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Study on the Impact of Intercultural Education and the Technological Revolution on Sustainable Education

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Abstract. *The quality education of young people in formal institutionalized frameworks is achieved only by connecting to the socio-cultural reality, while adapting to the transformations/changes caused by technological developments. Our study aims to investigate the perception of current and future teachers for primary and preschool education regarding the role and impact of the digital revolution on the achievement of quality educational actions and the influence of intercultural education in the economy of a sustainable education. The study was conducted on a sample of 354 students of the Faculty of Psychology and Educational Sciences, Babeş-Bolyai University, Cluj-Napoca, Romania, majoring in Primary and Preschool Education Pedagogy. The investigation revealed the dependence relationship between the level of digital skills and their school/professional performance. At the same time, quality education is associated with intercultural education.*

Keywords: *qualitative education, intercultural education, digital skills, technological developments.*

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Introduction

The needs of the current society under the dome of informational determinism, knowledge and technological transformations demand the production of profound changes in the implementation of instructive-educational actions. A conclusive example can be found in the sphere of the information society, which provided answers to the problems caused by the COVID-19 pandemic. Thus, at the level of the educational process, new learning technologies were adopted (technological supports: mobile phones, tablets, computers, platforms) which capitalized on some technological advances such as: artificial intelligence, robotics, the Internet, cloud computing, etc. Didactic strategies mediated by educational software technologies supported the continuity and quality of the new educational framework as a result of the effects of COVID-19 (Rodríguez-Abitia et al., 2020), and the digital transformation was strongly accelerated by this state of affairs (Soto-Acosta, 2020). The process of integrating and using technologies in educational institutions has been complex and accompanied by great changes, depending on some specific features (training of digital teaching skills, incorporation of information and communication technologies in school institutions, game interaction to produce learning in an attractive way full of surprises and with a lot of suspense) (Yusof et al., 2015; Mudure-Iacob, 2019). Technological developments have left a strong impression from an innovative perspective on the education system on a global scale, both in terms of creating learning situations and supporting evaluative actions (Pillai et al., 2021), reaching the point where, in some cases, academic performance is influenced by the satisfaction and value of information provided by the Internet (Maqableh and Jaradat, 2021). The use of technological resources that promote interactivity and interaction in this environment are favored by some variables related to motivation, habits, low effort investment correlated with the facilitation of influence, social influence, and compatibility with the need for performance, as well as other facilitating factors of learning that belong to the educational environment (Karimzadeh et al., 2010; Albulescu et al., 2021). Technology embedded in educational environments is considered to be a typical trend in education worldwide (Park, 2013). The large-scale introduction of technological resources in the educational field facilitates the achievement of transversal objectives, which are vital in the process of developing the young person's personality, while supporting intellectual curiosity, the joy and pleasure of learning, the courage to carry out the exchange of knowledge, and acquire skills of the appropriate identification of information sources, as well as of the appropriate use and structuring of information (Brasil et al., 2018). In the educational field, the advancement of digital technologies has influenced the accessibility of learning through digital libraries, enabling quality, sustainable learning in partnership with specialists/teachers who are thousands of kilometers away, thus also generating an essential decrease in the costs of education and learning continues (Manea, 2019). Connectivist learning has been perfected as a network with the exploration of virtual

environments without losing sight of the need to stay connected to the surrounding reality (Alam, 2023). As well as in other fields and sectors of activity, at the level of educational management, the digital transformation assumed the change of targets and strategies in accordance with the standards of educational efficiency and effectiveness (Abad-Segura et al., 2020).

Digital technology and public demand have happily combined and promoted the development of smart cities (Xiao et al., 2020). A summary of existing studies highlights 39 key impacts of digital transformation on human well-being. The analysis shows that these impacts can be positive, as digital technologies have been expanding the limits of information availability and increasing human productivity, but they can also involve risks to people's well-being, from cyberbullying to the emergence of disinformation or cyber-hacking (OECD, 2019). Young people relate to the Internet as an indispensable element for the performance of a large number of activities, from managing everyday life to building and maintaining virtual communities (McMillan and Morisson, 2006) The Eurydice Report (2019) highlights two different but complementary perspectives of digital education: the development of relevant digital competences for learners and teachers on the one hand, and the pedagogical use of technologies to support, enhance and transform learning and teaching, on the other. Digital competences should not be analyzed from a static point of view, as continuous and rapid changes in ICT impose the need to understand and interact with the appropriate/up-to-date technologies, as what is understood today as digital competence can have a radically different meaning in a few years (Romero et al., 2020). At the same time, international cooperation in harnessing the potential and opportunities that the technological revolution opens up for innovative and collaborative research is endless (Ylva, 2019). The world and our image of it are constantly changing, according to our perceptions, reflections, and actions. Therefore, our personal experiences, our imaginations fully contribute to the way we represent ourselves and transform reality (Manea et al., 2022).

In the specialized literature, some studies advance the topic of intercultural education and the contribution of *Information and Communication Technology* (ICT) to its achievement, highlighting policies and visions that promote learning about others and models of collaboration (Rodríguez-Abitia et al., 2020). Studies that used the scale of intercultural sensitivity on the dimensions – such as relational commitment, appreciation of cultural values other than the culture of one's own people, the joy of being together and mutual respect – showed that teachers from multicultural environments show a high level of cultural sensitivity, with high values marked in the level of pleasure and attention to the interaction (Segura-Robles and Parra-González, 2019). Therefore, by instilling values such as respect for otherness, tolerance towards diversity, or complementarity between values, education can capitalize on the potential richness of diversity, without erasing cultural identity, while at the same time providing the premises for respecting cultural differences. Interculturalism is based on the recognition of both differences and similarities between cultures (van Ewijk, 2010), aiming to

reshape the cultural phenomenon by presenting, interpreting, and re-evaluating social experiences in the context of diversity and differences. Interculturalism involves going beyond the simple passive acceptance of several existing cultures in a society, in the sense that it promotes dialogue and interaction between cultures, thus facilitating a better knowledge of cultures and appreciation of life by people belonging to different cultures (Penas and Sáenz, 2006; Shonfeld, 2020). The ethnic and cultural diversity of today's society requires an intercultural education which promotes equal opportunities and the inclusion of minority groups at risk of social exclusion. Various government policies and strategies are aimed at promoting social inclusion and reducing situations of discrimination and exclusion (Salgado-Orellana et al., 2019). Globalization, the increase in the dynamism of the mobility of individuals, and the promotion of human rights on a growing scale are the main elements that determine and, at the same time, legitimize cultural diversity, causing majority-minority interactions (Stan and Manea, 2018). Intercultural schools should consider developing a common curriculum with relevant curricular contents and essential activities accessible to all in order to recognize the social differences between students, to value these differences positively, to deal with them according to the needs of each and every student, and, lastly, to establish strong networks of social capital between schools, families, and the community (Furman, 2012). The need for the professional training of teachers to focus on the training of operationalized skills in adaptations and specific skills on both intercultural dialogue and understanding, often called *Intercultural Competence* (structured on intercultural dimensions: professional identity, ethics and axiology, methodology, and inclusive education), has been highlighted in several specialized studies (Domínguez Garrido et al., 2020). Teachers have a responsibility to provide students with skills and help them develop empathy for others and respect their differences (GUNI, 2018). Thus, training courses addressing a socio-cultural perspective are beneficial in improving intercultural pedagogical skills among primary and secondary school teachers, and the possession of such skills allows the development of a correct 'cultural pedagogy' (Biasutti et al., 2019). It should be noted that, according to studies, *Massive Online Open Courses* (MOOCs), despite being promoted as open educational activities that enable distance learning and professional updating, are questioned as effective by the academic community due to low completion rates (Romero-Rodríguez et al., 2020). In the specialized literature, it has been suggested that students who innovate and collaborate with teachers, and keep pace with digital learning, will have a wider preparation and accessibility to the labor market (Doll et al., 2021). There is an urgent need to recognize culture, religion, and linguistic diversity as values, and to develop intercultural policies to promote cultural inclusion through educational centers and cultural institutions (Escarbajal-Frutos et al., 2019). When using the facilities offered by the appropriate and rational exploitation of technologies, unlimited access to information is ensured, as well as to free and uncensored expression of ideas, feelings, and personal problems; active learning that generates progress, accumulations in the personal and spiritual development of the

individual, and the possibility of identifying desirable solutions for the benefit of large populations (Alhumaid et al., 2020). It seems that digital technologies are able to transform/remodel teaching practices to achieve sustainable education, a concept that needs to be reshaped, considering that digitalization is becoming an essential component in contemporary society (Ionescu-Feleagă et al., 2023) and an attribute of economic development (Gorina et al., 2023).

The need to investigate the relationship between the level of digital skills and the school performance of students on the one hand and the professional performance of teachers on the other is presented as an emergence of the educational reality in the natural tendency of society to increase the quality of the educational act in a world under the imperative of technological transformations and globalization. Therefore, the impact of cultural education on the quality educational act must be taken into account in a broad survey/investigation starting from the micro-educational level, specifically, primary education.

Therefore, the purpose of the present study, oriented towards two dimensions, is to identify the existence of influence of the possession of digital skills on academic performance, the achievement of a quality education. On the other hand, the study aims to highlight the place and role of intercultural education in the economy of quality education, and, implicitly, the extent to which technological, digital skills, the degree of use of technology in learning exerts influence on intercultural education. By virtue of cumulating the two dimensions of the proposed goal, we are interested in identifying an interrelation/double determination between the technological skills and the intercultural ones.

Materials and Methods

Research questions

In accordance with the aim pursued, the research questions are the following:

1. Does the possession of digital skills and their effective use in the learning activity condition the achievement of higher academic performance?
2. Does achieving a quality education also require a high level of intercultural competence development?
3. Does the possession and use of digital skills facilitate the development of intercultural competence?

Approached methodology

The method used was a questionnaire survey. The questionnaire consists of 12 items with response options organized on the Likert scale (not at all, a little, a lot). The content and organization of the questions are based on the three objectives of the research, respectively:

1. The relationship between academic performances, the level of digital skills and the contribution/influence of technological developments in achieving/obtaining quality education: items Nos. 1, 2, 3, 11;
2. The place of intercultural education in the economy of a quality education: items Nos. 4, 5, 6, 7, 8, 10;
3. The influences/determination/conditioning of the achievement of intercultural education at the level of digital skills and the exploitation of information technology: items Nos. 4, 9, 12.

The questionnaire was distributed and completed through the *Google Drive* application by students from Babeș-Bolyai University, Cluj-Napoca, Romania, Faculty of Psychology and Educational Sciences, specializing in Pedagogy of Primary and Preschool Education. Complying with the ethical conditions, completing the questionnaires was a voluntary and free act assumed by each respondent. The sample of subjects consisted of respondents who wanted to participate in the research and who completed the questionnaire in full, with their total number being 354. The age distribution of the sample is reflected in Table 1, respectively: 288 subjects (81.4%) were between 20 and 25 years old, 45 subjects (12.7%) were between 26 and 35 years old, and 21 subjects (5.9%) were over 35 years old.

Table 1.
Distribution of the sample of subjects according to age

Age	No.	%	Total
20–25 years	288	81.4%	
26–35 years	45	12.7%	
over 35 years	21	5.9%	
			354

From the point of view of the socio-professional status, the group of subjects is structured as follows: 216 students, which represents 61% at the sample level, have the status of students, whereas 57 subjects (16.1%) are students who are also involved in the fieldwork and work in education, while 81 subjects, representing 22.9% of the research participants are students who simultaneously work in other fields of activity. Regarding the research methodology, the answers were recorded and organized in data protocols (Table 2, Figure 1). The *SPSS* program was used to analyze the results.

Results

Presentation of the results

Table 2 shows the content of each item and the recorded responses.

Table 2

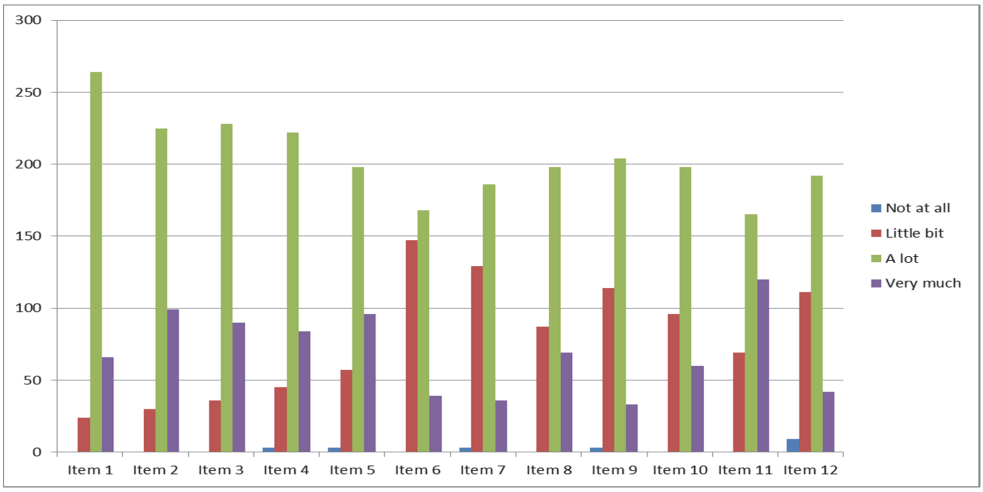
Data on students' perception of the relationship between the level of academic performance and the level of digital skills, qualitative education and interculturalism

	Item/ Answers	Not at all, %	A little bit, %	A lot, %	Very much, %
1.	The level of interdependencies between recorded academic performance and possession of digital skills	0	24 6.8%	264 74.6%	66 18.6%
2.	The degree of determination in producing changes at the level of the didactic process as a result of technology developments	0	30 8.5%	225 63.5%	99 28%
3.	The degree of contribution of one processing technology to the production of quality learning/ education	0	36 10.2%	228 64.4%	90 25.4%
4.	Personal value recognition association measure (humanism, mutual respect, tolerance for diversity, altruism, modesty) of others with quality education	3 0.8%	45 12.7%	222 62.7%	84 23.8%
5.	The degree of association of the recognition of cultural values (preserving popular traditions and customs, recognition and valorization of heroes, monuments historical, natural wealth, and artistic products) with quality education	3 0.8%	57 16.1%	198 55.9%	96 27.2%
6.	The degree of achievement/promotion of interculturalism at the macro-educational level	0	147 41.5%	168 47.5%	39 11%
7.	The degree of achievement/promotion of interculturalism at the micro-educational level through elements such as recognition of cultural values of minorities, cultivating respect for language, customs of ethnic minorities regarding the promotion of interculturalism	3 0.8%	129 36.4%	186 52.6%	36 10.2%
8.	The degree of personal involvement in carrying out/ supporting activities of intercultural nature	0	87 24.6%	198 55.9%	69 19.5%
9.	The extent to which the use of information technology conditions the achievement of intercultural education	3 0.8%	114 32.2%	204 57.7%	33 9.3%
10.	The degree of dependence of quality education on the presence of intercultural awareness/behavior	0	96 27.1%	198 55.9%	60 17%
11.	The extent to which the possession of digital skills is responsible for the achievement of quality education	0	69 19.5%	165 46.6%	120 33.9%
12.	The extent to which digital transformation is conditioned by intercultural education	9 2.5%	111 31.4%	192 54.2%	42 11.9%

Figure 1 shows the results recorded for each item.

Figure 1.

Students' perceptions of the relationship between the level of academic performance and the level of digital skills, the level of quality education and interculturalism



In the presentation and analysis of the results, the aim is to highlight the three objectives of the research.

1. To highlight the relationship between academic performance, the level of digital skills and the contribution/influence of technological developments in achieving/obtaining quality education, we analyze items 1, 2, 3 and 11.

Relative to the extent to which the surveyed subjects believe that the achievement of performance in the academic field depends on the possession of digital skills, the overwhelming majority of them, specifically, 330 subjects, representing 93.2% of the sample, answered that a lot and very much, while only 24 subjects (6.8%) consider that this kind of skills does not influence the performance at higher academic levels. Regarding the extent to which technological developments have generated changes at the level of the teaching-learning-evaluation process, 91.6% of the subjects believe that this is significant. In a roughly similar proportion, 89.8% of the research subjects consider technological/digital development as having an essential contribution to the achievement of quality education. Regarding the extent to which the possession of digital skills by teachers is a necessity or even an essential condition for the achievement of quality education, in the opinion of 69 of the students, which represents less than a third of the number of our respondents (19.5%), the answer is that the possession of digital skills by teachers exerts little influence on the achievement of quality education. At the same time, the overwhelming majority of the respondents (approx. 80%) believe in the opposite statement, of whom, 165 (46.6%) perceive the extent to which the

possession of digital skills is responsible for achieving quality education as 'high' and 120 (33.9%) as 'very high'.

2. Illustration of the place of intercultural education in the economy of a quality education is provided by the analysis of items 4, 5, 6, 7, 8, and 10.

Regarding the extent to which quality education contributes to the promotion of common values for educational beneficiaries, 306 subjects, representing 75.4% of the sample, answered that 'a lot' and 'very much', which reinforces/restates the high degree to which education contributes to the recognition and the internalization of personal values, such as humanism, mutual respect, tolerance for diversity, altruism, and modesty. In this context, 48 subjects (13.5%) do not consider that quality education implies the recognition of the personal values of others and, respectively, the sharing and acceptance of those values, which highlights the conservatism of some members of the academic community, thus polarizing the expression range of opinions from convergence to divergence. The association of cultural values, such as: preservation of traditions and popular customs, recognition and valorization of heroes, historical monuments, natural wealth and artistic products is associated with quality education by the vast majority of respondents, notably, as many as 294 subjects (83.1%). The association of previously expressed ideas highlights the fact that quality education presupposes the manifestation of interculturalism. The distribution of responses regarding the contribution of contemporary education to the promotion of interculturalism at the macro-educational level is of major academic interest, and it deserves to be explored more thoroughly in order to understand and correctly interpret the contribution of contemporary education to the promotion of interculturalism. Thus, while 147 of the respondents (41.5%) are of the opinion that the educational action as a whole supports the intercultural approach 'a little', 168 of the students (47.5%) who are joined by a further 39 (11%) believe that education in contemporary society contributes to the realization of the intercultural culture 'a lot'. At the level of educational institutions, the contribution of education to the achievement of intercultural culture is appreciated by 129 of the students (36.4%) as having been achieved to a small extent, while the majority (62.8%), respectively, 186 (52.6%) and 36 (10.2%) students answer 'a lot' and 'very much'. In carrying out instructive-educational activities of an intercultural character, 87 of the students, representing 24.6%, believe that they participate 'a little' in such activities, while 198 (55.9%) answer that they participate 'a lot'. 69 (19.5%) of the students declare that they participate 'very much' in intercultural instructional-educational activities, which allows us to appreciate that the degree of personal involvement in carrying out/supporting intercultural activities is quite high (about 75%). In fact, although intercultural educational actions are carried out at the micro-educational level, it would be desirable for their amplitude to increase, which would also mean a high educational level at the stratum of the school community. Item 10 duplicates the previously presented items in the alignment of identifying the place of intercultural education in the economy of quality education. The answer to this item

regarding the extent to which contemporary quality education is conditioned by the achievement of intercultural education indicates that 96 (27.15%) of the respondents answer 'a little', while approximately 73% answer 'a lot' and 'very much'. Thus, it can be claimed that there is a fairly high degree of dependence in obtaining quality education on the existence/manifestation of intercultural awareness, respectively, intercultural behavior. In the economy of global education, intercultural behavior acts as its premise.

3. Regarding the third objective aimed at identifying the degree of influencing/determining/conditioning the achievement of intercultural education by the possession of digital skills and the employment of information technology, we shall analyze items Nos. 9 and 12.

The extent to which the employment of information technology is conditioning the realization of intercultural education is lower than the degree of involvement in the realization of instructional-educational activities of an intercultural type, specifically, 67%, according to the answers recorded in Table 2. In more detail, 33% of the respondents appreciate that this influence does not exist (0.8%) or is small (32.2%), whereas 204 students (57.7%) answered that we are facing large and 33 students (9.3%) are even facing very large conditioning/determination.

On the other hand, the extent to which intercultural education determines the increase in efforts towards the digitization of education is appreciated by approximately 75% of students as high and very high (divided as 192 (54.2%) for high and 42 (11.9%) for very high). 111 of the responding students (31.4%) perceive the digital transformation as only slightly conditioned by intercultural education, or even as unconditioned (9 students; 2.5%).

Upon processing the data with the *SPSS* program we obtain the following results and correlations:

- possession of digital skills by the teacher is an essential condition for achieving quality education (χ^2=9.784; p<0.05);
- digital skills are significantly influenced by ICT developments for achieving quality education (χ^2=10.853; p<0.05);
- Teacher's possession of digital skills influences the promotion of interculturalism at the level of the institution where the subjects work (χ^2=12.594; p<0.05);
- The contribution of contemporary education to the promotion of interculturalism is significant due to changes taking place in the ICT field at the level of the teaching-learning-evaluation process (χ^2=17.423; p<0.01). ICT developments have generated the need for teachers to acquire and possess digital skills as an essential condition in achieving quality education (χ^2=11.683; p<0.01);
- By promoting interculturalism at the macro-educational level, significant results will be obtained in achieving the objectives of interculturalism at the micro-educational level (χ^2=13.566; p<0.01);

- Intercultural education determines the increase in efforts towards the digitization of education, which will facilitate the development of instructive-educational activities denoted by intercultural character (χ^2=12.190; p<0.05).
- Contemporary quality education is dependent on achieving intercultural education (χ^2=10.246; p<0.05);
- Global education is identified with intercultural education, and contemporary education implies the achievement of intercultural education (χ^2=23.249; p<0.01).

The correlations established between the level of the digital skills of teachers and the quality of education highlight the need to develop and bring to perfection digital skills/ technological skills through continuous training programs and self-education at the level of teachers, but also at the level of students. There are dependencies between the quality of education and the achievement of intercultural education, and the fact that the possession of digital skills by the teacher influences the promotion of interculturalism highlights the fact that the better are the skills of teachers in the use of technological resources, the better is the intercultural communication, and ultimately successful intercultural and inclusive education will be achieved. Intercultural education overlaps with global education, and the achievement of quality education in contemporary society cannot take place without the achievement of successful intercultural education. At the same time, the achievement of quality education is facilitated by ICT developments.

Discussion

In the current conditions, that is, in the knowledge society we are going through, the achievement of quality education is conditional on the possession of digital skills, technological competences, primarily by teachers, in the sense of possessing a flexible and functional arsenal of capacities, knowledge, and skills to use technology as an effective tool in education. This is all the more necessary as changes occur frequently, with great intensity and diversity, and the quality of teachers becomes increasingly important in the economy of educational resources (Manzaba and Rodríguez, 2021; Kim and Park, 2020, Shen et al., 2022). Therefore, the possession of digital skills by the teacher is an essential condition for achieving quality education, which is an element revealed by the study carried out, and whose results have been analyzed above.

The benefits of technology in the educational system indicated on the basis of studies at the experimental and experiential level are oriented along with several coordinates, both from a global perspective, and from the individual perspective of the subjects being educated. Thus, a first benefit of the technology is objectified by recording an increased efficiency in education, materialized in cost reduction, temporal ergonomics and generation of innovations at the institutional level (Morozova et al., 2020; Manzaba et al., 2021). At the same time, from the perspective of the benefits of technology at the level of each subject, we are talking about a facility in supporting

individualized and differentiated learning, greater accuracy/precision in identifying personal educational needs and generating personalized learning constructs. Of course, the risk of using the technological infrastructure in education and learning, especially when working with children and adolescents, by generating the phenomenon of cyberbullying, regardless of the position to which we relate, that of cybervictim, as well as that of cyberbully, is to be taken into account, which is the risk being raised in intercultural educational environments (Ortiz-Marcos et al., 2021). Eliminating human subjectivity and capitalizing on the objectivity of an electronic machine, and, respectively, the provision of computerized feedback ensures a greater involvement of the individual in self-regulation, which implicitly leads to the optimization of learning (Morozova et al., 2020). At the same time, the barriers related to socio-educational inclusion are overcome, by eliminating discrimination, including those related to spatio-temporality and access to resources (Manea and Stan, 2016), which is also a desirable goal to be achieved according to the 4th objective of sustainable development (ODD 4), as outlined by the United Nations Educational, Scientific and Cultural Organization (UNESCO) by 2030 (an inclusive and equitable quality education for all).

The new educational paradigm defined as a combination of intercultural and inclusive education (Sorkos and Hajisoteriou, 2021) appears as an emergence and response to the educational challenges generated by the technological developments, the globalist orientation, the recession on a planetary scale, and the continuum of human mobility. Therefore, not only intra- and intergenerational communication is of great interest, but also intercultural communication, as a result of multilingual and multicultural societies, the elimination of cross-border barriers, freedom of movement and expression (Valero-Garcés, 2018; Komalasari, 2021). The exploitation/utilization of new technologies can facilitate communication between students located at great distances from a geographical point of view, which can lead to the development of intercultural skills, thus certifying the theory of the third space intended for virtual exchange (Jørgensen et al., 2022). Under these conditions, it is understood that the digital competence of the teacher influences the promotion of interculturalism, which is an element also emphasized by the results of the study presented above.

Intercultural communication supports positive intercultural management based on dialogue and negotiated culture, openness and flexibility to identify valid solutions at the expense of exaggerated problem-centering (Barmeyer and Mayer, 2020). Intercultural communicative competence and digital literacy play an important role in the 21st century education (Komalasari, 2021). The contribution of the *Information and Communication Technology* (ICT) in achieving intercultural education is evident (Shonfeld, 2020), which, in turn, must also be achieved through direct interactions (Shen et al., 2022). It has also been confirmed by the results of our study that digital skills, significantly influenced by developments in the field of ICT, are necessary for the achievement of quality education. Thus, another effect revealed by our study on contemporary education concerns the effectiveness of contemporary education,

which is conditioned and determined by the achievement of intercultural education, the exercise of cultural dialogue and the development of intercultural communication skills, with technological/digital skills being the facilitator. Moreover, intercultural competence, which emphasizes the ability to recognize, value and work with cultural diversity, plays a key role in the academic, career and social-emotional development in a globalized world (Nguyen et al., 2022). It is desirable that the trainers should have digital skills and intercultural competences that can be acquired through continuous training (Esteban et al., 2015). The desirable direction identified in the vast majority of governments is to promote educational policies aimed at improving students' cognitive and non-cognitive skills (motivation, interest, self-control, emotional leadership) in line with the technological progress (Kim and Park, 2020). At the same time, the use of technology can generate added value in the medium and long term, and it can lead to the registration of educational and social equalities (Morozova et al., 2020; Park and Kim, 2020). This fact is in favor of obtaining a sustainable education, developed both through communication and intercultural behavior, on the one hand, and the use of technology in learning, on the other hand.

Conclusions

The analysis and processing of the data allows us to highlight the achievement of the intended goal, namely, the identification of the interrelationship between the academic performance, the level of digital skills and the use of technology in learning, thereby highlighting the place and role of intercultural education in the economy of quality education. Thus, we can affirm that the possession of digital skills and their effective use in the learning activity conditions the achievement of higher academic performance.

The qualitative education targeted by educational institutions requires direct involvement of all educational actors in accessing and using high-quality information, advanced technological means, while taking into account the emerging opportunities/facilities of digital transformations, and responding positively to challenges (Soto-Acosta, 2020; Agustini et al., 2020), including the considerations regarding some digital societies of the not-too-distant future (Xiao et al., 2022). Therefore, the results of our study are in agreement with the investigations presented in the specialized literature in the sense that education at the level of school institutions is appreciated by the vast majority of students as promoting interculturalism by carrying out instructive-educational actions of an intercultural type, to which attested approximately 75% of the students participating in the research. The data analyzed above highlight the fact that quality education is associated with intercultural education, which answers our aim and the research question (Does the achievement of quality education also imply a high level of intercultural competence development?). On the other hand, the investigative study aimed at identifying the interrelationship between academic performance, the level of digital skills, and the use of technology in learning gives us the answer to the question

of whether or not the possession and use of digital skills facilitates the development of intercultural competence. The recorded data confirm that the achievement of a specific level of academic performance depends on the possession of digital skills, which are skills influencing the promotion of interculturalism. This is in agreement with the results of other studies that emphasize the need for the assumed responsible use of technological means to achieve quality learning (Dhawan, 2020; Fonariuk et al., 2023; Bailey and Gruber, 2020). Thus, one of the conclusions of the study highlights the fact that quality education is associated with intercultural education, which answers our goal to highlight the place and role of intercultural education in the economy of qualitative education. On the other hand, the investigative study was aimed at identifying the interrelationship between academic performance, the level of digital skills, and the use of technology in learning. The recorded data confirm that intercultural education increases efforts towards digitization, while the achievement of academic performance depends on the possession of digital skills, which is in agreement with the results of other studies emphasizing the need for the responsible use of technological means to obtain quality learning (Dhawan, 2020; Fonariuk et al., 2023). These results reinforce/confirm the fact that technological developments have significantly and positively impacted the teaching-learning-assessment process (Steven, 2021).

Limitations and Future Directions of Study

A limitation of the study is the unbalanced structure of the sample of subjects due to the disproportionality of the differences in age and socio-professional status. A possible explanation could be the availability/involvement/enthusiasm of young(er) university students (aged between 20–25 years and bearing the status of a student) in completing the questionnaires and in actively participating when approached by the researcher, which does not align with the manifestation of reservedness/reluctance to complete the questionnaire, as observed among adult students (over 26 years of age and bearing the student's status and employed), probably also due to the multitude of activities in which they are involved.

Also, we perceive as a limitation of the study the use of a non-standardized instrument for measuring the degree of influence of technological developments on achieving academic performance, which measures the degree of achievement of intercultural and quality education. The data analysis, although the statistical apparatus was used, is not relevant enough due to the high subjectivity assumed to have existed at the level of the respondents' perceptions in the absence of a tool validated on the Romanian population. The quantitative analyses based on the proportionality ratio outlined in the present study can be considered as a benchmark for future research. As a future direction of research, it is planned to proceed towards the validation of tools to measure the impact of digitization in the formation of an inclusive and transcultural culture.

Also, regarding the dimension of the limitations of the study, we would also include the fact that the emphasis on the interrelationships between digital completeness-academic performance-cultural education-quality education is based on the perceptions of a small sample of subjects and is insufficient as socio-professional representativeness. Beyond the fact that we could consider technological development as a mediator in the achievement of quality education, a future research would be welcome to measure the reflection of technological developments operationalized in digital skills and the active-participative attitude in their valorization/exploitation in learning about academic performance and intercultural behavior.

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