place in the building based on the screenbased Construction, and this activity aims to improve children's abilities to imagine the space and the

three-dimensional place, providing fun, and give the meaning for children understanding while they were learning.

"Another example of the current use of virtual reality in education is found in Jason Project by which school children can be tested both exist in the 'Tele-presence' (which refers to the sense of presence in another place than the real place where the person is existed in it) and 'Teleoperation 'which means the tool control in operations remotely). this program has been designed, which is supervised by the USA space agency (NASA), and began in 1989, to create excitement and motivation of children to study science, mathematics, and technology, that allows children to control by the presence in 'Tele-operation 'of vehicle under water (TROV) , exploring the ocean depths, while they are watching the results of their work in the Real-Time Results on large video screens.

There is also an increase in the number of uses of the virtual reality in higher education, for examples include Learning Sites Project, which works through a team of archaeologists and experts in virtual reality, and three-dimensional models, for the instruction of graphics and audio databases, through which users explore a number of archaeological sites (in Turkey and Egypt, for example), they allow him interaction with the virtual versions of the sites that have been created with accurate translation of recorded data about the real sites, and how to report this interaction, for example; If a user gets the attention to a dark corner of the site existing in the virtual environment, he can focus on this area and explores it with greater details.

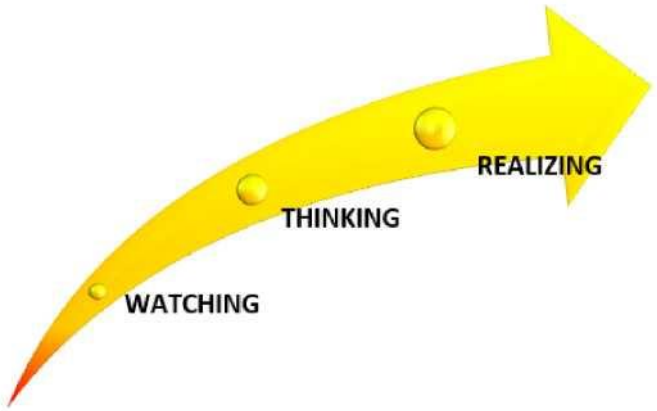
Before analyzing this contemporary vision of strategy plan .we should study the education process . We mean here the integration interactive relationship between professor and his students virtually or presently which contained from university - faculties or colleges- specialization departments- education staff - students - administrative& artificial corps - university study contents)

So there is three kinds of students in the education process ,including: the visual student, the listening student, and the visual & listening student . They are in the education process has three terminologies.

The visual student in the education process are watching, thinking, and realizing

The listening student in the education process are watching, thinking, and realizing

The visual & listening l student in the education process are watching, thinking, and realizing.



This strategy plan with its steps and terminology **for facing (covid-19) crisis** to overcome the obstacles of the impossibility of the presence of both the teacher and the student in one place. So it comes the role of both virtual education and training, where e-training will revolutionize the training sooner or later, whether we like it or not, and this fact that will certain happen in every classroom in all the world. Both are methods of education technology. **This is contemporary vision introduced three new concepts related with the virtual education process via both E-Learning and E- Training .those concepts are E-Professor, E-Student, and E-Virtual Education Platform.**

A graph describes the role of E- Professor between both E-Learning & E-Training Processes

In this strategy we use the electronic learning & training both side by side to get the integration of the education process. Indeed we didn't use both e-learning & e-training only in the case that the teacher and the student aren't in one place. But also if they are in one place we can use those methods of education technology to get more interaction with the virtual environment which is generated to get full / semi /or none immersion for the student in education processes with remoting and direction of this virtual education environment via the teacher.

This research also deals with the most advanced education technology, as: hologram and virtual& argument reality and what distinguishes these educational technology tools from traditional education. **So this strategy plan isn't only introduce a solution for the immerging case of (COVID-19) or the renew corona disease but also it push the education process to get progress and developed with the rapid development of virtual technology which become used in different fields and to simulate these fields' environments virtually as realistic in the education process.**

(sherry aazlnger) confirms that virtual reality can offer the necessary tools to visualize and form abstract information to make it understanding easily. As It enriches the educational process with expertise and modern technological capabilities.Training of learners to acquire technical skills and things that are difficult to train them in reality.Submission of a virtual environment to sail through a three-dimensional space. Also It enhances hologram's photos with sensory management of depth and the vacuum dimensions .and The virtual environment achieves the safety for her user when studying serious or difficult information to obtain it in time and place.

As This is the universal strategy plan for facing (COVID-19) crisis in the field of higher education via virtual learning & training. It is analytically graphed current study Global Education vision and for the near future . it is drawn as the contemporary vision with these steps2020 - 2030),including the following steps:Installing virtual & argument & hologram Interactive dynamic university education platform

Designing and developing electronic university study content, like: E-books - E-specialization magazines and journals-PDF published papers- electronic encyclopedias - power points),which could be consider as some professors' tools

E-learning education installing for developing the process of education

E-training education installing for developing the skills of students and get integration with education process

University electronic portal

University server connected to professor's educational server for education purpose

virtual & argument & hologram Interactive dynamic educational systems with his tools ,and applications and software programs

simulating & developing virtual & argument & hologram Interactive dynamic educational video games environments

Generating &developing virtual & argument & hologram Interactive dynamic education environments' systems.

We can classify and virtual experiments and applications that have been used for education according to the following categories:

Virtual educational games

Virtual theater

Virtual lab

Virtual museum

Virtual educational environments (Virtual classrooms, training rooms, and science workshops, libraries, virtual universities, and scientific conferences)

Virtual garden.

Virtual space and aviation

Virtual factory and Virtual vocational training institutes.

Virtual Courts & virtual crimes.

Virtual medical operations

designing &developing virtual & argument & hologram Interactive dynamic education applications for mobiles and others boarder receiver devices

Designing& developing virtual & argument & hologram Interactive dynamic education software(programs)

creation & innovation developing virtual & argument & hologram Interactive dynamic education hardware(devices)

Virtual Reality Devices and tools:

Devices that are worn on the head (HMD): They are similar to the mask or helmet and they consist inside of screen or two screens small to display single views or hear influential voices (stereo) and the individual can see what is offered by the program through the mask or helmet, and he can watch the object with its three dimensions or it may be covered the full of head as he can watch and listen at the same time.

Tactile gloves: A sense of devices covering all the hand and generating an active interaction between the user and the virtual environment for the application of a sense of touch and a sense of temperature degree, for example, they have the ability to find a sense of real environmental conditions.

C) Motion Sensors (Motion Sensing): This technique is essentially a special suit worn by the actor ,and put on it white points placed them in the joints sites (such as the wrist, elbows, ankle, knee), and put these points as well as on the head and face, and the pair of video units follow-up the movements of these points (where each point configured via special software program, and there is similar points linked it with the virtual character is designed in the computer, and through the powerful computer processors and complex software, virtual character is animated with a very realistic movement using different shots which it is recorded by the real actor, this process is

known as stirring Performance Animation and In some applications it is simulated the actor's head and face movement and even his eyes and his mouth movement through a virtual character speaking.

The aim of stirring Performance Animation is achieved fast and accurate construction of the character in the virtual world, and this method has recently used in the production of many films such as: O. J. Simpson which contained stirring Performance Animation of what supposed had happened at the crime scene.

D) Multi- directions telescope (BOOM): Multi- directions telescope (BOOM) is developed by Fake space. it is consist of screens, and projector system combined in a box jointed with multiconnections 'arm, and when the user look through the slots in the box, he can see the virtual world, and he can direct the box in any direction that the existing processing capacity in the tool is allowing it, and the process of following the head's movement track via Sensors in the arm's connections that hold the box.

E) The Automatic Virtual Environment CAVE : The Automatic Virtual Environment CAVE is developed in the Illinois University of American Chicago State, which gives inspiration of immersion via displaying stereoscopic images on the walls and a cube land fitted the size of a room, and a number of people who wear stereoscopic glasses can enter and goal freely inside the cave, and The tracking system of head's movements is continuously adjust the stereoscopic display process according to the position where the Advanced beholder looks at it.

F) Assistive devices :Assistive devices vary in the virtual reality, For example: control rod, mouse and keyboard. In general, the input devices for virtual reality programs are continuously developing. As it appear recently in the markets Assistive devices, such as: track ball, tri-dimensional control stick, movement stick and the butt head, etc., and all are Assistive devices for virtual reality applications.

E) The computer system:There is no doubt that the virtual reality is mainly depends on the computer device, but (to reach to the full sense of virtual reality as the reality, it must be a high specification computer system is generated geometric shapes in a distinctive way which describes the data and information technically and wonderfully similar to virtual reality.

G) Nano Manipulator device or nanometer processor (Nano Manipulator(: Nano Manipulator includes a pointing machine looks like a driving cars' stick, this machine conducts to a personal computer provided with very advanced graph card, it convert the microscope data for exposure in the form of a three-dimensional image of multiple colors, this sensor enables scientists to touch and feel the sights of small things that they examine it .and scientists have felt with the small edges and gaps existed in the protein molecules, and viscosity of some types of pathogenic bacteria.

The most advanced version of Nano Manipulator is in the Department of Physics at the North Carolina University at "Chapel Hill". And for the severe importance of this

device in many researches of researchers at other institutions, the researchers of computer science at the North Carolina University made a study to make this device accessible to everyone. And "Kevin Gievaa" ,professor of computer science tried to use the second generation technology of the Internet, which his success will lead to using it for allowing researchers to send samples and checked it remotely using the Internet. This researcher has already been doing practical expert through examining a sample in University the capital Washington, 270 miles from the place of examination at the North Carolina University, but this expert had some problems.

H) Virtual worlds, for example (Second Life world):Internet is also one of virtual reality tools, via multiple ways, one of these methods is the virtual world, and the Second Life is an example of the virtual world. And (Second Life is a virtual game, it required a fast internet connection and a PC with high specifications to be able to run, her idea spins about making a virtual character for you and then enter a virtual world that resembles the world in which we live, you can walk around there freely, and build many friendships, you can chat Using text, audio and even video, as you can buy your own house, or start trading there, through this world currency called Lidden ..).And some of the players spend between 4 to 10 hours a day on this game and some of them feel too immersive in the game to see some of the installations and the scenes that you may see in the reality.

Installing virtual education platform provided with video hologram call &video conferences &chats with professors and students or with each other

Video conference between the professor & his students or between professors with each other or with experts and also between students with each other or with experts

Generated hologram objects for education purposes

Generating virtual reality education environments & Simulation the real environments used for education purposes.

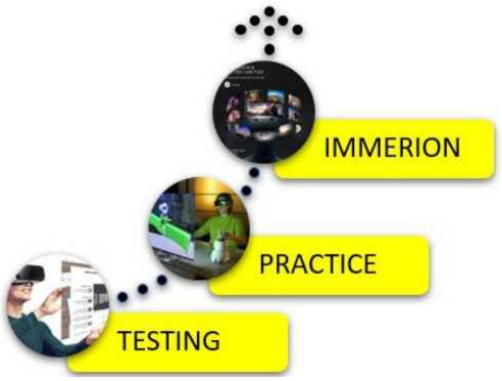
These environments provide with three points including : immersion, practice ,test. And **this is the Standards of good virtual reality environment.**

Abdul Hamid (2003) Said that we really live in an imaginary world, many events around us are imaginary.

Cinema, theater, drama and databases, even mental images composed in the memory, also it has been imaginary, but we don't consider all of that imaginary virtual reality environments, because virtual reality environments should be provided by the following characteristics & considerations:

Honestly simulated: where you must represent and simulate the real virtual reality environment actually honest representation & simulation.

Interactive Immersion & integration. As the teacher doesn't interact with the virtual reality from the outside, but he indulges in it and become integrated and completed part of it.

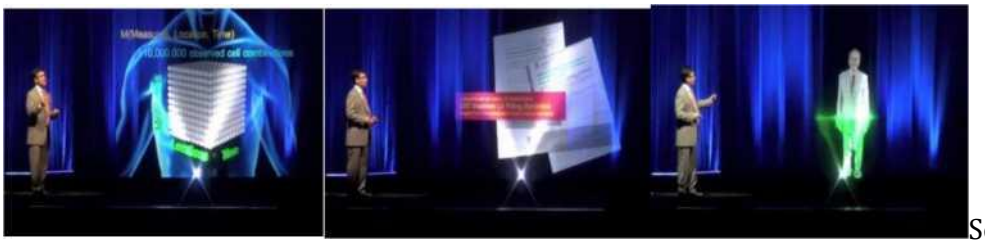


The embodiment of personal Avatar: it is an animated puppet generated by computer, represented the user inside the virtual reality environment, and embodies the idea in the user person.

The disappearance of the interaction interface within the environment: because the user doesn't interact with the environment from the outside, but he is an integrated part of it, so there is no need for him to the external interaction interface, where it disappears within the environment itself, so that the user interacts directly with the virtual reality in the moment.

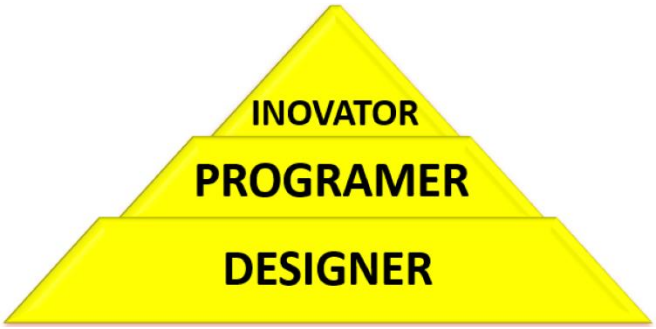
3D & Hologram Power point

Dr. Sengupta - The Winner in Contributors Competitions of Arther . Ai .Wiman For Youth Organized By echocardiography Association Introduced 3d Power Point for the First Time with hologram communication call ,and Images Up To 8 Ft High in 2013

 Several Images Up To 8 Ft High for Dr.Sengupta Introduced 3d Power Point for the First Time

And making hologram communication call, in 2013

The golden pyramid- as the researcher caller this name on it-for installing virtual university education platform depending on three integrated elements in their role they are the innovator, programmer, and designer.



A graph of the golden pyramid- as the researcher called this name on it-for installing virtual university education platform depending on three integrated elements in they role .they are the innovator,programmer,and designer

The Concept of Virtual University

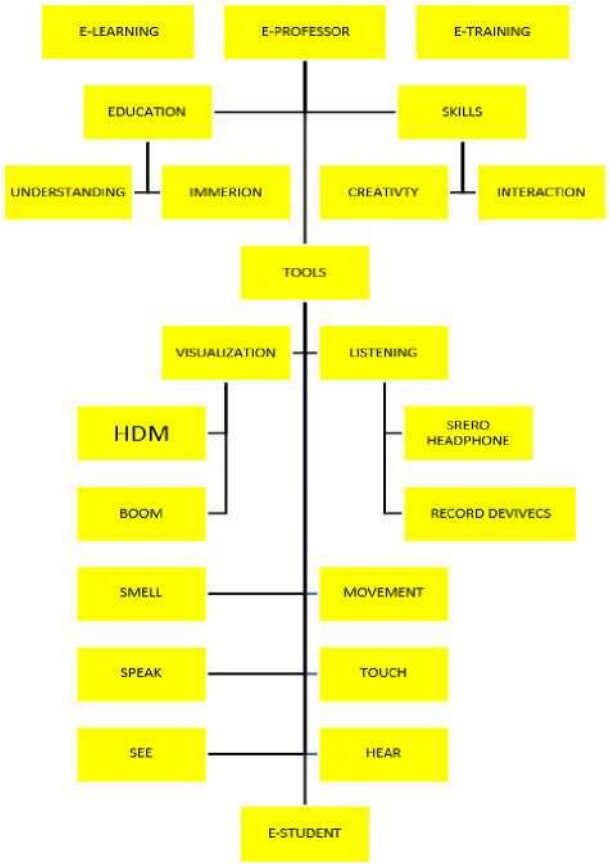
Virtual University can be defined procedurally traditional school in the presence of teachers, students and administrative & educational corps, but on the World Wide Web (Internet) where it isn't bound by time or place, and based on multiple global Web technologies ,like: discussion ,conferences and forums, and reading lessons, and perform the duties .. , and etc.

Virtual University is an academic institution aimed at securing the highest levels of higher education for students in their places of residence mediated by the World Wide Web through the establishment of an integrated e-learning environment based on a sophisticated network, "the first virtual integrated and accepted university has been established to provide more than 600 study material on the Internet, called the Jotr University in Denver, Colorado and its website (www.jonesknowledg.com) .

Virtual lectures are the tools, techniques, and software on the World Wide Web "Internet" enables the teacher to disseminate lessons and objectives and put duties and tasks of study and communicate with his students via multiple technologies, as it enables the student to read goals and tutorials and solving homework and sending tasks and participation in the discussion areas and dialogue and see his progress in studying and his degree obtained" .

Integration Cycle Process of Virtual University Education Via Multimedia

It is described the integration communication between the professor -who developed the virtual education process with both e-learning & e-training - and his students who are different types in realizing via professor's visalization or listening tools or both together ,as follows:



A graph of integration cycle of virtual education via multimedia

Integration Cycle of Virtual Education Via the Reality Simulation

As it describes immersion virtual reality&semi -immersion virtual reality & non immersion virtual reality, as follows:

A graph of integration cycle of virtual education via the reality simulation

The models of these virtual universities on the World Wide Web (Internet) are the following examples:

(Phoenix)University

This is one of the largest private universities in America, where there is (40,000 students), students - studying through the Internet at this university - represents 10% approximately of students number (4,000 students), this university accepted only students' ages at least 23 year (the class of society that missed university education) ,also it requires that the student is an employee, as the university does not contain staff working regularly, or even libraries, so the faculty has been rent - rather than buy - temporary substitutes in about 10 US states.

As the curriculum focuses on information technology, education, and health, and it is the pioneer faculty in introducing study materials online. The university offers (800) class in (5) Diploma programs and (5) other BS, and a number of faculty members contracted with them to work at the university through the Internet. Internet's students in the university represent equivalent to (10%) of the total students.

Syrian Virtual University:**www.svuonline.org/Arab.SVU/index.asp**

Syrian Virtual University is the first integrated virtual university in the Middle East, which leads the education movement on the Internet in the region. It puts on the web new educational methods based on international standards, and of modern manifestation techniques of advanced and exciting experience of the learning process.

It is currently coordinating as it puts between the student's hands the most important US, European and global universities. The Syrian Virtual University provides student with the highest virtual environment to facilitate their rich interaction with their professors, friends. and technologies around the world. It also it provides them with an academic, technical and administrative support of the most important experts, scholars and professors of Arab origin and a global study.

The results and recommendations to overcome the challenges of research:

The virtual reality environment technology is one of the growing technologies and some time will spend on the adoption of desktop computers for this environment due to halt the spread of this technology to provide supporting for her in various operating systems, and unsuitability for applications used in this type of computers, but Intel company solved this problem by dealing with programs' companies to provide support for her in their programs without relying on the support of the operating system. The software and operating systems developers adopt this technology in addition to companies specialized in producing computer hardware components such as IBM and AMD.

On the other hand (after «MTV» becomes one of the most famous names in the world of television networks, it is now trying to enhance its successes to become a leader in the marketing of virtual worlds. This was her message of this giant network through

the virtual worlds conference in 2007 which held in New York. And this net launched her strategy of new hybrid network platform«4D», or four dimensions.

The primary endeavor of this will be the focus on the integration of existing content in television programs in «MTV» networks, with three-dimensional virtual worlds, and then it will place them within an interactive circle so that persons can interact through it with television characters and producing new content, his role is being a part of experience shared by everyone.

Recommendations to overcome the teacher resistance to change in the university education level

Teaching in a virtual classroom isn't intended to record a traditional separation and put it on the Internet in order to bring the students practically, it isn't intended to record, and write it in the text and then published it in a Web page. But it is intended to transfer the assets of traditional education science towards electronic science pedagogy in which the professor becomes a facilitator of student learning and pro-active education pedagogy. It assumed the "new" education science assets that the teacher must qualify in the new educational technologies, but also that he must be left, in whole or in part, to face-to-face interaction in the classroom, and for some of them, this is very difficult.

To overcome the resistance of students to work without a "teacher" in front of them

Our students are used to working in a classroom in which Professor speaks only directs his classroom. This makes students adopt a negative attitude (based on listening to the teacher); In this case, a good teacher who is making every effort, while the bad teacher has large demands, the teacher who works instead of his students and who doesn't give everything.

The result is that a huge distrust was born about the easy teacher role, where the professor's site is in the virtual class, but, at the same time, the responsible site that generates resistance to leave laziness and ease. The one professor who plays the role of "Father" as he has all knowledge (the only) and all power (to direct his students to where he wants) .

It is the site generates a lot of satisfaction because of the power of recognition and discrimination and admiration that appears in many times, but at the same time is the site prevents the diversity of ideas, and promotes iterative learning and kills creativity. so the professor should protect student laziness as in his role can rest in peace without forcing to think ,and just only pushing to save information for tests and examinations, and save information of the content which he received in the class, and there isn't in other research, or what the student reads or encountered more than what is required from him.

To overcome the legal, administrative and technical barriers

For technical obstacle:

To apply the techniques those allow us to apply virtual education. We must provide several devices (computers connected to the Internet) for students who attend half virtual classes, and also virtual support classes, and those who don't have computers and Internet connection at home, this also requires a data transfer rate larger so as not to break down the network. If all students entered the virtual classroom at one time . As More computers, the largest data transfer rate, which means the quality of education is better, which attracts more students (including students' long distances).

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Health Education – Health Misconceptions – Teacher Training Lessons Learnt from a Hungarian Pilot Study

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Abstract

A major goal of schools is to provide students with knowledge and skills applicable (Csapó, 1998). However, teachers have to deal with the misconceptions of their students described as ideas based on experience leading to faulty understanding or naïve ideas (Martin et al., 2002). Schools are of primary importance in transmitting health-related knowledge, skills, attitudes and responsibilities, and health education provided by teachers is key in fighting against the health misconceptions students bring from their immediate environment and those transmitted by the Media. The aim of the present study was to pilot the research questionnaire designed to measure the health misconceptions of teacher trainees. The pilot sample contained 68 students. The research tool was an anonymous, self-administered questionnaire (Chronbach's Alpha: 0.878) containing open-ended questions referring to the participants' understanding of health, as well as multiple-choice questions on health misconceptions, together with background socio-demographic questions. From among the holistic dimensions of health (physical, mental, emotional, spiritual, societal, social) the physical dimension dominated the health concept of the respondents (95.2%). Looking at the sample mean, they correctly assessed that lifestyle (43%) plays the most important role in the development of their health. From among the 37 presented health statements, misconceptions could be detected in case of 23 statements (62%). The source of their existing misconceptions about health was the Media and family members. Our research intends to show which areas of health should be addressed more among future educators and thus indirectly among students, which misconceptions are worth clarifying at the outset.

Keywords: Health, misconceptions, holistic health dimension, education

Introduction

The issue of children's cognition has been investigated for several decades. As a result of changes in pedagogy and psychology, scientists have begun to address misconceptions. The most important such change in the field of pedagogy is to provide students with knowledge and skills applicable in everyday life (Csapó, 1998). International studies revealed that people's misconceptions about health affect what therapy they accept for a particular disease, what medical services they draw on, and what lifestyle they follow. In addition, the knowledge people transfer to one another has a major impact on the aforementioned (Leventhal, Leventhal & Robitaille, 1998; Moorman & Matulich, 1993). All these indicate that the existence of misconceptions about health is an influencing factor that we have to deal with, especially since we are not aware of any such studies in Hungary.

The concept of misconception varies widely, indicating the lack of correct scientific facts. It can be based on superstition, myth, folk traditions, or misunderstandings. It may stem from misinterpretation or a lack of thorough observation of the facts, but may also reflect a mere lack of information. (Wilfred & Sutton, 1962). Concepts are ideas, facts, or events that help to understand the world around us (Eggen & Kauchak, 2004). However, misconceptions can be described as ideas that are based on experience and lead to misconceptions. (Martin et al., 2002). 'Misconceptions is an inaccurate notion of concepts, the use of false concepts, the classification of false examples, the confusion of different concepts and the hierarchical relationships of incorrect concepts' (Saputra et al., 2019, p. 1). Health misconceptions are 'distorted or false ideas about health matters' (Bedworth & Bedworth, 2010, p. 238).

The researchers noticed similarities between the erroneous responses of each student, most of which are not random, and we can even use a categorization along the types of erroneous ideas. In addition, consistency can be observed for the erroneous responses. All these lead to the conclusion that there are erroneous parts in pupils' conceptual network arranged in the same way (Korom, 1997). Naive ideas are stable, not easy to change, profound, and can make learning difficult. The age, gender, school performance and skills of the child do not or just slightly affect their development. It is difficult to map their presence, as in multiple choice tests children have to give account on their learning based on a pattern (Korom, 2002).

Health is a scientific category as well as an everyday concept. The scientific evolution brought to life a paradigm change in the health concept, and the one-dimensional, pathogenic, objective, organic, individual and static understanding was replaced by a salutogenic, positive, multidimensional, subjective, personal, situation-based and dynamic approach (Benkő, 2011). It is positive because instead of a lack of illnesses, it focuses on the physical, mental, social, spiritual and ecological well-being (WHO, 1948). Highlighting the aforementioned factors already indicates that there is more to it than just physical health; the multidimensional approach is summarized even

more vividly by the holistic concept of health, with its physical, mental, emotional, spiritual, social and societal dimensions (Naidoo & Wills, 1999; Benkő, 2019).

The aim of our research is to explore the health concept of future teachers, to reveal the existence of health misconceptions and their types. There have been several Hungarian researches into the misconceptions of pupils, but none of them focused on health misconceptions. By exploring the health misconceptions of future teachers, identifying the reasons behind and formulating intervention points and methods, the health education activities of public education institutions can become more effective.

Methodology

The applied online questionnaire was created with the help of Google Questionnaire Builder, and its link was shared in community platforms. The preliminary condition of participating in the research was being a Hungarian higher education student, studying preferably in teacher training. To our call 68 higher education students replied during the given two-weeks period, and there were students studying not only education but sociology and health sciences also among the participants. There were only 5 (7.4%) men among the respondents. The mean age of respondents was 27.9 (SD: 7.93) years.

Our questionnaire was completed voluntarily and anonymously. The questions were created based on a thorough literature study. In the first open-ended question we have explored the health concept of respondents. Our second open-ended question studied the weight of factors defining health, expressed in percentages. Our third question measuring participants' health misconceptions consisted of 40 health statements to be evaluated on a 5-points Likert scale, together with an open-ended question asking about the information sources they based their answers on. Finally, we put forward open-ended and closed questions asking about the socio-demographic background of the respondents.

According to our first hypothesis, the health concept of future educators does not reflect the complexity of the modern, holistic understanding of health; regardless of age, sex, family background, and specialization, the predominance of the physical health dimension can be observed. In our second hypothesis, we presupposed that the health misconceptions of future educators are undergoing a continuous transformation, depending on age, sex, family background, type of higher education institution, and specialization. The transformation can be grasped in the complexity and orientation of misconceptions, according to which misconceptions can be organized into categories. Finally, according to our third hypothesis, the health concept and health misconceptions of future educators are shaped by lay (parents, friends, acquaintances, etc.) and popular (media, social media) information sources, and their formal training (public education, higher education) is of weak efficiency.

Results

3.1. The study of the health concept

To reveal respondents' perceptions of health, we used the following question: What image comes to your mind first when you hear the word health? Tell us what you see in the picture and write a short explanation!

The answers to the open-ended question were categorized based on the six dimensions of the holistic health concept. The results clearly pointed in the direction of our first hypothesis, namely that respondents' health perceptions were characterized by the predominance of the physical health dimension (95.2%).

Since Lalonde (1974) Canadian health minister's research it is widely known that lifestyle (43.0%) plays the most important role in our health. To examine how our respondents perceive this connection, we put forward the following question: You have a total of 100 health points that you need to divide into the following 4 factors according to the extent they may affect your health. How many points would you give them? You have to distribute all 100 points!

We obtained the same proportions as Lalonde reported, meaning our respondents saw the importance of lifestyle correctly. However, further analysis is needed concerning who has attributed the strongest influence to lifestyle and what health concepts they have. Thus, we will be able to conclude which health factors future educators find important in the shaping of lifestyle. With the above question and analysis, we wanted to examine our first hypothesis also. If the predominance of the physical health dimension is confirmed in our large-sample research, we suggest considering the separation of school health promotion from physical education and its re-introduction as an independent subject in Hungary, since as a consequence everyone identifies health with physical health only, which is a very important element, but only one of the six holistic health dimensions.

3.2. Health-related statements

Based on a literature study we have explored those health statements the answers to which reflect the most common misconceptions. The degree of agreement with each statement was measured on a five-point Likert scale ranging from 'not true at all' to 'perfectly true'. We have examined the holistic health variables by demographic variables also, however there was only one significant case (this might primarily be attributable to the low sample size) and the latter is also questionable, as only six respondents have mentioned spiritual health (Table 1.). We examined the relationship between the six dimensions of holistic health and each health statement. The holistic health dimension variables were nominal, where 0 meant it did not, 1 meant it did appear in the health definition of respondents; the health statements were ordinal variables. Thus, if the Spearman's correlation coefficient was positive, it meant agreement with a statement, while when it was negative it meant

disagreement with a statement. Those indicating the physical health dimension in their health definitions agreed to a greater extent with the following health statements: 'lice love the untidy, dirty hair'; 'if you eat a lot of carrots your eyesight will be better'; 'stress causes high blood pressure'. In contrast, they were less likely to agree with the health statement: 'there are genetic causes behind obesity'.

Table 1. Relationships between the demographic variables and our holistic health variables

Demographic variables	Holistic health	Chi-square	df	Sig.
grade	physical health	3.029	4	0.553
	mental health	2.756	4	0.599
	emotional health	6.730	4	0.151
	spiritual health	1.837	4	0.766
	social health	2.730	4	0.604
	societal health	4.068	4	0.397
course	physical health	4.200	9	0.898
	mental health	9.168	9	0.422
	emotional health	7.234	9	0.613
	spiritual health	9.229	9	0.416
	social health	8.183	9	0.516
	societal health	5.385	9	0.799
mother's highest level of education	physical health	7.948	6	0.242
	mental health	8.477	6	0.205
	emotional health	6.773	6	0.342
	spiritual health	16.601	6	0.011
	social health	12.198	6	0.058
	societal health	5.985	6	0.425
father's highest level of education	physical health	3.423	6	0.754
	mental health	1.343	6	0.969
	emotional health	0.984	6	0.986
	spiritual health	3.781	6	0.706
	social health	3.834	6	0.699
	societal health	5.285	6	0.508
settlement type	physical health	1.099	3	0.777
	mental health	2.068	3	0.559
	emotional health	1.847	3	0.605
	spiritual health	1.391	3	0.708
	social health	2.859	3	0.414
	societal health	4.712	3	0.194

In six out of the 40 health statements presented in the questionnaire, a significant difference could be found between the two sexes, while in a further seven cases the relationship was trend-like, which means that a significant correlation would probably be proven in case of a larger sample size.

3.3. The relationship of health statements with age

The relationship of health statements with age were studied with the help of Spearman's rank correlation coefficient, as the variables involved were ordinal. In the case of health statements showing a significant correlation with age, we saw a negative relationship: the older someone was, the less she or he agreed with the following health statements: 'it is easy to quit smoking'; 'it doesn't matter if I weight more as a child, I will grow it out'; 'milk teeth care is not so important, they fall out anyway'.

3.4. The relationship of health statements with parents' level of education

The mother's and the father's level of education were ordinal variables, that is why the Spearman's rank correlation coefficient was used to measure their relationship with all the target variables. There was only one health statement the mother's level of education had a significant negative correlation with (rho=-0,363; p=0,003): 'Stress causes high blood pressure'. Meaning, the higher the education level of someone's mother was, the less she or he agreed with this statement. The father's level of education did not significantly correlate with any of the health statement variables. Focusing on the significant correlations we can say, that women were more likely to agree with the following health statements: 'the best antidote of hangover is to drink some alcohol'; 'a lot of stress makes you sick'; 'stress causes high blood pressure'; and 'you should drink eight glasses of water every day'. Compared to women, men agreed more with the following health statements: 'diabetics are not allowed to sport'; and 'smoking is not addictive'.

Conclusions

Due to the relatively low number of respondents we could not perform an analysis by all background variables. We have found our measuring instrument suitable to study our first and third hypothesis. However, in order to examine our second hypothesis more precisely, we consider it necessary to restructure the listed health statements and to formulate some statements more clearly. We consider it important to examine the topic in order to draw attention to the importance of making health promotion a separate subject in Hungarian public education. Our research intended to show which areas of health should be addressed more among future educators and thus indirectly among students, which misconceptions are worth clarifying at the outset. We would also like to reveal the sources - family, teacher, media, etc. – from which each misconception was obtained, so as to be able to teach future educators how to handle the incoming information.

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Education Policy and Practice on Intimate Partner Violence Among Young People in the UK

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Abstract

This paper presents a qualitative systematic review of educational policy and practice on tackling intimate partner violence (IPV) among young people in the UK. Up to date, the majority of school-based IPV interventions were conducted in the US and now there is growing consensus among UK policymakers, researchers and practitioners as well to address IPV issues through educational practice. This review aims at gathering evidence of the type and nature of policies and institutional level practice adopted to tackle IPV issues among young people within an educational context, and what impacts these interventions have on mitigating the occurrence of IPV. In undertaking this review, three databases (Eric, BEI and Scopus) were searched and grey literature was manually added. Findings from the review suggest that the majority of interventions were effective in altering attitude and promoting awareness of IPV. Still, longitudinal studies are needed to see if changes in attitude can be translated into the effective behavioural alteration in real-life situation. Although most students expressed satisfaction toward the existing interventions, it was also found that lack of consideration of gender can lead to uncomfortable feelings among students. There were contradictory views regarding whether teachers or external experts would be a better person to deliver the intervention and who was the person students preferred to turn to for help. Besides, country-wide interventions are needed to make sure all schools have an opportunity to provide IPV education, and the support from the UK government is of crucial importance to make this happen.

Keywords: intimate partner violence, policy, intervention, education, UK

Introduction

1.1 Policy background

UK policymakers started to put more emphasis on addressing intimate partner violence (IPV) issues since the 1970s, while at that time, IPV came under the umbrella of domestic violence (Gelles, 1980; Graca, 2017). The first attempt of the UK government to fight against domestic violence by law is the enactment of

Domestic Violence Matrimonial Proceedings Act 1976, which can be regarded as a turning point in the history of UK legislation on addressing domestic violence (Graca, 2017). This act clarifies the equal rights of spouses in a variety of cases and provides the police with the power to handle violence in domestic settings (Graca, 2017). However, in the 1980s and 1990s, IPV preventive works remained low profile in the UK government documents (Coy & Garner, 2012; Fancy & Fraser, 2014; Phipps & Smith, 2012). Then, in the 2000s, more laws, published to address a broader range of IPV issues such as Female Genital Mutilation Act 2003 and Sexual Offences Act 2003, especially the enactment of the Domestic Violence, Crime and Victims (DVCV) Act 2004. DVCV Act (2004) brought numerous changes in respect of criminal law on domestic violence, and have been described as the most significant overhaul of the law relating to domestic violence in the last 30 years (Graca, 2017). After that, The Home Office (2011) implemented Domestic Violence Protection Notices and Orders, which were aimed at providing victims with timely protection and insulating them from abusers' persecution (Graca, 2017). However, up to that point, the majority of the published laws on domestic violence focused on abuse in marital relationships and children maltreatment within the family context, and only limited attention was paid to the prevalence of IPV that occurred among intimate relationships of people young. This situation started to change in 2013, when the UK policy definition of domestic violence was extended to include 16-17 years' old young people due to the increased prevalence of IPV issues among them (Home Office, 2013). The government also issued policy documents such as the Call to End Violence against Women and Girls (EVWG) 2010 and Ending Violence against Women and Girls (EVWG) Strategy 2016-2020 and successfully ran Teenage Relationship Abuse Campaign, all which showed that the UK policy began to make an effort on tackling IPV among young people.

There is an advocacy of the multi-agency approach by the UK government in preventing domestic violence since the 1990s, especially with the implementation of Inter-Agency Circular on Domestic Violence by the Home Office in 1995 (Cleaver, Maras, Oram, & McCallum, 2019; Graca, 2017). This approach allows different institutions to work collaboratively to provide victims of domestic violence with multiple needs and seamless responses (Graca, 2017). The multi-agency approach was strengthened after the publication of DVCV Act 2004, which required the creation of a variety of institutions to address domestic violence, such as Multi-Agency Safeguarding Hubs, Multi-Agency Risk Assessment Conferences and Domestic Violence Courts (Cleaver et al., 2019; Graca, 2017). However, the school's role in domestic violence prevention was less valued by the multi-agency approach, and more emphasis was given to charity organisations, e.g., Tender, Women Aid and NSPCC, especially in providing support to victims of domestic violence (Cleaver et al., 2019; Stanley, Ellis, Farrelly, Hollinghurst, Bailey, et al., 2015). The multi-agency approach is continuing to be used today while there is an increasing recognition of the school's critical position in primary prevention to challenge deep-rooted gender

norms, inequality and stereotypes among young people. In EVWG Strategy 2016-2020, the Home Office proposed a plan to address violence against women and girls, which stresses more the educational function in early IPV intervention than previous government documents. This strategy highlights the partnership with Personal, Social and Health Education (PSHE) Association, headteachers and other practitioners to ensure schools' effectiveness in delivering high quality healthy relationship education in classroom settings (Home Office, 2016, p. 16). In 2018, the Department for Education (DfE) published the draft of Relationship Education, RSE and Health Education Guidance (2019) for consultation. In the draft version of Relationship Education, RSE and Health Education Guidance (2019), general forms of IPV, cyber or sext violence, healthy and safe relationships have been added and advised to be taught in all schools including maintained, non-maintained or independent schools (Department for Education, 2018, 2019). Therefore, it is expected that IPV issues can be statutorily embedded within school curriculum soon in the UK.

1.2 Research background and questions

IPV among young people has long been a worldwide concern for policymakers, practitioners and researchers due to its increased visibility in the society, however, it hasn't provoked the same level of interest in the UK as elsewhere (Barter, McCarry, Berridge, & Evans, 2009; Young et al., 2017). In contrast, the US currently has the majority of research evidence on IPV (Bell & Stanley, 2006; Parkes, Heslop, Ross, Westerveld, & Unterhalter, 2016; Stanley, Ellis, Farrelly, Hollinghurst, Bailey, et al., 2015). While British young people experience the similar level of risk of sexual abuse with their peers in the US, much fewer interventions have been developed to combat the issues in the UK (Phipps & Smith, 2012). Several systematic review studies have been undertaken to inform the UK policy and practice on IPV prevention by reviewing interventions outside of the UK context (Bell & Stanley, 2006; Khadijah & McAslan, 2014; Stanley, Ellis, Farrelly, Hollinghurst, Bailey, et al., 2015), whereas, very few systematic reviews can be identified to collect the evidence to evaluate the intervention of IPV that is solely to do with the UK context. It is doubtful if the findings from the intervention outside of the UK context are applicable within the UK context since IPV is a complex issue and involves deep-rooted cultural norms, rituals and customs passed between generations. To establish the evidence for educational policy and practice on addressing IPV among young people in the UK, and to provide implications for policy development and further research, this qualitative systematic review sought answers regarding the following questions:

In what ways have policies and institutional level practices been used, or can be used, as a tool or mechanism for tackling IPV in different educational contexts in the UK?

What impacts have these educational policies and practices had on addressing IPV and what evidence exists to support this?

1.3 The current study

This review identified three systematic reviews aimed at recognising IPV related interventions in the UK. However, all the identified systematic reviews attempt to inform the UK based practice primarily by examining interventions undertaken outside of the UK context (Stanley, Ellis, Farrelly, Hollinghurst, Bailey, et al., 2015; Stanley, Ellis, Farrelly, Hollinghurst, & Downe, 2015), analysing reports from the UK grey literature (Stanley, Ellis, Farrelly, Hollinghurst, Bailey, et al., 2015) or drawing on IPV related research evidence out of the educational setting (Cleaver et al., 2019). None of these reviews has evaluated the evidence on the effectiveness of educational policy and home-grown intervention specifically within educational settings in the UK (Stanley, Ellis, Farrelly, Hollinghurst, Bailey, et al., 2015). Therefore, this qualitative systematic review will narrow this research gap and promote future knowledge development in this field.

2. Review framework and methodological approach

2.1 Literature identification

We undertook a qualitative systematic review of IPV educational policy and practice from 1990, when the works in the field of IPV started to increase in the UK, to March 2019. A search was performed in three bibliographic databases: Education Resources Information Centre (ERIC), British Education Index (BEI) and Scopus. To identify relevant literature in these three bibliographic databases, we performed PICo (population, phenomenon of interest and context) as the searching framework (See Appendix A) with the combination of Boolean phrases (See Appendix B). The bibliographic searches included 1,161 articles, the majority of the papers identified for this research are from peer-reviewed journals. Avoid missing out relevant publications, a complementary search by manually scanning the citations in included articles was adopted, which added eight papers into this review. Finally, 11 published studies have been included in this review (see in Fig.1).

2.2 Literature screen

In the process of literature screen, the included 11 papers followed a detailed inclusion and exclusion criteria (see in Table 1). This inclusion and exclusion criteria has been applied to exclude studies regarding title and keywords, abstract, full-text and a process of detailed review.

2.3 Data extraction and results

2.3.1 Data extraction

To address the review questions mentioned in Section 1.2, 11 included articles were extracted into a summary table (see in Table 2). Detailed information was retrieved

from 11 studies to answer two review questions as: name, type, location of intervention; author, publicantion year, type of paper; details of intervention; mentioned UK policy or intervention; and summary of the findings, as summarised in Table 2.

Fig. 1. Flow chart of included studies

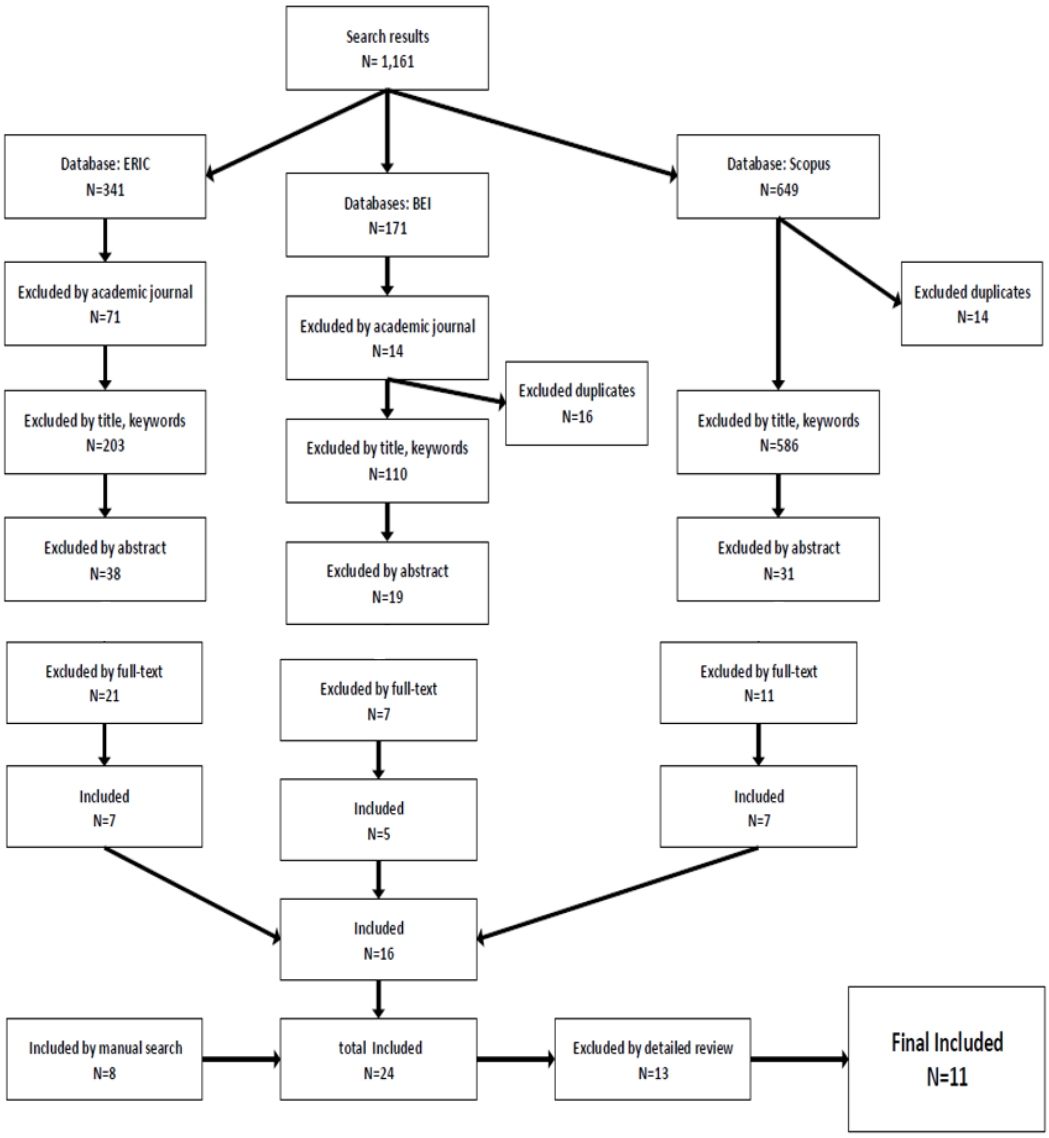

Table 1 Inclusion and exclusion criteria

	Inclusion	Exclusion
1	Paper published in peer-reviewed journal	Paper not subject to peer-review
2	Paper published in English language	Paper published not in English language

3	Paper published between 1990 to 2020	Paper published before the year of 1990
4	Study based on the UK context or regions within the UK	Study is not conducted within the UK context
5	Study aims at children and young people aged from 10 to 19 years' old	Study aims at people under 10 years' old or over 19 years' old
6	Study has an analysis on both intimate relationship as well as addressing violence e.g. physical, psychological, sexual, controlling or cyber violence behaviours within an intimate relationships including dating relationships, sexual contact relationship or open relationship	Study focuses on intimate relationship without addressing violence e.g. teenage pregnancy Study focuses on addressing violence without discussing intimate partner relationship. e.g. children maltreatment
7	Study evaluates any policy, intervention, or curriculum development in education field or within educational institution	Study does not include any policy or intervention e.g. research about teenage mothers' experiences of IPV Study includes policy or intervention but not within educational institution e.g. treatment for sexual offenders
8	Study includes qualitative methods e.g. interview, focus group, observation or case study	Study does not adopt qualitative methods

Table 2 Characteristics of included studies (Continued)

Name/type/location of intervention	Author(s)/year/type of paper (PR/GL)	Details of intervention	Mentioned UK policy/intervention	Summary of the findings
Relationship without fear (RwF) Schools in the area of the Stroke on Trent and Newcastle under Lyme, England	• Fox, Hale, and Gadd (2014); PR • Fox, Corr, Gadd, and Sim (2016); PR • Fox and Gadd (2012); GL • Gadd, Fox, and Hale (2014); PR	Year: 2011-2012 Duration & delivery: 6 weeks and 3-month follow-up; 1 hour per week; deliver during PSHE lessons Sample: Students aged from 8-16 years' old	Programmes developed by Women Aid, Tender, the Zero Tolerance Trust or funded by Home Office and Children's Fund initiatives School curriculum: RSE, PSHE	• What: this intervention focus on attitude change not behaviours, future studies are needed to see if attitudes change can transform into behaviour change, which requires long-term

		Methodology & methods: intervention group, control group, focus group and pre-test-post-test questionnaire Themes: primary students on peer relationships; secondary students on domestic violence in intimate relationships, including attitudes to domestic violence, experience of abuse and help seeking skills	intervention e.g. 4 years' follow-up; measures are needed to see both knowledge and understanding of different forms of violent behaviours and skills to seek help •Who: Avoid being "sexist" by focusing on male perpetrator and female victim; consider gender issues in a more thoughtful way; teachers lack expertise, teacher training is critical; support from specialist expertise is vital •How: Variability and flexibility in delivery approach to meet students' preferences and avoid 'one size fit all'; whole school approach or a country-approach is recommended to provide this

				kind of education
Drama-based Healthy Relationships Programme England	Bell and Stanley (2006); PR	Year: 2001-2002 Duration & delivery: One year; a series of workshops following PSHE and SRE themes Sample: 85 students from Year 8 in a secondary school Methodology & methods: questionnaire and focus group Themes: a drama-based intervention to help students recognise domestic violence in future relationships, explore gender inequality and power imbalance, and promote healthy relationships as well as well-being	Zero Tolerance Programme in Edinburgh and Glasgow	•This programme improved students' knowledge and understanding of domestic violence, including the definition, prevalence of violence behaviours, both male and female can be victims and perpetrator etc. •Students' awareness of seeking help after domestic violence was largely promoted •The intervention developed students' positive attitude and belief towards a healthy relationship •The awareness of gender equality and power balance issues in a relationship was raised •Students were highly positive towards the

				delivered workshops
Tender Healthy Relationships project Five regions in England	Sanders-McDonagh, Apena Rogers, Horvath, and Selwood (2015); GL DMSS research and consultancy (2012); GL	Year: 2012-2015 Duration & delivery: Over a period of 10 weeks Sample: students from year 9 to 11; 2050 students engaged in workshops, 15,404 students watched the drama Methodology & methods: pre-post questionnaire, focus group, semi-structured interview Themes: Drama based project encourage students to identify early violence behaviours; provide students with further support for future relationships	The Government defines domestic violence to include 16 and 17 years' old young people The STIR (Safeguarding Teenage Intimate Relationship) project carried out in countries including England PSHE education struggled to include domestic violence prevention Drama-based Healthy Relationship Programme	•Students acquired an improved understanding of the warning of an unhealthy relationship and obtained the knowledge to seek for help and support •Workshops were effectively delivered; the impacts was still continuing after the workshops had concluded
The Zero Tolerance "Respect" Pilot Project Edinburg and Glasgow	Reid Howie Associates (2001);GL	Year: 2001 Duration & delivery: 7-8 sessions Sample: young people from 2 primary schools, 2	N/A	•The overall views of the intervention are positive and supportive; it helped students to

		secondary schools and 7 youth groups Methodology & methods: interview, questionnaire and group discussion Themes: promote respectful and equal relationship, encourage healthy relationship among young people and educate them with self-respect, respect for other and social responsibilitie s		promote understanding s about gender stereotypes and obtain sources for seeking help. •Primary prevention work should continue to exist within school curriculum framework Avoid of being anti-man when design and deliver the sessions •Timing is a key issue in terms of lesson length and delivering Protection and support should be given to all of those involved in the project
Think U Know Campaign London	Dobson and Ringrose (2016); PR	Year: N/A Duration & delivery: the film *exposed* delivered online and as part of PSHE lesson plan Sample: the online study, 35 students aged 13-15 from two London schools engaged; the	Anti-sexting content may be taught through PSHE at schools in England and Wales	•Students realised some cyber sexual violence behaviours through the exposure •Encourage sexual expression emerged in digital culture, but should consider policy, ethics and norm in

		follow-up workshop study, 17 students between 14 and 15 from a third school in London watched the film Methodology & methods: focus group, online observation and interview Themes: A film named *exposed* has been produced as a way to educate students with the awareness of sexting abuse and digital sexual culture		the digital world
Same-sex relationship education the UK	Donovan and Hester (2008); PR	Year: Jan 2005-Dec 2006 Duration & delivery: N/A Sample: young people under aged 25 years' old Methodology & methods: national wide survey, four focus group with lesbians, gay men, heterosexual women and	Sex and Relationship guidance (DfEE, 2000)- the first national work for work in this field Sex and relationship education locates in the PSHE curriculum	•Abusive behaviours in same-sex relationship are overlooked and minimised Lack of knowledge to identify abusive relationship and address it •There is limited places in SRE to educate students with avoiding

		men, and 67 interviews Themes: inclusion of same-sex relationship and abuse to SRE in schools		same-sex abusive relationship Sex education and domestic violence prevention for schools tend to be heterosexuality
7. Sext education The UK	Jørgensen, Weckesser, Turner, and Wade (2019); PR	Year: Nov2015-Mar2016 Duration & delivery: N/A Sample: 14 students aged 13-15 Methodology & methods: Participatory study, group interview and focus group Themes: young people's views on their own support and education needs around navigating the phenomenon of sexting	Recommend sex education as a part of PSHE curriculum	•Sexting education needs to be developed within the context of wider relationship issues, such as gender, power dynamics and trust between peers, and improved communication between students and teachers or other responsible adults •Design and communicate messages around sexting to young people within and beyond educational settings

* PR= peer reviewed GL=grey literature N/A=not available *Information above all derived from the included papers, data all provided by the author/authors

2.3.2 Results

This study identified 11 school-based IPV studies, which were categorised into seven types of educational interventions. The first five educational interventions (see in Table 2) were conducted by external organisations identified in nine studies on addressing IPV issues among young people within school settings including: Relationship without fear (n=4), Healthy Relationship Programme (n=1), Tender's Healthy Relationship Education (n=2), the Zero Tolerance "Respect" Pilot Project (n=1) and Think U Know Campaign (n=1). Among the five educational interventions, one was implemented in Scotland (the Zero Tolerance "Respect" Pilot Project) and the others were carried out in England. The latter two included studies (see Table 2) about students' view towards the existing PSHE and RSE curriculum and addressing newly emerged IPV issues within school curriculum including same-sex relationship education and sext education.

Among the included qualitative studies, majority of the research adopted interview and focus group as the methods for data collection. The sample of most studies are among young people from secondary schools aged 10 to 15 and in a group of less than 50 participants. Most of the studies did not mention the gender composition of the participants, while one study (same sex relationship education) looked into the gender differences of participants as lesbians, gay men, heterosexual women and men. Additionally, the relationship without fear (RwF) programme also provided a comparative analysis of attitudinal changes between male and female students before and after the intervention. Almost all studies were delivered with the theme to promote healthy and respectful relationships, generally during PSHE and RSE curriculum in a period of intervention less than half year.

Two government policies were highly emphasised in the articles reviewed: the government definition of domestic violence extend to include 16 to 17 young people and the guidance of sex and relationship education 2000 (Dobson & Ringrose, 2016; Sanders-McDonagh et al., 2015). Besides, several interventions have been mentioned in the reviewed studies and undertaken by external organisations as Women aid, NSPCC and Tender. There were also some interventions that were supported by the UK government such as the Safeguarding Teenage Intimate Relationship (STIR) project, the Zero Tolerance "Respect" Pilot Project and Teenage Relationship Abuse Campaign (Fox et al., 2016; Sanders-McDonagh et al., 2015).

A summarised list of findings from all included papers is presented in the fourth column of Table 2. Three themes emerged following a thematic synthesis, which will be outlined in the next section.

3. Findings and analysis

To answer the proposed research questions, we undertook a comprehensive examination of the 'results' and 'findings' sections of the 11 included studies. All the selected papers were entered into the qualitative data analysis software Nvivo 12 pro

to facilitate a systematic analysis. To ensure our analysis was rigorous, we adopted a three-stages thematic synthesis, pioneered by Thomas and Harden (2008, p. 4) as follows: 1) line-by-line text coding; 2) constructing descriptive themes; and 3) generating analytical themes. The authors argue that the process of descriptive and analytical themes interpretation can produce transparent and explicit outcomes (Thomas & Harden, 2008). Three themes were generated as a result of conducting the thematic synthesis method

Impacts of the intervention

Evaluations of the intervention

Identified recommendations by the papers

3.1 Impacts of the intervention

3.1.1 Attitudinal change

The majority of the interventions indicate significant improvements in changing participants' attitudes including less acceptance of abusive and violent behaviours, increased awareness of gender equality in intimate relationships and enhanced knowledge level towards IPV (Bell & Stanley, 2006; Fox et al., 2016; Fox et al., 2014; Gadd et al., 2014; Reid Howie Associates, 2001). Gadd et al. (2014) point out that the Rwf was effective in changing students' attitudes regarding the results of the comparison between students in the intervention group and the control group. Fox et al. (2016) concluded that both male and female students benefited from the intervention in changing attitude whereas male students' attitudinal change towards IPV after the intervention just achieved female students' attitude level before the intervention. Also, students who had the history of IPV reached the same level of attitudinal change with students who did not have IPV experience. Most of the studies witnessed reduction in the participants' acceptance level of IPV from before to after the intervention (Fox & Gadd, 2012; Fox et al., 2014; Hale, Fox, & Gadd, 2012). Considerable evidence shows that students' awareness of what constitutes a healthy relationship was highly enhanced as their responses of 'don't know' to questions were decreased mainly after the intervention (Bell & Stanley, 2006; Reid Howie Associates, 2001; Sanders-McDonagh et al., 2015). Besides, students obtained a variety of knowledge regarding IPV including the definition of IPV, the early warnings of an unhealthy relationship, the prevalence of IPV, and an understanding of the fact both man and women can be victims and perpetrators of IPV (Bell & Stanley, 2006; Sanders-McDonagh et al., 2015).

3.1.2 Behavioural change - help seeking skills

As for behavioural change, different interventions have different views on the effectiveness concerning altering behaviours. On the one hand, some studies found that students applied knowledge to realistic actions in combating IPV shortly after the intervention. For example, they started to talk about the harmfulness of IPV

behaviours to family members and seek accessible sources for support (Bell & Stanley, 2006; Jørgensen et al., 2019). When it comes to whom to turn to help, most participants prefer to contact professionals anonymously or report IPV behaviours to police rather than communicate with family, friends or teachers (Bell & Stanley, 2006; Jørgensen et al., 2019). A boy participant in Bell and Stanley (2006, p. 242) mentioned that 'he would have taken the advice and phoned the national child helpline as he does not have to give his name or anything.' Moreover, a girl participant added that 'teachers will tell other staffs.' On the other hand, others argue that compared with changes in attitude, no persuasive evidence is available to show how the knowledge learned can be put into practice in a real-life situation (Fox et al., 2016; Sanders-McDonagh et al., 2015). Only ask for participants' perceptions if they would seek help or whom they would turn to help cannot measure their realistic behaviours in help seeking in a real-life context (Fox et al., 2016). Therefore, longitudinal studies, e.g., up to one-year pre-test-post-test study or a 4-year follow-up period are needed to examine how knowledge obtained from the intervention can be translated into effective behaviours in the future.

3.2 Evaluations of the intervention

3.2.1 Positive-like the intervention

This review identified some positive comments from participants who took part in the intervention. Students expressed their affections towards the intervention as they benefited a lot from these interventions. For example, the majority of participants from Fox and Gadd (2012, p. 19) mentioned that 'all the RwF sessions were very good' and they 'enjoyed being part of it a lot'. Also, they learnt the characteristics of a healthy relationship, different types of IPV behaviours and how to get support in an abusive relationship. Additionally, Reid Howie Associates (2001) points out that the majority of the participants claimed to enjoy all the sessions, and none of them identified a session that was not enjoyable. However, Bell and Stanley (2006) argue that the intervention was more popular with girls, while boys showed less interest in them.

3.2.2 Negative-dislike the intervention

Some participants showed their unease and dislike at being part of these interventions. As mentioned in Fox et al. (2014), participants easily became bored and started to chat with others because there were too many lessons, case studies and stories. Similar to Jørgensen et al. (2019), which pointed out the whole school assemblies were ineffective in delivering the information as there was no one listening. Some students also felt awkward to role play in IPV situation, and students who watched role-play could feel uncomfortable as it aroused their own lived experience (Fox et al., 2014). Most of the students' reflected that 'we didn't enjoy the role-play' (Fox et al., 2014, p. 34). Additionally, some sexist comments also made male students feel upset because they were mainly blamed for abusive behaviours (Gadd et al., 2014). For example, concerns from the focus groups in Gadd et al. (2014, p. 474)

indicated that 'male gender was getting blamed for abusive…' and 'there were boys also have problems with girls, maybe the ones who were victims'. Besides, some students were anxious about future relationships after the intervention and started to worry about getting into an abusive relationship.

3.3 Identified recommendations by the papers

3.3.1 The content

Few studies discussed the need to clarify what topics should be included to the content of interventions across the UK. There were several interventions conducted by institutions in the UK such as Tender, Women Aids and the Zero Tolerance Trust, however, all of them are different in the content they used (Fox et al., 2016). It was argued that future studies better to make a comparison between different interventions to decide what content should be adopted (Fox et al., 2016). Also, it is highlighted that the importance of catering to students' preference in designing the content. Students' active participation requires varied content to include a variety of actives (Fox et al., 2014). In addition, content on gender should be designed to attract different gender needs and delivered more thoughtfully, avoid being "sexist" by only focusing on male perpetrators, female victims or heterosexual relationships (Dobson & Ringrose, 2016; Donovan & Hester, 2008; Fox et al., 2014). Evidence shows that boy participants complained that 'it is always men beating women- it is sexist against men' (Fox et al., 2014, p. 35). Besides, there are recommendations to add content regarding violence in same-sex relationship and sexting violence as part of the PSHE curriculum (Donovan & Hester, 2008; Jørgensen et al., 2019).

3.3.2 The approach

The majority of interventions are carried out in a small group within a short period. A country-wide approach still absent in the UK to make sure all students have the chance to receive IPV education (Fox et al., 2016). Besides, the long-term approach is highly demanded to capture the realistic impacts interventions have on students in the long run (Fox et al., 2016). Moreover, it is necessary to avoid 'one-size fits all' approach when delivering the content, teachers should respond to the needs of all students and student-centred approach works better to teacher-led approach for this type of education (Fox et al., 2014). As a participant argued that 'the lessons was not to do with us, we were just listening' (Fox et al., 2014, p. 33). Other participants also reflected that they have to find the information themselves instead of letting teachers tell them (Fox et al., 2014). Another point that needs considering more carefully is the gender approach in content delivery. This is important because gender understanding in teaching techniques can assist the intervention to be more inclusive and appeal to gender needs (Sanders-McDonagh et al., 2015). When it comes to measuring the effectiveness of interventions, various views were identified in the studies. Gadd et al. (2014) argue that there was a lack of measures in quite a few aspects of the possible changings in attitude, knowledge, understanding, empathy and help-seeking

behaviours, whereas Reid Howie Associates (2001) points out that there was a need to bear the limitations in mind that an intervention cannot solve all these issues.

4. Discussion

To our knowledge, this is mong the first review to identify and evaluate the UK based policy and home-grown interventions on preventing IPV. The majority of the systematic reviews regarding school-based interventions were globally based (De Koker, Mathews, Zuch, Bastien, & Mason-Jones, 2014; Parkes et al., 2016; Stanley, Ellis, Farrelly, Hollinghurst, & Downe, 2015), and a large substantial number of the identified interventions were implemented in the US such as Safe Dates, Coaching Boys into Men and Dating Violence Prevention Project. Therefore, it is doubtful to what extent the interventions have been done in the US are transferable to inform the UK practice since social norms, beliefs and cultures are different between countries. Although this review identified one paper of UK based multi-agency approaches on preventing domestic violence, school's role was less valued in this paper since more emphasis given to policy, NHS and external charity organisations (Cleaver et al., 2019). Moreover, there is increasing attention from the UK educational policy and practice on tackling IPV issues among young people, and a growing number of IPV based interventions published in the UK. Therefore, it is the time to conduct a review to gather evidence on what UK have done to tackling IPV and what impacts these interventions have on addressing IPV issues.

In review, most of the included studies are educational programmes carried out by external organisations to promote young people's awareness of identifying the early signs of IPV and to educate them with the knowledge and skills in addressing IPV issues in relationships (Bell & Stanley, 2006; Dobson & Ringrose, 2016; Fox et al., 2016). These included studies either developed the curriculum (Fox et al., 2016; Fox et al., 2014; Reid Howie Associates, 2001), drama (Bell & Stanley, 2006; DMSS research and consultancy, 2012) or film (Dobson & Ringrose, 2016) as educational strategies to prevent IPV. However, the majority of existing preventive programmes are small scale, methodology limited, low dissemination of findings and have little evidence of effectiveness on the intervention outcomes. In contrast, Relationship without Fear (RwF) project is a well disseminated educational programme among the studies identified. There are three articles published in peer-reviewed journals about the RwF programme (Fox et al., 2016; Fox et al., 2014; Gadd et al., 2014). Articles present that RwF programme is a large scale intervention with about 1203 students from thirteen schools in England (Fox et al., 2016, p. 217). Distinct from other qualitative studies, which adopt the interview or focus group for data collection, RwF programme carried out a research with a pre-test-post-test design with a control group and then had a 3-month follow-up period for examining the ongoing outcomes. The findings show that RwF changed the attitude towards the acceptance of IPV and mitigated the risk of forming an abusive relationship among young people (Fox et al., 2016). However, the UK educational programme addressing IPV is still in its infancy

stage. More studies are needed to bridge the research gap on the IPV intervention approach e.g., a country-wide study, longitudinal intervention, gender approach.

While there is still a concern about the effective delivery of RSE because of the teachers confidence and comfort level regarding the content (Bell & Stanley, 2006; Donovan & Hester, 2008; Reid Howie Associates, 2001), RSE curriculum will be made compulsory in all schools in the UK from 2020 (Long, 2018). Besides, teachers who hold gender stereotypes and have aggressive tendencies may project a confusing gender norm to students and fail to mitigate the risk of resorting violence among students. Therefore, support from RSE subject's specialists and professional training is critical in overcoming these challenges when teaching RSE curriculum. However, another concern is that there is no standard assessment for RSE and there is a need for the common understanding of the rationale and purpose of schools' achievement on RSE. Although levels, grades or pass/fail assessments are not suitable to RSE subjects, informal assessments through teachers' observation, verbal feedback and students' self-assessment should be adored (Formby et al., 2010; PSHE Association, 2020).

Conclusion

Educational interventions to prevent IPV is of critical importance but relatively underexplored in the UK and the work to address IPV issues is still in low profile within the formal school settings (Fox et al., 2014; Stanley, Ellis, Farrelly, Hollinghurst, & Downe, 2015). This review identified 11 school-based IPV studies from peer-reviewed journals and grey literature. The central theme of educational programmes is to reshape social norm toward gender inequality and stereotypes as well as to create respect and equal relationships (Bell & Stanley, 2006). Generally, by promoting young people's awareness on identifying the early sign of IPV and educating them with the knowledge and skills in relation to IPV. However, the majority of existing preventive programmes are small scale, limited in their methodology, the dissemination of findings is low and have little evidence of effectiveness on the intervention outcomes.

This review locates the majority of studies from the UK grey literature while much fewer sources are available from peer-reviewed journals to inform what has been done to prevent IPV issues. Besides, there is still a research gap in eliminating IPV issues from monitory groups of people, including abusive same-sex relationship, IPV against women and girls from monitory communities, women perpetrate as well as men victims.

Appendices

Appendix A. PICo framework

Girl* OR Female OR Gender OR Sex*OR Student* OR Pupil* OR Undergraduate*	Polic* OR Law* OR Legislation OR Intervent* OR Prevent* OR Protect* OR Evaluat* OR assess* OR Program* OR Campaign* OR Project*	Gender OR Domestic OR Intimate OR Relationship OR Dating	Violen* OR Abus* OR Aggress* OR Harass*	School* OR College OR 'Six Form' OR Universit* OR 'Higher education'	UK OR 'United Kingdom' OR Britain OR England OR Wales OR Scotland OR 'Northern Ireland'

Appendix B. Search terms

Search terms used in three databases	
ERIC	(Girl* OR Female OR Gender OR Sex* OR Student* OR Pupil*) AND (Polic* OR Law* OR Legislation OR Intervent* OR Prevent* OR Protect* OR Evaluat* OR assess* OR Program* OR Campaign* OR Project*) AND (School* OR College OR 'Six Form') AND (UK OR 'United Kingdom' OR Britain OR England OR Wales OR Scotland OR 'Northern Ireland') AND (Gender OR Domestic OR Intimate OR Relationship OR Dating) AND (Violen* OR Abus* OR Aggress* OR Bully* OR Harass*)
BEI	(Girl* OR Female OR Gender OR Sex* OR Student* OR Pupil*) AND (Polic* OR Law* OR Legislation OR Intervent* OR Prevent* OR Protect* OR Evaluat* OR assess* OR Program* OR Campaign* OR Project*) AND (School* OR College OR 'Six Form') AND (UK OR 'United Kingdom' OR Britain OR England OR Wales OR Scotland OR 'Northern Ireland') AND (Gender OR Domestic OR Intimate OR Relationship OR Dating) AND (Violen* OR Abus* OR Aggress* OR Bully* OR Harass*)
Scopus	(girl* OR female OR gender OR sex* OR student* OR pupil* OR) AND (polic* OR law* OR legislation OR intervent* OR prevent* OR protect* OR evaluat* OR assess* OR program* OR campaign* OR project*) AND (school* OR college OR 'six form') AND (UK OR 'united AND kingdom' OR britain OR england OR wales OR scotland OR 'northern AND ireland') AND (gender OR domestic OR intimate OR relationship OR dating) AND (violen* OR abus* OR aggress* OR bully* OR harass*) AND (limit-to (doctype, "ar")) AND (limit-to (subjarea, "soci")) AND (limit-to (language, "English")) AND (limit-to (srctype, "j"))

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Distant Teaching: A Way to Face COVID-19 Pandemic in a Public University

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Abstract

In México, first COVID-19 patient was identified in February and from March 23 on confinement measures were taken by the government, including the suspension of activities at universities. This paper objective is to explore the challenges that professors of a public university faced while moving into a distant teaching practice in the pandemic context. Universidad Autónoma Metropolitana is located in México City and up to the pandemic, most of its faculty lacked experience with online education, so the Emerging Distant Education Project was implemented. A qualitative design was developed and in-depth interviews were made to gather information from members of the Business Administration Faculty. Main findings show that in a short time, professors managed to redesign the courses and to develop materials, while trainning themselves in the use of educational platforms, videoconference and communication devices. Among positive experiences they mentioned widening their teaching skills, the positive and helpful attitudes from students, technical support from the institution and the achievement of learning objectives; while on the negative side they mentioned that math contents demanded an extra effort in order to secure students comprehension. Technical problems with the internet and the lack of a proper learning environment were cited as barriers to students' optimal academic achievement. Most of professors defined their experience as "a challenge". In conclusion, professors took on and overcame the challenges in order to continue classes and to achieve the academic objectives of the term.

Keywords: distant education, COVID-19, public university, higher education, pandemic

Introduction

More than six months after the World Health Organization (WHO) declared the "coronavirus" (COVID-19) a pandemic, it continues to spread throughout the world. As of October 7, there were 36 million confirmed cases in 193 countries and more than one million deaths (rtve.es, 2020). In many countries, including those with apparent success in controlling the disease, infections continue to increase (BBC, 2020).

The pandemic arrives in México on February 28 when the first patient is identified in México City (CDMX), and the second in the state of Sinaloa (Gobierno de México, 2020). From that moment on, the Undersecretary of Prevention and Health Promotion, Hugo López-Gatell R., urges the population to take safety measures such as: use of antibacterial gel, frequent hand washing, avoid physical contact with other people, drink purified water, do not share food, use sanitizers at all times, among other preventions. However, the country continues with its daily life, and it is until March 16 when the Ministry of Health (SS) announces the implementation of the "National Healthy Distant Journey" as another preventive measure. Thus, as of March 23, non-essential activities are suspended, mass concentration events are rescheduled, academic activities are suspended at all educational levels; those measures would conclude on April 19, and lasted until May 30; starting on June 1, the "new normal", according to which activities would gradually be renewed; as a matter of fact, contagions continue in almost the entire country at the beginning of October (Gobierno de México, 2020). Despite the measures taken by the government, as of October 7, in México a total of 794, 608 cases and 82,348 deaths were reported (Navarro, 2020).

In the field of higher education, this emergency caused the massive closure of activities, having to take Higher Education Institutions (HEIs) a series of measures to comply with government instructions; Therefore, in an abrupt and obligatory way, face-to-face academic activities were suspended, giving rise to distant education, trying to provide teachers and students with the information technology and infrastructure that would allow them to continue with their academic activities (Sánchez, M., et. , al.).

The transition from face-to-face and school-based education to non-face-to-face modalities, made both teachers and students leave traditional classrooms, to necessarily become users of technological tools to interact remotely with each other, highlighting the needs of infrastructure that HEIs have, (Sánchez, M., et., al.); as well as the shortcomings on the part of teachers and students.

In this context, the present study had the general objective of exploring the challenges faced by the professors of a public university when transitioning from face-to-face education to the distant modality, in the context of the COVID-19 pandemic in México.

Distant education

Undoubtedly, distant education has meant a solution to the growing demand at different educational levels, as well as to the displacement needs of a large number of people, resulting in greater autonomy in students, since there is a less dependence on the teacher, in general terms. This was already seen as a trend prior to the current COVID-19 pandemic.

In general, it is stated that distant education should represent an ideal complement to face-to-face teaching. In this sense, the available technology should be used in a rational way, with the expectation of being able to increase efficiency and effectiveness in terms of coverage, as well as the attendant costs.

According with the above, it is necessary to highlight the relevance of distant education, as an instrument that enhances the propagation of knowledge. This is particularly important in societies where the demand for education and training is increasing.

In that order of ideas, more than as mutually exclusive options, traditional and distant education must harmonize their respective challenges, in a dialectical process where educational institutions adapt their methods according to existing and available technologies, and in turn these respond to those dynamics. (Alfonso, 2003)

Padula (2003, p. 1) defines distant education as:

"… A non-face-to-face educational methodology, based on multi-directional mediated communication (which implies wide possibilities of participation of dispersed students, with a high degree of autonomy of time, space and commitment), on the teacher´s orientation (given in the design), on the choice of the appropriate means for each case considering the subjects and the possibilities of access of the recipients, and on the tutorials".

Its flexibility stands out as a very favorable characteristic of distant education, which allows many people to access the courses, without having as a restriction the time or space to do so (Padula, 2003).

A problem within distant education is its comparison with traditional education and with those who are in charge of a process in this area. On one hand, there is the position of those who affirm that only the face-to-face is of quality, treating it as a matter of mutually exclusive alternatives, and on the other, those who consider that the first can give a necessary plus to the second (Sangrà, 2002).

Among the relevant aspects to consider in distant education are the means used, "namely: Direct human contact (face to face). Texts (even fixed graphics). Audio. Television. Computing". (Bates, 1999, p. 34). As well as, the development of the instructional design, which is not always given due attention, the evaluation processes and the cost of communication, which in the case of face-to-face education is not a variable to be considered (Dorrego, 2016).

Distant education represents an option that is gaining more importance every day given the need of many countries to expand enrollment at different educational levels, and the central role that education plays in the social and economic development of countries (Aparici, 2002).

On the other hand, the Covid-19 pandemic has put educational systems to the test around the world, and has accelerated the digitization of teaching-learning processes and promoted distant education, and its use will most likely increase in the future.

Institution under study

The present study was carried out at the Universidad Autónoma Metropolitana-Unidad Xochimilco (UAM-X), which is a public university located south of México City (CDMX). 18 undergraduate and 32 postgraduate degrees are taught there. This unit is characterized by its educational model called modular system, in which each module is made up of four components, Theory, Research, Workshop and Mathematics. The teaching-learning process of the module as a whole revolves around a research question that corresponds to a problem of reality, which the student will face in their professional practice.

In order to give continuity to academic activities, the UAM put into practice the Emerging Remote Teaching Project (PEER in Spanish), starting in May of this year, whose central strategy is to teach courses mediated by technologies, and with full curricular validity (PEER, 2020). Likewise, to support students who did not have computer equipment and / or internet connection, scholarships were awarded in kind (tablets and SIM cards); while the teachers attended virtual courses on educational platforms, technological resources used for teaching work; and they were provided with Zoom licenses.

Methodology

The confinement derived from the Covid-19 pandemic made it necessary for Higher Education Institutions (HEIs) to develop strategies to continue their academic activities in a distant mode. As mentioned, in the case of UAM-X, the PEER was implemented, based on which the following objective was formulated:

Know the challenges faced by the professors of a public university when moving from a face-to-face teaching-learning process to a remote teaching process in the context of the Covid-19 pandemic.

To this end, a case study was carried out using an exploratory qualitative design. The information was collected through in-depth interviews with six professors of the Bachelor's degree in Administration from the trimesters of the Basic Professional Core (4 to 12). The interview guide included the following dimensions:

Previous experience with online courses

Didactic strategies used and coverage of learning objectives

Positive and negative aspects of having taught the course remotely

Modification of the way of approaching the module based on their experience with remote teaching

Evaluation of the experience of having completed the term remotely

Suggestions to improve remote education in the institution

Analysis of results

The analysis of the results was carried out based on the dimensions of the topic guide, identifying the most significant testimony phrases of the professors. [1]

Half of the interviewees indicated having previous experience in distant education, mainly in training courses, or of short duration; and the most experienced, in fact, started his teaching career at a virtual university. This situation shows us the diversity and the level of previous experience existing among the professors at the time of implementing remote teaching.

For the development of the courses, the teachers made use of different didactic strategies that included virtual classrooms, means of communication such as mail, chat; as well as different ways to promote interaction with and between students, such as forums and videoconferences through Zoom. Although some teachers indicate that they tried to make their class as close to the classroom as possible, there was a trend towards an asynchronous mode. Likewise, the teachers emphasized the need to develop materials, to provide students with access to various ways of acquiring and reinforcing knowledge and skills, which required them to dedicate additional time to these activities, which on the other hand, also strengthened and expanded his didactic strategies, as can be seen in the testimony sentences (Table 1).

Table 1 Testimony phrases Teaching strategies

"... give the closest thing to the face-to-face."
"... I made their work easier by thinking about the difficulties of the boys to investigate and start working."
"I learned a lot, I prepared a lot of material."
"I will continue to use Excel to develop the exercises"
"Important expansion is virtuality"
“I assumed that most of the acquisition of knowledge by the student was going to be self-taught. And that I had to produce material that was clear, easy, accessible, so that the students could assimilate it in a self-taught way”.
"And basically, they are two types of materials, class notes made in Word, ... and the other tutorials."
“I used Excel and the virtual zoom room they assigned us as a tool. WhatsApp and email”.
“I had to divide them because they were like 50 students; I gave each one just one hour ”.

Source: self-made

[1] The analysis was carried out by referring to the components of the modules, which as mentioned are four: theory, research, workshop and mathematics.

A strategy that they also used was to divide the students into small groups, as well as to reduce class hours, which in some cases were four, to facilitate interaction and understanding of the topics.

Regarding the coverage of the learning objectives, the respondents indicated that these were generally covered; however, depending on the content, in some cases they had to modify the program and focus on the central themes. For some mathematics content, the fact that the students had a computer at hand facilitated the resolution of exercises and this resulted in a decrease in the time required for learning. Another point that contributed to understanding the topics was the development of tutorials, so that students could watch the video over and over again and study at their own pace.

Regarding the research component of the module, each quarter the students go to an organization in which they develop their research work, which in this ocassion was not possible. However, the professors point out that they looked for alternatives, such as studying widely known companies, or questions that could be solved by collecting information on the Internet. In other cases, they tried to advise companies owned by people close to the students. In the opinion of the respondents, the investigations were very interesting and the learning objectives were achieved. On the other hand, professors mention that the role of the student became more active and this is something that should be promoted when returning to the classroom (Table 2).

Table 2 Testimony phrases Coverage of learning objectives

"In all cases the general learning objectives were achieved. Perhaps in the scope of the agendas in some cases the content was shortened".
"… I reduced the objective, that is, I reduced the particular objectives, in the pursuit of the fulfillment of a general objective, I consider the main…
"I did not cover the program. But since they have learned to solve linear programming problems, they did learn ... "
"... I selected content to cover the program in nine weeks"

Source: self made

Among the aspects that negatively affected academic activities are technical failures in relation to the internet connection, mainly in the case of students; as well as the lack of an adequate teaching-learning environment. For some students it was difficult to have a quiet place and they also had to share equipment and connection with their relatives. Likewise, the aspect of socialization, of coexistence with their companions was lost; and for teachers remote education represented a greater workload.

As positive aspects of remote teaching, the teachers coincide in that the most important thing is that the activities were continued and the students did not see their studies interrupted, and in the case of those who were studying the last trimester, they were able to complete it. Likewise, the fundamental aspects of the modular system were strengthened as the level of responsibility and autonomy of the students

increased; and in the case of teachers, their role also changed. To the above, it is added that it was possible to avoid infections (Table 3).

Table 3. Positive and negative aspects of remote teaching

"The most positive aspect was that we got out of the problem and did not miss the quarter"
… The most important for me was that the fears I had regarding teaching, of giving a course in virtual mode were dispelled".
"… Avoid contagion, be able to continue, and in this case complete their studies" (12th quarter students).
"Greater responsibility on the part of the students, open to learning new things, trying to solve. They applied the strengths of the modular system".
"The good thing is that I equipped myself, and learned technical details ..."
"Technical problems ..."
"... I had problems at the beginning of the quarter, because I didn't have a strong enough internet connection."
"... I was very tired"
"... many hours in front of the computer"
"... a lot of stress, this change is very complex"
"Since I didn't ask them to turn on the video, I couldn't see their faces, their reactions. I don't know how much they really learned ... "

Source: self made

In general terms, the teachers consider that taking the courses remotely does not significantly affect the acquisition of knowledge by the students, but it does affect a comprehensive training, by losing contact on a personal level and the possibility to participate and develop oral expression skills.

Table 4 Effects of remote education on the training of students

"… Neither remotely, nor in person, let's say learning is optimal. We are not able to make the most of the talent and capacity of the students".
"… Student participation, oral expression can be affected".
"I don't think it affects their learning; it is not the course that decides whether the student is good or bad, they are immersed in a dynamic and when something like this happens they do not like change ".

Source: self made

The professors also indicated that upon returning to face-to-face classes they would continue to use some of the remote education learning strategies, such as the virtual classroom, tutorials, prior sending of materials, participation in forums, among others; since they consider that face-to-face and distant education complement each other. Similarly, one of the interviewees pointed out that from now on, education should be hybrid, since it is not necessary for students to stay at the university for so long, and this would also contribute to increasing enrollment. However, there is a preference for teaching classes in person.

When the interviewees were asked to rate their experience with remote education on a scale of 1 to 10, with 10 being the highest, the ratings were located in a range of 7.5 to 10, with 8 being the most frequent, which reflects that it was a good experience. However, it required a significant effort, especially for professors without previous

experience in remote education, also considering that there was a short time available to prepare the courses. Hence, when asked to describe their experience with a word, they mentioned wonderful, resilience, open minded, satisfaction, interesting, challenging, complex, contingency.

Finally, to improve remote education, the interviewed professors suggest:

- Standardize the educational platforms to be used and train teachers regarding activities that students can perform asynchronously.
- Promote self-taught learning among students and train them in the use of educational platforms, and in general in the use of information and communication technologies applied to the teaching-learning process.
- Use an educational platform of their own to facilitate access to students and make them feel part of the university.
- Give teachers courses on how to evaluate students in remote mode.
- Greater support for teachers with licenses, rubrics, teaching materials developed by specialists.
- Promote activities that avoid the dehumanization of the teaching-learning process.

Conclusions

The Emerging Remote Teaching Project fulfilled the objective of giving continuity to the academic activities of the institution studied, in the context of the pandemic, and avoiding infections. However, it represented an additional effort for professors, particularly for those who were not familiar with this modality, since they had to move from face-to-face to remote teaching in a short time.

The main challenges that teachers faced are related to the need to redesign / adapt their courses, generate didactic and evaluation strategies according to remote education, and learn or reinforce their knowledge regarding virtual classrooms and ICT applied to education.

On the other hand, they also had to overcome situations derived from inadequate conditions to carry out academic activities such as failures in the internet connection and lack of computer equipment on the part of the students and themselves; as well as teaching their classes in an environment of uncertainty, and in some cases, facing situations related to the contagion of Covid-19 from relatives, colleagues or close people.

In general terms, it was a process that demanded an open mind, a collaborative attitude and a high degree of resilience on the part of the teachers, as well as the students.

Regarding the institution, the lack of an adequate infrastructure to teach distant courses was revealed, so it would be advisable to standardize the use of virtual

classrooms, create a bank of teaching materials and rubrics; as well as a continuing education program for professors and students, which remains after the contingency.

The pandemic came to make clear the need to incorporate new study modalities, which is why the institution is recommended to take advantage of the momentum, and to generate plans and study programs in hybrid or distance modality, as well as to move towards new forms of teaching and interaction between professors and students.

Regarding the research activities carried out by students, given that it is currently not feasible to go to organizations, it is recommended to establish agreements to interact remotely, as well as to carry out professional practices in the telework modality.

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Telecollaboration for Civic Competence and SDG Development in FL Teacher Education

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Abstract

The Civic Competence has been acknowledged essential to support sustainable societies, economies and ecosystems for the development of responsible active citizens in today's increasingly connected world. In this regard, telecollaboration seems to help enhance related media literacy and intercultural skills. However, despite the development of key competences for lifelong learning with telecollaboration has already been the focus of some studies, the measurement of Civic Competence in teacher education with telecollaboration remains still a question for investigation. Following this line of research, this study aimed to explore the own perception of FL student teachers in Civic Competence, and if this competence can be developed working the Sustainable Development Goals (SDG) with telecollaboration. The participants of this study were two groups of student teachers at two different European universities. Both groups completed a survey and proposed collaborative strategies to improve the global and Civic Competence. Educational proposals and digital collaborative tools were analysed to measure the improvement of the student teachers´ perception. Forum, e-portfolios and evaluation forms together with pre- and post-questionnaires were used to explore the outcomes. Results indicated that most Civic Competence domains can be enhanced by working SDG and that adopting a reflective, experiential and safe collaborative online international learning approach can help promote further knowledge, skills and attitudes in specific contexts.

Keywords: telecollaboration, civic competence, global competence, sustainable development goals (SDG), FL teacher training

1. Introduction

This study documents a pedagogical research developed in the second term of 2020 by two European universities. Based on data from a small-scale pilot research, we obtained some initial evidence that, by providing future teachers with educational collaborative technology, we can improve education in Civic Competence (EC 2018, 2019) and Sustainable Development Goals (OECD 2018).

Education in citizenship has clearly gained prominence in national curricula across Europe at all levels. Despite terminology varies and Social and Civic Competences have been largely included in several frameworks, the Social and Civic Competences can be grouped together as one competence as described in the current European Commission suggested framework (EC 2018). As defined by the OECD (2018), the Civic Competence relates to the Global Competence and comprises *Global Mindedness, the ability to interact respectfully, appropriately and effectively as well as the Knowledge and understanding of global issues. Education can help make citizens contribute to peaceful, tolerant, inclusive and secure societies* (2018:24).

Despite some research has acknowledged the cultural significance of Citizenship values in teacher training (Chistolini 2019), literature calls for a development of the intercultural dimension, together with critical thinking, active democratic participation and sustainable development (EC 2018:34). This can be developed integrating the Sustainable Development Goals (SDG) in the curriculum to promote "knowledge, skills and attitudes related to sustainable development and lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity through education" (UN 2015, OCDE 2018).

2. Literature Review

Based on existing literature of teaching and learning theories on sustainability (i.e. Mindt and Rieckman 2017) and further research on key competencies for sustainable development in higher education (i.e. Barth, Godemann, Rieckmann and Stoltenberg 2007), this study has considered studies (i.e. Schwarzer and Bridglall 2015) that focused on promoting specific domains that link the Global with the Civic Competence in teacher education. According to the OECD, it is crucial to offer students the opportunity to learn about global developments and to teach how to form a critical and realistic vision of current affairs, contributing instruments of analysis of diverse cultural practices, involving students in intercultural relations, as well as promoting the value of diversity (2018). However, there are few academic studies that confirm the appropriate acquisition of civic knowledge, skills and attitude with SDG following a specific validated framework or specific pedagogies.

Although one of the priorities of organizations such as UNESCO and the European Council is to evaluate the acquisition of key competences for permanent learning (EC 2018) with digital resources, there are still few studies that ratify the appraisal of citizenship in collaborative online environments (Vinagre 2016). This research proposal takes as a starting point previous investigation projects on the acquisition of competences and skills with communicative online collaboration, virtual exchange and telecollaboration in English mediated instruction (ie. VELCOME, TELNETCOM, TILA, UniCollaboration, TeCoLa) following Colpaert (2020). Findings highlight telecollaboration for intercultural and content integrated language teaching and indicate that participants who use telecollaboration to develop competences for

lifelong learning can improve their technological pedagogical content knowledge and the learning to learn competence (Garcia-Esteban, Villarreal and Bueno 2018, 2019), social skills in task-based language learning and teaching (Hauck 2010) and the digital competence (González-Lloret, 2013). Related research can be found in online intercultural exchange and the development of transnational models of virtual exchange for global citizenship education (O´Dowd 2020), the enhancement of soft skills in higher education foreign language programs with telecollaboration (Gomez, 2019) or the need to develop basic, digital and cognitive skills for professional development (Garcia and Jahnke 2020).

This study is based on Dörnyei´s (2013) seven principles for effective communication in the foreign language and Tondeur´s (2018) approach for the development of future teachers' competencies with technology integration. It is also founded on Guth and Helm´s (2010) pedagogy, which considered that telecollaboration facilitates foreign language (FL) teaching with digital tools and online communication with peers mainly to develop language skills, digital and communicative competences (Dooly 2008, Ware and Kramsch 2005) as well as competences for life-long learning such as the Civic Competence.

The research attempts to contribute to educational innovation by filling an existing gap in terms of evaluating the perceptions in Civic Competence following the EC (2019) framework of multilingual postgraduate student-teachers and the proposal of didactic practices for improvement of the less developed domains with telecollaboration.

3. Methodology

3.1. Participants and instruments

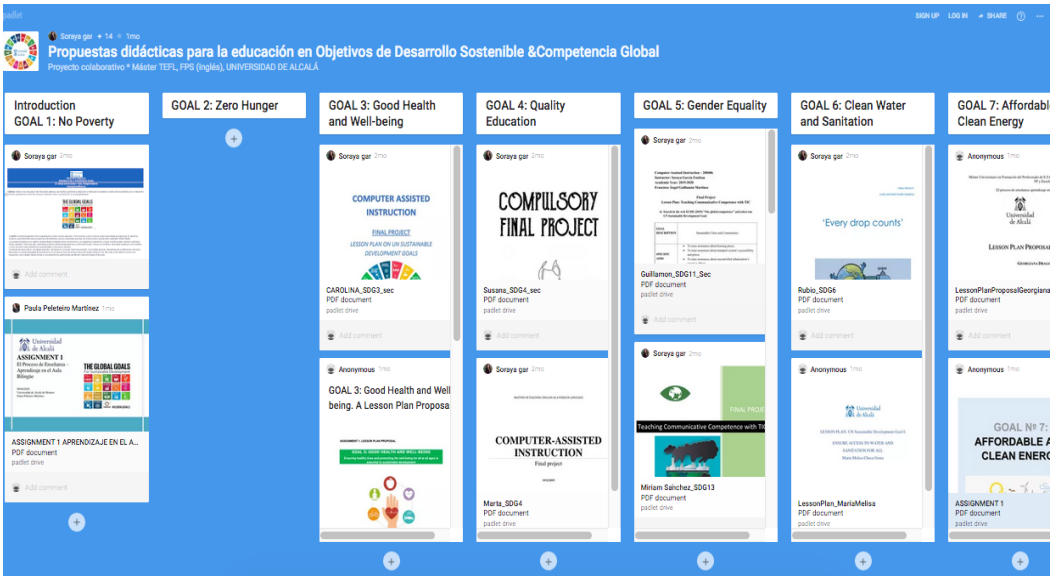
This study included Masters´ degree participants from the disciplines of Education and Humanities from two European Universities: on in the center of Spain (n=23), which was the experimental group (EG), and a Belgian University (n=18) taken as control group (CG). The majority of the participants in the survey were multilingual females who had been studying, living or visited more than one European country. Both Master programs followed the (ECTS) European Credit Transfer and Accumulation System.

The program offered by the Belgian University was an Educational Master from the Department of Linguistics. The participants from this university were 18 participants enrolled in the specific course "English linguistics, Arts and literature". The course was designed to be delivered face to face and involved working digital collaborative tools such as the institutional learning platform Blackboard, and the use of social media for research purposes, etc. The course followed a subject-specific pedagogy which covered student diversity and guidance.

The participants from the Spanish university were 23 student teachers from the Master's Degree in Teacher Training, English specialization, enrolled in the course "Content and Language Integrated Learning in the Bilingual Classroom" as part of the Master's Degree in Secondary Education Teacher Training. The subject was taught online following a content and language integrated learning approach. This master degree was part of the Department of Modern Philology.

The experimental group was proposed a collaborative online task consisting on researching educational materials to design a lesson plan based on a given content topic for native English speakers on the web relating contents to a SDG which might help develop certain domains of the SDG Global Competence (OECD 2020, 2018) and the Civic Competence (EC 2019). This task was delivered online and was built on the pedagogy of telecollaboration (Dooly, 2008, Guth and Helm 2010), which involved incorporating several online collaborative tools: videoconferencing and discussion Forum through the institutional learning platform (Blackboard), Social media (YouTube, Google+, Academia.edu) and collaborative Web apps (Padlet). Figure 1 Illustrates this task with the lesson plans designed and evaluated collaboratively by the student teachers.

Figure 1. UAH- ODS Lesson Plans Padlet



This tasks was based on Dörnyei´s (2013) seven principles for effective communication in the foreign language, which consider that learning should be meaningful and engaging; tasks should allow controlled practice; vocabulary and grammar should often appear in different types of tasks, there should be a balance between both fluency and accuracy in the syllabus design, when carrying out communicative tasks students should also practice formulaic language, students

should be exposed to the foreign language constantly and interaction between students should take place in all communicative activities.

3.2. Method and data collection

The proposed research unit of qualitative nature consisted of an exploratory descriptive study, using as an instrument the open or in-depth survey with a medium level of directivity, semi-structured as to which some open-ended questions were raised so that the participants could freely express their ideas, beliefs, opinions, assessments (Tójar 2006). We chose to use the survey because it offered the participant the possibility to comment on the questions (Rodríguez Gil & García 1996) following the Test-Retest method in order to identify possible changes and improvements. We deployed student and teacher surveys among all the MA participants and collected data over the second term course along six months. Teacher surveys included open answer questions relating to teachers' professional development opportunities and their existing perceptions of the Civic and Global Competences. We incorporated the findings from these interviews into our qualitative data.

Following Hinton (2019), in our initial analyses we utilized qualitative methods to categorize and codify the participant responses. This enabled a general understanding of the learning activities with respect to sets of competencies, which provided us with context for subsequent analyses of the data. We used methods adapted from Grounded Theory. With this approach, we systemized participants' ideas by organizing them into codes through two main steps: substantive coding and selective coding. First, the data were substantively coded, which involves coding all of the data for meaning. These codes were condensed versions of the participants' ideas. These substantive codes were then analysed to create selective codes using a combination of deductive and inductive processes. That is, substantive codes were logically combined based on both frameworks from academic literature on global education and themes that deductively emerged from the data.

4. Results

Data exploration in this study consisted on an online questionnaire based on OECDE (2018) Global Competence which enclosed sub-domains from the SDG (OECD 2019) and the domains illustrated in Table 1 from EC (2019) Civic Competence. Quantitative analysis of student teachers´ survey data aimed to identify participants' perceptions before and after working the SDG assignment with digital collaborative tools. Focused qualitative analyses of open response survey data allowed to explore relationships between collaborative Educational Technology and the Civic Competence.

To carry out the investigation, we correlated OECDE (2018) Global Competence construct with EC (2019) Civic Competence participants´ perceptions. The table below presents the results after having worked the Global Competence developing lesson plans for teaching a particular subject in English as a foreign language using

diverse methodologies integrating the 17 Sustainable Development Goals (SDG) as subject contents. Scores were standardized based on all responses in the survey so that scores have a mean of 0 and standard deviation of 1. The relative magnitude of the Civic Competence scores had a meaningful interpretation.

Table 1. FL Student teachers´ perceptions of the Civic Competence (EC 2019)

Knowledge	EG Pre-test	EG Post-test	CG Pre-Test	CG Post-Test
1. Knowledge of basic concepts/phenomena relating to individuals, groups, work organizations, society, economy and culture	52%	67%	57%	61%
2. Understanding of the European common values	27%	27%	38%	34%
3. Knowledge of contemporary events	67%	83%	73%	74%
4. Critical understanding of the main developments in national, European and world history	48%	46%	54%	58%
5. Awareness of the aims, values and policies of social and political movements	66%	65%	77%	69%
6. Awareness of sustainable systems; ex. climate and demographic change at global level and underlying causes	70%	83%	67%	68%
7. Knowledge of European integration	67%	64%	67%	71%
8. Awareness of diversity and cultural identities in Europe and the world	55%	77%	68%	68%
9. Understanding of the multi-cultural and socioeconomic dimensions of European societies	48%	56%	65%	73%
10. Understanding of how national cultural identity contributes to the European identity	75%	83%	77%	78%
Skills				
11. Ability to engage effectively with others in common or public interest, including sustainable development of society	52%	83%	54%	50%
12. Critical thinking and integrated problem solving skills	58%	57%	48%	58%
13. Skills to develop arguments and constructive participation in community activities	45%	83%	48%	73%
14. Decision-making at all levels, from local and national to the European and international level	37%	40%	48%	44%
15. Ability to access, have a critical understanding of, and interact with both traditional and new forms of media	63%	72%	54%	63%
16. Understanding the role and functions of media in democratic societies	78%	77%	75%	41%
Attitudes				
17. Respect for human rights as a basis for democracy	73%	83%	72%	73%
18. Responsible and constructive attitude	77%	82%	82%	78%
19. Constructive participation in democratic decision-making at all levels and civic activities	48%	42%	54%	50%
20. Support for social and cultural diversity, gender equality and social cohesion, sustainable lifestyles	67%	77%	62%	69%
21. Promotion of culture of peace and non-violence	68%	76%	67%	73%
22. Readiness to respect the privacy of others	80%	82%	72%	70%
23. Responsibility for the environment	73%	92%	79%	82%
24. Interest in political and socioeconomic developments, humanities and intercultural communication	57%	68%	72%	78%
25. Preparation both to overcome prejudices and to compromise where necessary and to ensure social justice and fairness.	45%	52%	54%	50%

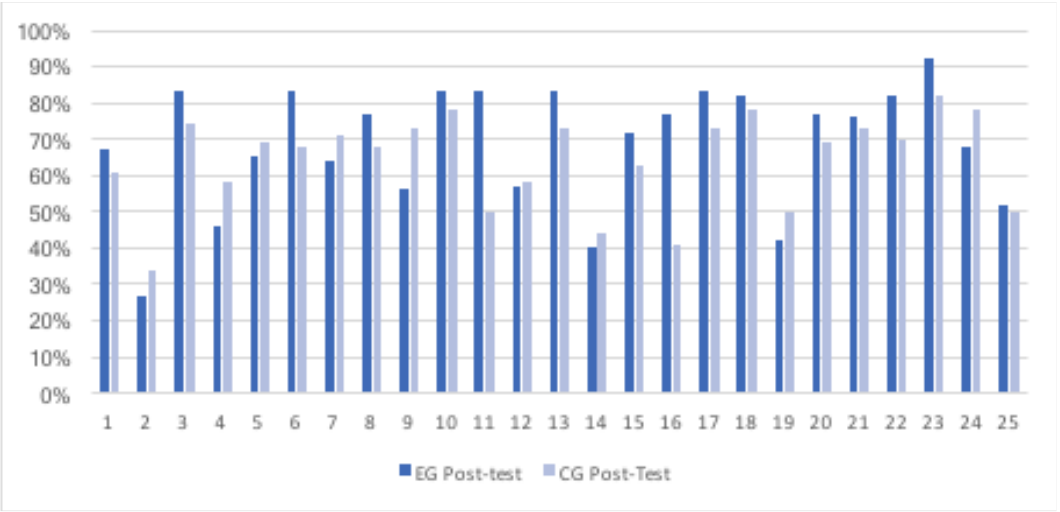
As illustrated in table 1, results concerning the **knowledge** dimension indicated that the experimental group (EG) increased their perception in Knowledge of basic concepts and phenomena relating to individuals, groups, work organizations, society, economy and culture (from 52% to 67%) after working the SDG with collaborative tools. The task proposed also helped enhance their knowledge of contemporary events (from 67% to 83%) and their awareness of sustainable systems such as climate and demographic change at global level and underlying causes (from 70% to 83%). Working SDG seemed to help understand the multi-cultural and socioeconomic dimensions of European societies (from 48% to 56%) and how national cultural identity contributes to the European identity (from 75% to 83%).

Regarding the **skills** dimension, data revealed that the telecollaborative task seemed to increase the EG ability to engage effectively with others in common or public interest, including sustainable development of society (from 52% to 83%), as well as skills to develop arguments and constructive participation in community activities (from 45% to 83%). Gains were also observed in the EG ability to access, have a

critical understanding of, and interact with both traditional and new forms of media (from 63% to 72%).

EG Student teachers **attitudes** also experienced an upgrade in domains such as respect for human rights as a basis for democracy (from 73% to 83%), and responsible and constructive attitude (from 77% to 82%) working SDG collaboratively. The experiential task seemed to contribute to support social and cultural diversity, gender equality and social cohesion, sustainable lifestyles (from 67% to 77%); the promotion of culture of peace and non-violence (from 68% to 76%) and readiness to respect the privacy of others (from 80% to 82%) showing a sharp growth in responsibility for the environment (from 73% to 92%). However, the upturn interest in political and socioeconomic developments, humanities and intercultural communication (from 57% to 68%), and the preparation both to overcome prejudices and to compromise where necessary to ensure social justice and fairness (from 45% to 52%) were not noteworthy.

Figure 2. Comparison of student teachers´ perception of the Civic Competence after the SDG telecolaboration task



Data outcomes in Figure 2 showed that working SDG with telecollaboration increased slightly the 16 dimensions of the Civic Competence labelled above, except for 9 competences in which the CG rated higher after the experiential task. These were: understanding of the European common values (34% against 27%), critical understanding of the main developments in national, European and world history (58% against 46%); awareness of the aims, values and policies of social and political movements (69% against 65%); Knowledge of European integration (71% against 64%); critical thinking and integrated problem solving skills (58% against 57%), decision-making at all levels, from local and national to the European and international level (44% against 40%); understanding the role and functions of media

in democratic societies (41% against 77%), and constructive participation in democratic decision-making at all levels and civic activities (50% against 42%).

5. Analysis and discussion

Despite the EG rated higher after having carried out the experimental task, outcomes show that differences in perceptions among the two groups in different European locations cannot be considered significant. Possible reasons can be the CG educational curricula, which developed cultural and historical contents, the teaching methodology, and the location of their university in the centre of Europe. These contextual factors might have influenced the perception of the CG participants as a possible explanation for their interests in the European topics where they rated higher. Furthermore, it must be noted that the EC (2019) framework of the Civic Competence used in this research comprise European issues whereas de SDG (OECD 2018) framework focuses on worldwide concerns, which might not have helped develop specific dimensions related to this continent.

The following lines relate the outcomes with research on the Civic Competence and telelecollaboration. Data was examined to explore learning activities that can be effective in promoting the Civic Competence, considerations for implementing them effectively with telecollaboration and possible challenges. To provide further context to our analyses, student teachers´ responses have been transcribed in italics.

Findings have revealed that proposing FL student teachers a task consisting on the design of a lesson plan associated to a specific SDG to teach contents of a particular area (History, Geography, Art, etc.) with online collaborative resources contributes to the development of their Civic Competence as sustainable development "include participatory and collaborative skills; interdisciplinary and intercultural understanding; the ability to reflect on one's own position and take different perspectives; effective communication; critical reflection; initiative-taking and problem-solving; taking responsibility; empathy, compassion and solidarity (EU 2018:41).

Data seem to indicate that the overall student teachers´ level of Civic Competence scored over in those participants who had worked the online SDG assignment with collaborative tools except for 9 of the 25 domains or competencies (CC 2,4,5,7,12,14,16,19,22). Differences in the results between the CG and EG coincide with the domains that correlate directly with the OECD (2018) Sustainable Development Goals, specifically: basic human rights, climate change and environmental issues, sustainable development and social inclusion and active citizenship. Higher scores can be attributed to the participants who worked them in class. The lines below describe the proposals to develop the domains with a telecollaborative approach.

Overall, the three dimensions evaluated in this study: Knowledge, Skills and Attitudes, were enhanced working the SDG and relating them to specific contents of the study

program. For this, effective educational methods needed to be used following Mezirow´s (1997) transformational learning for deep, constructive and meaningful learning. This can be achieved *with discussions related to the SDG through Project Based Learning (PBL) and Task based learning (TBL) with telecollaborative tools (eg. Forums or discussion Chats) on a learning platform (ex. Blackboard, Teams, etc.*) as revised by Hauck (2010).

knowledge about global citizenship "has to be combined with practice, actual experiences and opportunities for learners to develop, test and build their own views, and to learn how to take actions responsibly. Participation in community activities and opportunities to interact with other populations of different backgrounds or views are necessary" (EC 2018:51). This dimension could be enhanced *setting telecollaboration tasks with external organizations (ex. NGO) or collaboratively with other Higher Education Institutions,* following O´Dowd and Lewis (2016) in order to enhance less developed domains such as Understanding of the European common values (CC2), Critical understanding of the main developments in national, European and world history CC4), or Knowledge of European integration (CC7). Areas such as Awareness of the aims, values and policies of social and political movements (CC5) could be developed *using internet and social media to research different situations or societal issues, and working online contents from internet (news/documentaries/issues) in collaborative online discussion tasks* as described by Rubin and Guth (2016).

Regarding Civic Competence skills, critical thinking, decision-making and problem solving have been considered the most important ones (EC 2018:35, Garcia and Jahnke 2020). Outcomes have shown that working the SDG with a telecollaborative approach helps develop arguments and community *participation in constructive activities using collaborative tools such as discussion forums* or collaborative Web apps (Padlet) *for co-evaluation*.

Data seem to indicate that telecollaboration also facilitates "Education for Sustainable Development with a significant impact on raising awareness and developing curricula, teaching material and partnerships for learning on sustainable development" (EC 2018: 98), thus allowing participants to engage effectively with others in common interests, including sustainable development of society and developing arguments. Working SDG can help develop these skills by proposing the writing of collaborative tasks using online repositories, carrying out projects sharing files with other students or *promote critical argumentation in co-evaluations with collaborative programs such as Comproved*. However, there are still difficulties to find online learning platforms in which all these functionalities are jointly available.

However, results show that some skills still need to be developed. Critical thinking and integrated problem solving skills (CC12), could be enhanced ***proposing Mezirow´s (1997, 2000) experiences of disorientation dilemmas***. Similarly, decision-making at all levels, from local and national to the European and international level (CC14) could be *enhanced working PBL and TBL by creating and*

sharing short videos on topics related to the SDGs to be further discussed in social media. Understanding the role and functions of media in democratic societies **(CC16)** could be developed with *training in strategies to search and analyze information from Internet critically.*

Civic Competence **attitudes** "highlight the role of citizenship, democratic values (CC19) and human rights in todays increasingly connected global societies. Understanding of the need to support sustainable societies, economies and ecosystems, as well as practice sustainable lifestyles is a key element of this competence" (EC 2018:39). Therefore, teachers are expected to build on responsible, active citizenship to contribute to peaceful, tolerant, inclusive and secure societies. In this context, media literacy and intercultural skills can be further strengthened with telecollaboration (Dooly 2008). This can be achieved developing SDG contents with *multimedia tools. Digital animation allows students to edit movies and present them collaboratively with Storify, Prezi, Storymaker, Mindnote, Flipgrid, Buncee, or Padlet* (fig. 1) ensuring the respect and privacy of others.

Conclusions

This research has provided accounts of how the Civic Competence can be enhanced working the SDG with diverse collaborative online learning resources and methods. For that purpose, we explored the perception and proposals of two groups of multilingual and multicultural MA student-teachers from different European universities. Results indicated that the participants who worked the SDG following a telecollaboration approach rated slightly higher in most of the Civic Competence domains, but both groups declined in those competences which were interwoven with active citizenship. Proposals for improvement underscored reflective appraisal in safe digital media and experiential telecollaboration with external institutions, thus following a collaborative online international learning approach.

According to the study carried out, working the SDG following a telecollaboration pedagogy seems to contribute to the development of Civic Competence since it fosters the adoption of a multiple approach to promote civic awareness, critical thinking, FL communicaive skills and collaborative learning, which leads to a better understanding of world views, norms and values. Although telecollaboration has been acknowledged to facilitate intercultural communicative competence, which might be the reason of the high rates scored by the participants in related domains, the novelty of this study is the appraisal of the participants' perceptions following a validated framework of the Civic Competence with proposals for the integration of the SDG in higher education. The current teaching approaches revised in the study can be adapted to various learning environments.

Data seem to confirm that telecollaboration not only can help develop the Civic Competence and the SDG but it can also enhance Dörnyei´s (2013) seven principles for effective communication. An exception took place in the formulaic language

principle, which involved using structures as they are used for communication in real life. This could be facilitated in virtual exchanges with external organizations or integrating real experiences abroad. Although the main approach is meaning-oriented, teachers should also make sure that the focus-on-form principle is met by promoting critical thinking.

This study has explored the development of the Civic Competence integrating the SDG with telecollaboration in the teaching program of a sample of multilingual European student teachers with the final aim to identify needs and proposals for improvement. However, some shortcomings should be acknowledged and results should be taken with caution. First, further research is required for a detailed analysis of the underlying causes of upgrading or shortcomings in Civic Competence in order to adjust each teaching program and collaborative task to the specific needs. Second, it should be analysed whether a different type of SDG task would produce similar results. Third, a proper validation of the enhancement of the Civic Competence with telecollaboration with a wider sample would be needed. Additionally, the correlation between the SDG and the Civic Competence domains is still under-researched by academics and should be addressed as future direction for investigation. Recommendations point out the need for providing future FL teachers with further educational collaborative technology resources and methods to enhance the less developed sustainable developed areas and goals. This could be assured incorporating the SDG in the curriculum following Colpaert´s transdisciplinary approach and with the use of Open Data "where it all comes together": technology, education, policy, production, linguistics and thinking (2018:11).

Despite the findings might vary in different contexts, we believe that along this study, (future) educators have been empowered with the SDG and Civic Competence appraisal experience by reflecting upon their own development, which nonetheless contributes to the qualification of future citizens for a more sustainable world.

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Learning Objects in Online Education: A Systemic Approach

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Abstract

In the construction of learning objects, as digital instructional material that is delivered to students, the level of learning to which they are directed must be considered first of all, according to the Bloom taxonomy or any other that is used, applicable to the e-learning, taking advantage of the digital resources that are currently available, multimedia for creation, digital repositories for storage and internet for access. Learning objects are built with pedagogical and technological elements that follow a process in themselves, subject to an educational model, instructional design, curriculum design and learning objectives as precedents, with stages very similar to those of design, construction and operation of an information system. Given their nature of digital entities, learning capsules that contain information and knowledge, the Data Quality Model of the ISO / IEC 25012: 2008 standard is also applicable, which guarantees the quality of the content and their access and availability. The creation of learning objects must also obey an educational strategy and be considered holistically in the e-learning system, that is, use a systemic approach throughout the teaching-learning process, including learning objects, considering harmonization, performance and quality in all its stages.

Keywords: cognitive computation, construction of learning objects, digital repositories, educational strategies, teaching-learning process

1. Introduction

Due to the COVID-19 pandemic that emerged in the city of Wuhan, China in 2019, many things have changed, and in a post-pandemic era, which is not yet in sight, much of what has changed will endure; for example, new hygiene and personal care habits, restaurant capacity, safe distances, more work at home when the nature of the activities allows it, and many others. In the educational field, there was a mandatory foray into e-learning, although not fully and completely, but through the provision of

virtual classrooms for remote education and embryonic repositories in which teachers made materials such as presentations available to their students electronic, videos with the exposition of topics and even tutorials, also increased the use of applications for topics such as mathematics and simulation.

As a result of the unforeseen use of resources belonging to e-learning, a mixture of platforms were used, sometimes compatible but dissimilar, taking a tool from one and another from another, for example, the collaboration system of a company, with the office suite on the other, the storage of a third party and even with partial uses of LMS platforms such as Moodle.

Online education is not the electronic reproduction of face-to-face courses, nor is the provision of a classroom for remote education online education. But the urgency and many times the improvisation in the use of these technologies resulted in that the virtual classes were a reproduction of the face-to-face sessions, either synchronous or asynchronous, without taking advantage of all the resources available in digital media. Even so, this situation brought positive things, for example, the approach of teachers to these technologies, the knowledge of new tools by the students and the creation of improvised digital repositories, which do not meet security and e-learning standards, but that can be used for when you return to the classroom, either in person or hybrid.

The face-to-face courses are not designed to be taught as e-learning because they use other educational strategies and different instructional materials, most of them physical, although digital ones are beginning to proliferate, such as downloadable or searchable electronic books from digital libraries. However, current circumstances make it necessary to adjust the strategies, methods and contents to the available resources.

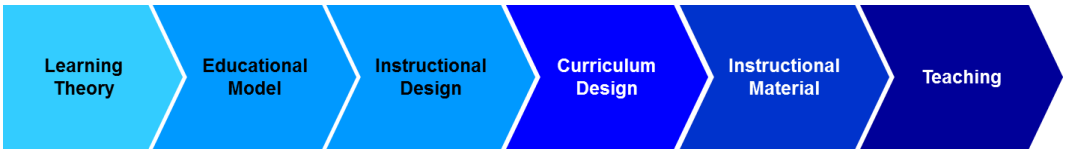
The product that is delivered to students in this process are learning objects, which David Wiley (2002) in his seminal work presents as follows: “The fundamental idea behind learning objects is that instructional designers can build small (relative to the size of an entire course) instructional components that can be reused a number of times in different learning contexts. Additionally, learning objects are generally understood to be digital entities deliverable over the Internet. This means that any number of people can access and use learning objects simultaneously”.

Methodological aspects

2. The teaching-learning process in online education

Teaching-learning is a process and as such has stages, inputs and outputs. The final result depends on the alignment and performance of each stage, so each of the stages must be carefully designed, instrumented and operated.

Figure 1. Process from learning theory to teaching.



Source: self made.

In e-learning, learning objects are included in the instructional material, and are a way of presenting the learning content in digital format, with all the advantages mentioned by Wiley (2002) and his co-authors, such as simultaneous access and from anywhere you have internet access, as long as you have the permission to do so.

3. Learning objects

Learning objects are units of instruction, self-contained capsules with materials in various formats that develop a point on a topic. The concept derives from object-oriented programming, in which an object is a combination of variables, functions and data structures that have properties that allow their use in various ways and their reuse in more than one application, that is, they are entities that pack more than one type of elements and thus facilitate their use in other applications because, as they are self-contained, they do not depend on other elements of the program.

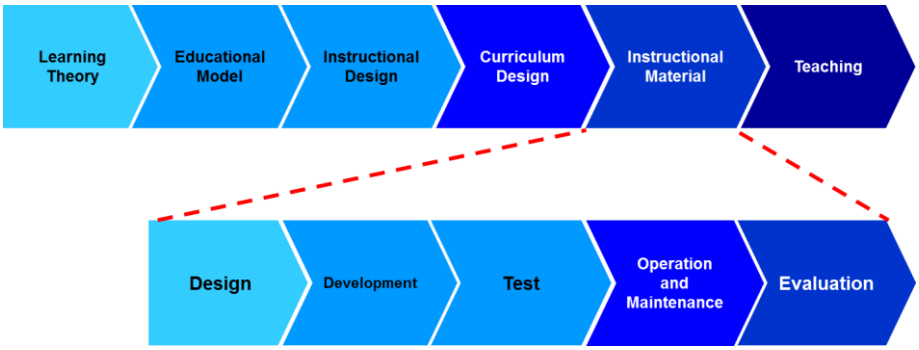
A learning object is defined by Barritt and Alderman (2004) as "a collection of elements that contain some information, learning activity, metadata, context and learning objective". For Joseph Frantiska Jr. (2016) "learning objects are a new way of thinking about the content of learning. Traditionally, the content comes in chunks lasting several hours. Learning objects are much smaller units of learning, typically ranging from 2 to 15 minutes".

The Wisconsin On-Line Resource Center is a successful example of a learning object system, they offer not only more than 2,500 learning objects with free access, under the Creative Commons Attribution-NonCommercial 4.0 International license, but they have also developed concepts and methodologies for its construction. In its web portal, WORC (2020) says that a learning object is "the most basic building block of a lesson or activity; searchable, usable in any learning environment; able to be grouped or to stand alone; transportable from course to course and program to program".

There are many other concepts of learning objects, from different perspectives, but all agree that they are learning units that fragment a lesson into shorter, but self-contained pieces, so that they can be assembled together to form part of a lesson of a course or a program. This is the basic concept of use and reuse that gives flexibility and adaptability to learning objects.

The learning objects are developed by teachers who receive support from a team of specialists who align the draft created by the teacher with the instructional design, technicians who develop the objects in the selected medium, reviewers who evaluate it and the content administrator who load on the system, at a minimum.

Figure 2. Process of instructional material as learning objects.



Source: self made.

Since knowledge objects are data / information capsules, it is highly recommended that they align with ISO / IEC 25012: 2008 (2008), which establishes data quality as "the degree to which the characteristics of the data satisfy established and implicit needs when used under specific conditions". This standard establishes a model of 15 characteristics for data quality: (1) accuracy, (2) completeness, (3) consistency, (4) credibility, (5) correctness, (6) accessibility, (7) compliance, (8) confidentiality, (9) efficiency, (10) precision, (11) traceability, (12) understandability, (13) availability, (14) portability and (15) recoverability. Some of these characteristics depend on the data itself (1, 2, 3, 4, 5), others on the system (13, 14, 15), and some of both (6, 7, 8, 9, 10, 11, 12), but in any case they are criteria that must be taken into account in the different stages of development of learning objects.

4. Design

The design of learning objects is based on criteria, learning theories and establishing the learning experience and the means to achieve it, which determines the applicable methods and technologies. Diana Laurillard (2013) establishes five means for an equal number of learning experiences:

Table 1. Five main means to achieve learning experiences (modified from Laurillard, 2013, pp 90).

Learning experience	Media form
Attend, learn	Narrative
Investigate, explore	Interactive
Discuss, debate	Communicative
Experiment, practice	Adaptive
Articulate, express	Productive

These five forms of media remain, but methods and technology continue to change, enriching some and disappearing others, mainly due to the services offered through

the internet such as videoconferences, streaming, collaboration systems, electronic libraries, databases, blogs, vlogs, online simulators, social networks and others.

Shantha Fernando (2009) mentions that design should focus on complying with the three "U" that Keen and Sol (2008) point out "usefulness, usability and usage", which in relation to learning objects mean that they are useful in the content of the course through the tools and methods used in it, that have usability for the people, technology and processes in which they are used and that have usage in terms of flexibility, adaptability and sustainability. Likewise, the author points out that it is not only necessary to develop the learning objects only with the correct practices, but with a new approach, which implies ways of thinking and of support for a different modeling, control and work, which are adapted to the Present and future conditions of the discipline or area of knowledge for which the learning objects are being built. This means that it is not appropriate to apply the same model to all areas or disciplines, because they can be as dissimilar as mining and oceanography, or systems engineering and medicine, requiring different approaches, resources and dynamics.

At this stage, both the pedagogical as well as the technological and operational aspects must be considered, such as the form of the medium, the technology to be used and the scope of the objects. It should be noted that a good design is the key to a good product, because that is where its architecture and engineering are established.

5. Development

Once the means, the strategy, the learning objectives have been determined, a preliminary sketch is built, which specialized technicians or the teacher himself, depending on the resources available, converts into a digital product using author tools.

Authoring tools are applications with which content can be created that are saved in formats compatible with e-learning standards, there are a large number of them those that are installed as complements to electronic presentation software stand out, because they combine the ease of use of the electronic presenter with the deployment and evaluation capabilities of the tool. There are also independent applications, which are not installed on top of other applications, and which include functions to create content and evaluations, saving the material created in some e-learning standard.

When the contents are going to be uploaded to an LMS or an LCMS, they must comply with some e-learning standard in order to be imported by the LMS, so if the product created with the authoring tools is not in a format supported by the LMS / LCMS, the corresponding conversion will have to be made, the same happens when using screen grabbers, video recordings, audio recordings, or any office application such as an electronic presenter, if they are to be uploaded to an LMS or LCMS the necessary

conversion will have to be made, for which other software is needed that does "packaging" in the desired standard.

iSpring Solutions (2020) on its website describes the four prevailing standards in e-learning. The oldest standard is AICC (Aviation Industry Computer-Based Training Committee) which uses the HTTP protocol, and although it has not evolved some LMS and some authoring tools still use it. The de facto standard is SCORM (Sharable Content Object Reference Model) which is currently used in two versions, 1.2 and 2004, with some differences between them. A newer standard that allows recording user “experiences”, online or offline, and that has capabilities for mobile learning, social learning, offline learning, and collaborative learning is xAPI. Even more recent is cm5, launched in 2016, which brings together the benefits of SCORM and xAPI in a single standard, which means that content created under this standard can be used on mobile devices and even offline.

The choice of the e-learning standard to use will largely be dictated by the authoring tools and the LMS / LCMS used. As already mentioned, the standard in fact is SCORM, although many of the LMS / LCMS platforms can import content in SCORM or in the other standards mentioned, then the choice would be subject to the objectives set for the type of content and access to these.

6. Storage, Access and Distribution

Learning objects are the storage unit in e-learning systems, such as LMS (Learning Management System) and LCMS (Learning Content Management System), for which they must meet some of the standards established for them. Although the LMS and LCMS systems are the main repositories of the learning objects, external repositories can also be structured to them, for which there is software that links these external repositories with the LMS or LCMS, or simply make it accessible to the user independently of those systems.

Repositories consist of storage systems where files are deposited to be available for access. The construction and location of the repositories are also subject to strategy and evaluation. The location can be on-premise (on storage servers located within the institution), in the cloud (on a third-party storage system) or hybrid (part on-premises and part in the cloud). Determining the location of repositories takes into account performance, cost, security, availability, and all other factors that are taken into account for the location of any information system.

The creation of a repository, in addition to its location, requires careful planning of the structure, access, security, maintenance of the learning objects (updating or correcting them) and their removal when they expire. Although it only seems a technical issue, the creation and feeding of repositories also requires agreements and provision on the part of the teachers who will create the contents, an issue not easy due to the teaching style of each teacher and the recognition of the collaboration and

authorship that make these products institutions, which can discourage their creation if they are not recognized.

Another advantage of learning objects being stored and accessible in a repository is that their reuse is facilitated, because they are seen as entities of a digital library that can be "consulted" (used or reused) by various courses and programs even by various institutions when there are agreements to do so, it is therefore very important that they meet standards in order to have interoperability and can be used by various LMS / LCMS.

In large institutions with high instructional content in the form of learning objects, a figure equivalent to the Chief Data Officer can emerge, who is responsible for the use and governance of data in a company. This administrator that we could call COLO (Chief Object Learning Officer) would be in charge of the security, availability, backup and care of the expiration of the learning objects.

Thematic discussion

7. Evaluation

The evaluation of learning objects is generally made on their usefulness, that is, on their content, tools and methods used and their usability for the people, technology and processes involved. Shantha Fernando (2009, pp 65) proposes the LOEM model (Learning Objects Evaluation Model) applied to usefulness, which it measures considering the specificity of the academic level, field, industry, operability and reusability. This emphasis on specificity refers to the alignment of learning objects with the educational and operational objectives of the field for which they are developed.

The evaluation of the learning objects is carried out considering both the pedagogical as well as the technological and integration aspects. For example, LOBE (Learning Object Evaluation Instrument) from the Indian Institute of Technology Bombay (2020) assesses four dimensions: content quality, pedagogical alignment, design effectiveness and technology integration, using a rubric in which they are scored on a scale of four levels the aspects to be evaluated: missing, inadequate, almost and complete.

Thus, the different models or instruments for evaluating learning objects focus on their specificity, pedagogy, technology and integration.

8. Quality

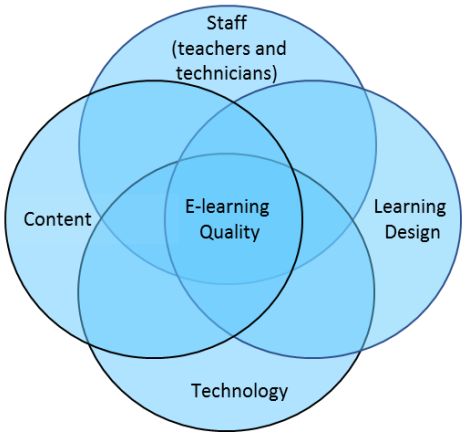
Joseph M. Juran, one of the three great theorists of quality management, established that quality is suitability for use, although his concept is based on production and service processes, not educational ones, it can also be considered that objects In order to be of quality they must be suitable for use, that is, in addition to fulfilling the three

U's, they must also be capable of being reused and that they satisfy their teaching purpose as capsules of information and knowledge.

The quality of education in its different modalities has been a broad subject of study. In particular, e-learning has been studied by educational institutions, companies and governments, each establishing their own evaluation models, many of them derived or inspired by the model of the Swedish National Agency for Higher Education (2008), which considers ten factors in the evaluation of the quality of e-learning: material / contents; virtual structure / environment; communication, cooperation and interactivity; student evaluation; flexibility and adaptability; support (to students and equipment); qualification and experience of the team; institutional vision and leadership; resource allocation; and integrality, which they call the holistic aspect of the system. This model is broad and comprehensive because it considers not only the pedagogical and technical aspects, but also the institutional aspect expressed in the vision, leadership and allocation of resources that it exercises.

Other models agree that the quality of e-learning is determined by the technology, the content, the learning design, the teaching and technical team, so the greater the harmonization between them, the better the quality of the process will be achieved.

Figure 3. Main determinants of the quality of e-learning.



Source: self made

Undoubtedly one of the greatest demands of society is quality education, but as experts on the subject say: "quality is not measured, it is built", so quality should be one of the purposes in mind in all stages of the process of construction of learning objects.

9. New technologies applied to learning objects

Learning objects use multimedia resources, such as text, audio, still images and videos, and are contained in structures such as HTML, XML, JSON, etc., according to

the standard under which they have been developed, but always with the purpose of storing them. in digital repositories, for access and deployment on personal computers or both on personal computers and on mobile devices. Although these technologies are the prevailing ones, there is already application of new technologies in learning, in different stages and with different purposes, among them machine learning and cognitive computing stand out.

Machine learning (ML) is a branch of artificial intelligence (AI) that, through classification, regression and clustering, carried out with statistical and probabilistic methods, is used to identify patterns and relationships between data. ML applied in e-learning platforms can be used to personalize courses, structuring learning objects according to the profile and progress of students, but it can also be used to analyze the learning objects themselves, that is, determine its usage patterns, evaluation results, content quality, and other aspects that provide inputs (insights) for updating, correction or replacement.

John E. Kelly III says that "Cognitive computing (CC) refers to systems that learn at scale, reason with purpose and interact with humans naturally. Rather than being explicitly programmed, they learn and reason from their interactions with us and from their experiences with their environment." IBM, a pioneer in cognitive computing with its IBM Watson system, says (Alfio Gliozzo, et al., 2017, pp 6) that the human being and cognitive computing are complementary, that while the human being is highlighted in common sense, understanding, imagination , moral, abstraction, generalization and reverie, cognitive computation is useful for locating knowledge, identifying patterns, natural language management, machine learning, elimination of biases and endless capacity, extending the cognitive capacities of the human being. Cognitive computing systems follow a decision process similar to that of humans: they observe phenomena, interpret the evidence and generate a hypothesis, evaluate the hypothesis and decide by selecting the one they consider the best option and act, all on structured data and not structured.

The characteristics of cognitive computing systems can be used in teaching-learning processes, both in teaching itself, as well as in research, problem solving and analytics. Applied to learning objects, it could make deductions about the student's journey through the course, through bots interacting with students, integrating current content relevant to the environment in the learning objects and act as the student's guide or tutor in academic matters.

Conclusions and Recommendations

Learning objects are the conjunction of pedagogical and technological aspects, which require a lot of planning and strategy. The rigor that is put into each of its stages will be reflected in the result, the student's learning. The process of construction of learning objects is very similar to that of information systems, only in this case they

are capsules of information and knowledge, which also have in common being stored in digital repositories.

The learning objects, the elements that transmit knowledge to the student, cannot be created independently of the educational model, the instructional design, the learning objectives and the technological resources available, nor can they be created outside the institutional framework of the center educational question. A systemic, holistic approach will create the conditions for the construction of relevant and quality learning objects, which meet the expectations of use and reuse in different courses and programs.

The construction of learning objects is not the work of a single person, teacher or technician, it is the multidisciplinary work of teachers, pedagogues and technical team that, applying each of their knowledge, can result in learning capsules that cause a real impact on knowledge of the students.

New technologies, such as machine learning and cognitive computing, will make it possible to personalize learning content according to the profile and progress of students, evaluate trajectories, issue recommendations about progress and the content themselves, but nothing of this will help if the learning objects are not designed, created, tested, used, evaluated and managed with a good strategy as a basis. The idea is not to overload the process with information and communication technologies, but to provide a platform and add value to the different stages of the teaching-learning process.

In this sense, in order to achieve maximum synergy in the conjunction of all the elements set out and discussed above, it is especially advisable to establish continuous monitoring on the performance of each of the components of the system, as well as on the feedback between the teacher and the student, thus taking the necessary corrective actions in time, if applicable.

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