The academic use of social media in distance education and its relation to the reduction of the feeling of isolation

Abstract

Academic use of social media has become an important component of the educational process of distance learning. The present study investigates the educational use of social media in distance education and the factors leading to it, in order to determine the impact of this use on reducing the feeling of isolation experienced by the students of the Hellenic Open University (HOU). The behavioral intention for use and the actual use of social media in the context of distance education are investigated, taking into account the factors of the Technology Acceptance Model (TAM). The sample consisted of 147 undergraduate and postgraduate students of HOU. The data collection tool was an improvised questionnaire structured in 4 axes, with 18 closed-ended questions. The results obtained show that the majority of students strongly supports and utilizes social media for educational purposes. The results also indicate that the more students consider social media useful in the context of their studies, the more they intend to use them and ultimately the more intensively they do use them. The finding that the educational use of social media is positively related to the stimulation of the HOU students' feeling of isolation is important. It highlights the fact that social media are useful and supportive tools in the context of distance education. The findings of this study are in agreement with previous relevant studies and provide helpful guidance for future research.

Keywords: distance education, social media, academic use, feeling of isolation, TAM Technology Acceptance Model, Hellenic Open Universtiy (HOU)

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Introduction

In an ever-changing environment, characterized by rapid developments, challenges, crises of values but also economic crises, the need emerges for modernization and the alignment of educational institutions with the resulting changes emerges. In addition, the rapid development of Information and Communication Technologies (ICT) and the flourishing of social media are important catalysts for social, economic, political, and cultural change. The current trend in education research reflects the strong drive of higher education institutions to seek and integrate innovative tools, such as social media, into the educational process to enhance learning and enrich the learning process.[1] Social media provide new opportunities for innovation and modernization of higher education institutions,[2] as they can be used to support learning activities and can/may stimulate the educational process by facilitating the dissemination of information and the exchange of resources among members of the academic community.[3] In the context of distance education, learners represent a more mobile, dynamic, heterogeneous, and geographically dispersed group compared to traditional education students, therefore they require more direct and modern forms of interaction and communication both with their teachers and their classmates. In addition, the insufficient presence of human nuances in distance learning environments leads to a dynamic feeling of disconnection between learners and instructors. The geographical separation of learner and instructor, which characterizes distance education, removes a vital "link" in the chain of communication between these two parts, but also between learners,[4] which is referred to in the literature as "transactional distance".[5] This distance often leads to the isolation of distance learners,[6] severely limiting their motivation for academic development and adding a more complex dimension to the educational process.[7]

It has been observed that social media are a motivating factor for learners, as they facilitate interaction within a working group and therefore the cohesion and sense of community and belonging,[8] which leads to relationship-building and alleviation of the feeling of isolation.[9,10] Veletsianos and Navarrete[11] argue that, historically, distance education is intertwined with the isolation and alienation of the learner. The lack of interaction both of students with each other and of students with the instructor, has been blamed for several problematic situations in the educational community[7] and high dropout rates Peters. Social media contribute significantly to the achievement of a more humane and social dimension in education. It is argued that the educational use of social media in the context of distance education is helpful in addressing and alleviating the feelings of isolation and alienation experienced by students.[12,13]

The development of online learning communities increases satisfaction and creates a sense of "co- belonging", resulting in students also supporting each other emotionally.[14] Through the creation of the community, conversation and collaboration significantly reduce the feeling of isolation that may come from distance learning,[15] while social media boost distance learners' self-confidence by increasing social presence and ultimately lead to a reduction of the transaction distance.[16] The use of social media in traditional and distance education is associated with multiple educational and social benefits,[17] such as the increased interaction between teachers and learners, improved performance, ease of learning, greater commitment,[18] effective and direct communication[19] and promotion of collaborative learning.[20,21] More specifically, social media contribute to the development of a dynamic and flexible learning and teaching environment, introduce a participatory culture for both learners and teaching staff and can be used in many ways in education.[22] Moreover, their contribution to the

cultivation of communication skills and behaviors, critical thinking, creativity, and time management of students is significant.[23,24] They lead to the creation of new knowledge and to the improvement of the quality and quantity of knowledge transfer between members (sharing).[23] In addition, they allow students freedom, flexibility, and the acquisition of digital identity and social presence.[25]

According to Sangwaan,[26] who recognizes the above aforementioned advantages of social media in the educational process, students often use some platforms as educational tools. More specifically, students in distance education actively use the popular, institutional or non-institutional platforms to increase and improve their learning experience.[27] However, the motivation and the way in which students use them differ significantly from student to student, whether they are in traditional or distance education.[26] The acceptance and adoption of any new technology, such as social media, is an especially important issue to be explored, as it precedes the use and application of the new technology.[28] Given the above assumption and considering the fact that the intention of an individual precedes the action, since, according to the theory of planned behavior, intention is the best predictor of a behavior, understanding the prognostic factors that affect the intention of students to accept or reject a new technology, such as social media, for educational and pedagogical purposes is a suitable field for research.[29]

In order to investigate the acceptance and actual educational use of social media in distance education the conceptual framework of the Technology Acceptance Model (TAM) is applied. The TAM model contributes to the indirect prediction of the behavioral intention and the actual use of a new technology by an individual and has been intensively used in research in the field of education.[29] TAM was proposed by Davis in the late 1980s.[30] The main pillars of this model are the perceived usefulness and the perceived ease of use of technology. Davis[30] refers to the usefulness of trusting that the use of a technology application will increase user performance and the ease of use, on the condition that the use of the technology application will not require increased effort. The motivating factors that push students into the acceptance, adoption, and use of social media in their studies mainly concern the perceived usefulness of social media, which is a product of the functional characteristics of social media as well as of their perceived ease of use, factors that underlie the theoretical TAM model.[31–33] The need of students for cooperation and communication with their fellow students, both components of modern constructivist theory, proved to be factors that strengthen the utilization of social media.[25,30] In the present work, the conceptual framework of the TAM model is utilized and further expanded by taking into consideration the factor of perceived enjoyment,[34] since it has been proven that the decision to actually use a new technology can be influenced by external factors.[35]

Concluding, new axes to be explored have emerged from the critical evaluation of the international literature, and for this reason it is necessary to determine whether the educational use of social media in distance learning affects the feeling of isolation, through cooperation, interaction, and group work that take place in social media platforms.[9]

Material and methods

The purpose of this study is to investigate the educational use of social media in distance education and the factors that lead to it, in an effort to determine the impact of social media use on the feeling of isolation as experienced by the subjects of our case study, namely the HOU students.

More specifically, the research questions are three and formulated as follows:

A. In what way and with which frequency do the HOU distance students use social media for educational / learning purposes?

B. What factors influence the intention for educational use and the actual educational use of social media by the HOUs' distance students?

C. How can the educational use of social media affect the feeling of isolation experienced by the distance students of HOU in the context of their studies?

For the conduct of the present research, the quantitative methodological approach was adopted. More specifically, the sample research design with a standard questionnaire was selected for the collection and analysis of primary data.

The target population of the present study was the postgraduate and undergraduate students of HOU, regardless of their study program. The selection of the sample from the target population was carried out mainly by the convenience sampling method. The selection of participants was based on the availability and willingness of the latter to participate in this research. In addition, to recruit a larger number of participants, snowball sampling was applied, where participants were kindly asked to suggest other individuals who met the conditions of the sample.

Research tool

The structured questionnaire, with closed-ended questions, was selected for data collection. As it was not possible to identify a ready-to-use questionnaire that exactly corresponds to the subject of the proposed research, an improvised questionnaire was developed, which was subjected to a test of reliability, apparent validity and content validity. Much of the questionnaire was based on research related to the subject under investigation. The questions related to the investigation of the third research question were based on the research of Arif & Kanwal and Dastjerdi, which examines the factors of the TAM model that affect the adoption and use of social media in the Open and Distance Education. In addition, the number of questions was based on the use of the findings and research tools of the following research examples:[13,16,36]

Some questions from the above research were used without any change, some others were adjusted to the needs of the research and the Greek reality, while some conclusions contributed to the creation of new questions.

The questionnaire is structured in 4 sections and consists of 18 closed-ended questions, which, including the sub-questions/statements, amount to a total of 83 questions. In the context of the research, applying inversion, deletion, and grouping techniques based on the Croanbach alpha reliability index, the original variables were corrected and grouped, thus creating new variables, smaller in number, which are the basis of the research. In most of the questions (Modules B-D), the possible answers to the questionnaire were predetermined on a Likert five-point scale, starting with the answer "Strongly Agree" or "Very Large" (scale selection = 5) and reaching "Strongly Disagree" or "To a too small degree / not at all" (scale selection = 1). The specific demographic scale was chosen so that the intermediate attitude of the participants could be expressed, but also to cover the whole range of possible views. For the socio-demographic data of section A, as well as for the questions of section B, which concerned general information about the social media use, nominal and dichotomous measurement scales were applied.

Section A includes 9 questions and concerns the collection of data outlining the profile of the participants, such as gender, age, level of studies, grade performance, while being related to the second research question. Section B includes 8 questions and refers to the first research question, examining variables related to general information about the educational use of social media, the frequency of utilization, and how to utilize them during the educational process, the last of which includes 23 statements. Next, section C examines the factors that influence the intention for educational utilization and the actual utilization of social media, with a question citing 24 statements. The factors are based on the model of acceptance of TAM technology and relate to the second research question. Finally, section D examines the third and final research question, namely whether the educational utilization and the ways of using social media affect the students' sense of isolation, inviting the participants to state the degree to which they agree / disagree with 6 statements.

The questionnaire was configured as an electronic form and was distributed electronically via mail, while the link of the electronic questionnaire was posted on Facebook, in closed informal educational groups used by HOU students. The collection of research data was followed by their analysis and processing using the statistical program SPSS v. 25.0. Descriptive and inferential statistics tests were used.

Participants

The sample was a sample of convenience and the sample size amounted to a total of 150 participants, three of whom stated that they did not use social media at all, so they were excluded from the analysis.

Regarding the socio-demographic characteristics, the sample consists of 113 women and 34 men (35.5%), with an age range from <25 to > = 56 years, while the average age was 36-45 years. Regarding the educational level of the respondents, 66% are graduates of universities/technical institutes, 15% are graduates of secondary education, while 19% hold master/doctoral degrees. In terms of curriculum level, 64.6% of the sample are postgraduate students, while undergraduate students amount to 35.4% of the sample (Table 1).

Table 1 The sample

Profile of participants		
	N	**%**
Gender		
Male	34	23,1%
Female	113	76,9%
Total	147	100,0%
Age group		
<25	5	3,4%
25-35	30	20,4%
36-45	61	41,5%
46-55	42	28,6%
>=56	9	6,1%
Total	147	100,0%
Education level		
High school	22	15,0%
Bachelor/Diploma	97	66,0%
Master/ Phd	28	19,0%
Total	147	100,0%
Curriculum level		
Undergraduate	52	35,4%
Postgraduate	95	64,6%
Total	147	100,0%

Results

Regarding the findings, all 147 participants stated that they use some social media platform, while at the same time they stated that they have created an account in some of them. 14.3% of the participants stated that they created an account in the context of covering educational needs during their studies. 92.5% of the participants were members of an informal educational team concerning their studies on a social media platform. Regarding the use of social media for academic purposes, 72.8% of the participants stated that they either agree or strongly agree with the statement that they use social media for academic purposes, while none of the participants completely disagreed with the above statement. In addition, the frequency of social media academic use was high, since when asked how often they use social media in their studies, the participants proved to be active "consumers" of social media as the largest percentage, i.e., 48.94% stated that they use social media on a daily basis to serve educational needs.

The collection of information to resolve questions related to studies, courses, and homework was the most common way of educational use of social media by most of the sample (MV 3.92). Receiving information about developments and news related to their studies, such as extensions on assignments or the receipt of additional teaching material from their educational institution are the next most common ways of use.

Two ways in which social media is used educationally emerged, which were based on the literature: communication/interaction and collaboration. However, the former was the most popular. To investigate the predictive factors that affect the intention and actual educational use of social media three fundamental factors of TAM were examined: perceived usefulness, perceived ease of use, and perceived enjoyment.

From the analysis of the first multiple regressions, asking as a dependent variable the question concerning the actual use of social media for academic purposes, only one factor emerged (intention of educational use of social media) (Table 2) which was statistically significant ($F_{(4, 142)} = 54,226$, $p = 0,001$), which seems to explain 60% of the variance in the actual use of social media, since the R Square multiple correlation coefficient is equal to 0,600. In addition, the resulting regression model is statistically significant (Sig = 0.001) at the level of statistical significance $\alpha = 0.05$, in explaining the variability, so the model contributes significantly to the prediction of real utilization of social media for educational purposes. More specifically, it turned out that the intention of the HOU students to utilize the social media in the context of their studies has a positive and high effect ($b = 0.690$) on the actual utilization. This means that the more students state that they are willing to use or continue to use social media to meet academic needs, the more they actually do use them (Table 2).

Similarly, using multiple regression to predict students' intention to use social media (dependent variable), we tested the influence of the factors "perceived usefulness", "perceived ease of use", and "perceived enjoyment". The regression analysis revealed only one statistically significant factor (Table 3) ($F_{(4, 143)} = 32,537$, $p = 0.001$), which seems to explain 50% of the variance in the intention to use social media. More specifically, it seems that the perceived usefulness of social media in studies has a positive and high effect ($b = 0.638$) on the intention of HOU students to use social media in their studies. In practice, this means that the more students realize the usefulness of social media in their studies, the more they declare that they are willing to use them (Table 3).

Table 2 Intention of educational use of social media

	B	Standard error	B	t	95% confidence interval B	
(Constant)	0,686	0,280		2,453*	0,133	1,239
BI: Students' intention to use social media for academic purposes*	0,653	0,065	0,690	10,073*	0,525	0,782
PU: Perceived usefulness of social media in distance learning studies	0,083	0,092	0,075	0,905	-0,098	0,265
PEOU: Perceived ease of use of social media in distance learning studies	0,072	0,071	0,065	1,009	-0,069	0,212
PEnt: perceived enjoyment/ pleasure of use of social media in distance learning studies	0,032	0,069	0,031	0,456	-0,105	0,169

Note: R^2 = .60 and * significance level α=0,05 R^2 = .50 and *

Table 3 Regression analysis

	B	Standard Error	B	t	95% confidence interval B	
(Constant)	1,352	0,342		3,948*	0,675	2,028
PU: Perceived usefulness	0,747	0,101	0,638	7,425*	0,548	,945
PEOU: Perceived ease of use	-0,119	0,091	-0,103	-1,311	-0,299	0,061
PEnt: Perceived enjoyment	0,083	0,089	0,077	0,926	-0,094	0,259

R^2 = .50 and * significance level α=0,05

Finally, intention for educational use of social media is affected by the perceived usefulness, while the actual educational use by the behavioral intention of the students.

A large percentage of the sample believes in the beneficial effect of the educational use of social media on the feeling of isolation of the HOU students. It is supported by most of the sample (68.7%) that the educational use of social media has an alleviating effect on the feeling of isolation of students. Communication and interaction with fellow students through social media for educational purposes are helpful in dealing with the isolation of students. The development of educational communities activates the sense of belonging and helps to address the psychological distance and stress experienced by students during their studies.

Use of social media for educational purposes is positively related to the alleviation of the feeling of isolation, according to the findings of the correlations. The more students use social media by communicating and interacting with their fellow students on academic issues, the less isolated they feel. The correlations of the factor of real use of social media for educational purposes with the factor of perceived mitigation of the feeling of isolation, create a profile of users who claim that social media offer the feeling of belonging to a group with similar characteristics, within which dialogue is favored, as is interaction and the free expression of worries and feelings. This, therefore, has an effect on the feeling of isolation and distance which they experience in a declining way. It seems that the "social satisfaction" of HOU students through participation in social media is essential, it is increased and leads to the reduction of the feeling of isolation.

The most intensive users of social media for academic purposes seem to be the participants up to 35 years old. The same age group show a greater ease in the use of social media. The participants who created their profile in social media after the start of their studies, use social media to seek cooperation. Conversely, these participants also seem to use social media for academic purposes to a greater extent than the participants who had created profiles before their studies. Of the participants who created profiles during their studies, women, and holders of postgraduate / doctoral and diploma degrees state to a greater extent that social media contribute to the elimination / reduction of isolation in the context of their studies, compared to others.

Discussion

The starting point of the present research was the use of social media in distance education, specifically by the students of HOU, for educational purposes. The main findings of the research can be summarized as follows:

Regarding the first research question, it was found that the educational use of social media is strong. The finding is in line with the current international trend observed in similar studies,[20,23,27,36] which capture the dynamic role of social media, in the learning and educational process, both in traditional and distance education It is also remarkable that the participants up to 35 years of age seem to use or intend to use them for academic purposes to a greater extent than the other participants. The above finding highlights the generation of Digital Natives, which is a more active age group as regards new technologies, with a strong momentum in the use of social media in the learning process.[37]

The crown of social media in the preferences of the students was Facebook.[9,17] The frequency of educational use of social media was high, as the majority favored their daily use. In addition, the membership in informal training groups to serve the educational needs that exist in social media proved to be high, confirming the findings of previous research,[38] which argue that participation in an informal social media closed training group compensates for the lack of regular communication and the sense of isolation that characterizes distance learning environments. It is concluded that the contribution of social media in the learning process can be either direct or indirect.[39]

Conserning the research on ways of using social media for educational purposes, [20,36,40] it appears that the HOU students prefer communication and interaction with their peers and the pursuit of cooperation with them as ways of educational use of social media. More specifically, most of the participants use the functional characteristics of social media to enrich their learning process by finding and collecting information and additional teaching material, and solving questions related to the courses and assignments.[40,41] Subsequently, communicating with fellow students and being informed about issues related to their studies were dynamic ways of utilization. The above results are reflected in the research of Falahah & Rosmala,[43] who argue that higher education students use social media to perform academic activities in order of priority, gathering information and resolving questions related to courses and assignments, as well as information on academic issues of a practical nature.

It is worth noting that the use of psychological support,[23] and relief from the stress that surrounds students in the learning process was observed. Students interact, communicate, and share the difficulties and stress they experience during their educational journey with their classmates, resulting in the relief of stress and academic pressure.[41,44] Yet, some participants were hesitant and did not "recognize" the supportive psychological use of social media during the learning process. This trend may be due to entrenched perceptions associated with the negative characteristics attributed to social media.[44] The second research question was inspired by the conceptual framework of the TAM.[30] The key factors were explored, namely perceived usefulness and perceived ease of use with the addition of an additional factor, that of perceived enjoyment,[34] that may affect the intention for educational utilization and the actual utilization of social media by distance students.

The responses showed high correlations with all the factors and the respective dependent variable "intention to use" and "actual use" of the social media for educational purposes respectively. The findings led to the conclusion that the actual use of social media for learning purposes, as well as the intention of students for this use is more related to the factor of perceived usefulness, compared to other factors. The finding is consistent with the prevailing perception that perceived usefulness has a stronger effect on the intention and use of a new technology by the user, compared to other factors.[30] In support of the correlations, multiple regression was performed, in order to examine a model for predicting the educational use of social media by the HOUs' students. From the conduct of the first multiple regressions, it emerged that the intention to use social media for educational purposes is influenced by the factor of perceived usefulness of social media. This finding confirms previous research in the field,[31,32] which argued that perceived usefulness has the only effect or the strongest effect on students' intention for educational use of social media, more so than any other factor.

Consistently with previous research in the field of technological acceptance, it was shown that the factor of intention to use has a decisive effect on the actual educational use of social media by students.[40] This result is consistent with the research of Dastjerdi,[31] but also with the fundamental theory of the TAM model, which states that the decision and ultimately the actual use of a new technology by an individual is decisively influenced by the individual's intention to adopt this technology. It was also observed that the stronger the intention of the students to use or continue to use the social media more intensively for the realization of academic needs, the more the real educational use is enhanced. In addition, perceived usefulness seemed to significantly affect students' behavioral intention to use social media for educational purposes. It seems that students who recognize that the use of social media is beneficial for their studies, tend to accept them and eventually adopt them. However, in contrast to previous research,[34,42] the variables of perceived ease of use and perceived enjoyment did not contribute to the enhancement of the intention and consequently the actual educational use of social media by students.[32] Probably, the discrepancy of the findings is since over time students have become more familiar with technology and social media, so they may not have difficulty using them or may not be as happy with them due to habit.

In addition, the majority of students agree that social media are a valuable and useful tool in support of distance education and have a positive attitude towards the use of some form of social media during their studies, as they consider them useful and easy to use resulting in their actual use.[40] The students' attribution of usefulness to the social media is about improving and facilitating communication, improving their satisfaction through collaboration, contributing to active learning,[23] and enhancing efficiency and productivity in their academic activities.[39] The ease of use of social media was also recognized by the majority of students, while their familiarity with them was also expressed. Callaghan & Fribbance,[12] was the trigger for exploring the relationship between educational use of social media and the feeling of isolation that students from distance experience and this relationship is addressed by the third research question.[10,13,36] The findings led to the conclusion that the educational use of social media by the HOU students is significantly related to the alleviation of the feeling of isolation they experience.[9,12] Social media promote a sense of belonging,[13] as students feel part of a group with common concerns and anxieties.[36]

The dialogue, the regular communication and the social interaction that takes place in social media in the context of studies contributes to the elimination of the transaction distance, a feature of Distance education.[16] Most students argued that social media alleviate the stress associated with their studies, as they can communicate it with their fellow students and thus realize that they have common difficulties, resulting in sharing.[14] Also, the cooperation between the students in educational platforms "softens" the feeling of isolation of HOU students.[10] The findings converge with Croft, Dalton, & Grant,[45] who suggest collaboration, interaction, and building learning communities through the educational use of social media in order to overcome the barrier of a sense of isolation in the distance education. Therefore, the social nature of social media is strongly highlighted even during their educational use. After all, it is accepted that education is a social process.

Conclusion

We found that almost all students (98%) use social media, while the vast majority (86%) used it before starting their studies. More than 90% participate in informal NCD learning groups for their studies. It is found that among the students who took part in the survey, Facebook is the most popular social media and of them 73% of them use MSM for academic purposes. The main uses are collecting information about studies and written assignments, keeping up to date with developments, communicating and collaborating with their fellow students. The intention and perceived usefulness of social media for students influences their actual usage, furthermore it is found that the more willing students are, the more they use Social Media. The use of social media, reduces the feeling of isolation and communication and interaction with fellow students contributes to this. Students who utilize MSM for academic purposes feel less isolated.

Social media have the potential to be an important support tool in the learning and educational process and to act as a bridge for communication, learning, exchange of ideas and collaboration between learners, teaching staff and educational organization Adamson, 2012. They are a useful resource for open and distance education as they are associated with multiple benefits, such as increased and regular interaction between members of the academic community, effective communication,[19,21] the provision of educational information and improved performance,[47] ease of learning, greater commitment,[18] the development of communities of practice that can help improve cooperation and communication between community members [47] and the promotion of collaborative learning.[46] These benefits are both stimuli and strong predictors of students' intention to use and the actual use of social media for academic purposes and synthesize factors such as perceived usefulness and perceived ease of use.

The tangible, as recorded, intention for the adoption and use of social media by students for learning purposes, refers to academic

activities such as communication, social support, collaboration, and academic work.

It is also plausible that social media respond to the inherently social predisposition of the learners and give a more intense social texture and dimension to the open and distance education through dialogue, direct interaction, and cooperation, helping to alleviate their distance and isolation. Open and distance education needs a more humane dimension and social media have the potential to help bridge the gap between the parties involved in the learning process and reduce the transaction distance. In conclusion, it arises out that social media, if utilized in the appropriate way and with pedagogical conditions, in order to avoid the negative effects associated with them in the context of education, can be excellent educational complementary aids.

Our research confirms previous research such as (Adamson, 2012) who 12 years ago saw that social media has the potential to be an important tool to support the learning and educational process and act as a bridge for communication, learning, exchange of ideas and collaboration between students, faculty and the educational organization. Today they are a consistently useful resource for open and distance education, as they are associated with multiple benefits, such as increased and regular interaction between members of the academic community, effective communication as found by Menzies, Tigas, Santoveña-Casal, Chugh & Ruhi, Casal, Sánchez, Chugh & Ruhi.[21,18,19,47] All research including ours establishes the importance and facilitation of supporting the learning process with social media. In addition the greatest engagement, the development of communities of practice that can help improve collaboration and communication among community members and promote collaborative learning.

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Conflicts of interest

The intention of using and perceived use of social media although it has significant benefits requires caution and critical thinking of the participants as it can lead to addiction and confusion from the constant flow of information that is often not verified and valid and can lead to missteps, false beliefs, unreliable sources and ultimately to poor quality academic work. In addition, sociability is often fictitious and at the expense of real social meaningful relationships with the result that the reduction of feelings of isolation is fictitious rather than real. In any case especially nowadays with the advent of AI the cultivation of critical thinking in students is more necessary than ever. Moreover, strong self-regulation and balance is needed to have a proper time management and between online and offline activities. It is still a crisis to promote and enhance face-to-face meetings and collaborative processes even among adult students with their many commitments. It is necessary to guide students in the proper use of social media, to enhance digital literacy skills, to protect personal data and to ensure the inclusion and accessibility of all students.

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