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Do Ethics and Values Play a Role in Virtual Education? A Study on the Perception of Students and Teachers

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Abstract

Learning in virtual environments is an ethical experience. This research aimed to understand the ethical experience of a virtual learning environment from the perspective of university students and their teachers. The participants were 205 higher education students from different Spanish-speaking countries (Colombia, Argentina, Mexico, Ecuador, and Spain) and 30 teachers who acted as tutors in virtual education. The study used a design-based research method and quantitative instruments for the collection of empirical data. The data analysis showed that students and teachers perceive responsibility, commitment, and respect as values inherent to virtual education, and may have a moderately different ethical experience based on these values. With this research, we intend to contribute to a better understanding of the coexistence of human beings in virtual learning environments. We argue that it is necessary to question or rethink the pedagogical paradigms that guide virtual education, endowing them with humanity, and recognizing their ethical dimension as funda-mental.

Keywords Virtual education · Moral values · Behaviour · Teacher attitudes · Student attitudes

Introduction

The virtual experience in learning environments is ethical, given that human encounters are an ethical experience (Scheller, 2003). The ethical dimension of virtual education should not continue being neglected (Piragauta & de Oliveira, 2020). In times of ubiquitous technology, virtuality extends to personal, professional, and educational spheres. Yet, ethical discussions in education remain marginal and mostly related to plagiarism, deception and other cheating behaviours (Bartlett, 2009; Introna, 2009; Kroes & Verbeek, 2014; Levine & Pazdernik, 2018; Saltmarsh, 2005; Yazici et al., 2011). More recently, faced

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with unprecedented challenges of the COVID 19 pandemic, educational institutions that offer virtual environments to develop or support learning extended ethical preoccupations towards privacy and security (Mystakidis et al., 2021). Jafari and Alamolhoda (2021) found that Faculty Members of virtual education experience ethical issues as broadly relate to academic formal socialisation aspects or to security issues.

As Teja (2011) explains, in today society, spirituality, morality, and ethics have no clear bearing on education. It is necessary to acknowledge that the virtual experience in learning environments as an ethical space has been under theorised. The aim of this research was to understand the ethical experience of a virtual learning environment from the perspective of university students and their teachers. It is necessary to start an authentic discussion on the human values of education supported by or carried out only in digital environments. In this article, we challenge an approach that identifies the virtual environment as a knowledge delivery space. Further, we would like to broaden the ethical discussion applied to virtual education, too often limited to dishonest behavior themes. Values, as our study demonstrates, are an intrinsic part of virtual education. We must work onto pedagogy to encourage authentic ethical commitments in future professionals training in higher education (HE) virtual environments.

The Ethic Dimension of Virtual Learning Environments

Virtual learning environments (VLE for all this paper) have enriched the educational process, providing the educational community with a variety of digital assessment activities (Bosco, 2004; García, 2002; Marqués, 2002; Suarez, 2002) and supporting higher education students in their learning goals (Lacka et al., 2021). VLEs potentially offer immersive and interdisciplinary experiences that aid student motivation and learning (Foster & Shah, 2021), and impact on students' identity (Prata et al., 2020; Umoren & Rybas, 2017). VLEs adds value to the design and architecture of dynamic classrooms and allow new pedagogical practices to evolve (Bustos & Coll, 2010; Hilli, 2019). However, few studies analyze the actions of those who intervene in the VLE (Coll & Monereo, 2008; Nadolny et al., 2013; Cubero-Ibanez et al., 2018). Isidori and Cacchiarelli (2017) argue that technology developments in VLEs raise many ethical issues with no simple solutions. This is how (Levine & Pazdernik, 2018) confirm "The ease of locating information on the Internet makes it more tempting for students to copy and paste information and to submit plagiarised content in assignments" (p. 10).

Ethical reflection involves not only the individual but also the VLE community (Rheingold, 1996). The VLE is a social space where information is exchanged (Cho, et al., 2002) as a form of engagement. This can lead, as Kress (2018) puts it, to a series of transformative processes. These changes include semiotic, conceptual, social resources, ceaseless transformation of the learners' 'inner' resources in social-semiotic action, and an identity transformation. Therefore, the VLE is not an information repository but a social cultural environment. An active process designed by teachers to promote communication and interaction around subject curricula and learning as an interest-driven transformative process of engagement with the world (Kress, 2018).

Education and ethics are closely related. Mèlich & Boixader (2010) considers ethics an essential element of education. The author affirms education as an ethical event, in which responsibility and solidarity are at the centre of the relationship (Mèlich, & Boixader, 2010). As Teja (2011) explains, simple acquisition of knowledge is not education but should include the components for skill development that allow for the judgement of

knowledge that one gains. Values, according to Teja (2011), help people to solve common human problems by defining what is useful, beneficial, and important.

Interactivity in the VLE facilitates mediated communication (Bannan-Ritland, 2003), in some cases through avatars. Biocca et al. (2003) suggests that this produces a 'way of presence' which is not neutral. It is worth noting, in line with Wang (2011) and Savage et al. (2013), that there would be too many challenges to virtual education if pedagogical and didactic strategies were left to the projection of an avatar in a VLE, generating consequences of ethical relativism. When education is not seen as ethical, there is an ontological disruption between being and doing. Toker (2018) reminds us that false truths are easily transmitted through social networks. This could be true in educational spaces if students cannot discern such truths. For the author, education could provide criteria for settling truth in the virtual age (Toker, 2018). Here, we consider that such criteria are based on the prevalence of ethical values in virtual education. It is important to consider that 'not all interactivity in virtual worlds is educational. Fantasy is not necessarily creative, and the invention of identity through avatars does not necessarily promote cultural sensitivity' (Wang, 2011, p. 618). Likewise, other uses of VLE, as simulations that reduce risks for the learner and the environment (Adefila et al., 2020) for example, do not necessarily consider values and other ethical aspects as part of the learning experience.

Defining ethical values is difficult, particularly in the context of virtual education (Prisacariu et al., 2016). According to Avci (2016), the outputs of ethics teaching are not as measurable as those of business, marketing, or healthcare. Therefore, creating universal goals and standards as well as gauging the impact of ethics education on recipients might be difficult (p. 13). Ethics and values are ancient conceptions of human thought. Values determine the character of a human individual; there are no values without appropriability and appropriation of the person who expresses them (López Aranguren, 1994, p. 377). Values are reflected in actions. The origin of the reflection remains in the classical contributions of Aristotle, for whom ethics and values are oriented toward the pursuit of happiness. A more nuanced perspective is required in order to approach education and virtuality from ethics. The different nuances that the philosophical tradition, especially from the field of morality, has given to human actions, they must be considered. This present approach does not seek support in absolutism or moral relativism, following the proposal of deontologists or consensualists, as stated by Macklin (2011). For the context of a virtual education, studies such as those of Jonas (1995) become more relevant. The author proposes an ethic of responsibility in the context of technological civilization, acknowledging ethical values as something that tends to human good. Following another line of the philosophical tradition and consistent with this era of virtuality, in a paradoxical way, Habermas' (1987) discourse of ethics is presented from moral realism. The current society has evidenced cultural changes, which in turn have marked a plurality of conceptions about value, which is why modern regulations must create their axiological principles from the different contextual realities.

The role played by teachers becomes capital when we consider the role of virtual education in the pursuit of happiness, the human good, and the good of extra-human things. Apart from controlling the course design, teachers interact with students in the virtual campus, and promote interaction among the learners. Teachers' lived experience, as well as their digital and pedagogical competencies, are relevant to the discussion (Magro et al., 2014). Interaction is a psycho-pedagogical component that optimizes learning in the VLE (Cabero, 2003; Barberà & Badía, 2004). VLEs can be seen as social spaces where ethical values cannot be neglected (Silva, 2011). They are settings of excellence for the desired centrality of the student, active learning (Sancho & Borges, 2011), and the reflection of

ethical values. Values, as Goldthwait (1996) asserts, enter education in two ways. The first one is to teach certain values to students; the second is the operation of values within the educational institution itself.

Purpose

The objective of the research presented here is to understand the ethical experience of virtual learning environments (VLEs) from the perspective of university students and their teachers. Fulfilling this objective is relevant to bring to the fore the humanity of relationships established in learning environments to the fore. Examining the ethical foundations of learning in virtual environments impacts on the explicit and inescapable acknowledgment that on both sides of the screen, there are human beings.

Methodology

This study used a design-based research method (Brown et al., 2019; Collins, 1992; Rinaudo et al., 2010). This methodology allows improving the processes of educational design and its development based on the resolution of contextualized problems (Richey & Klein, 2007; De Benito & Salinas, 2016). In this particular study, design-based research is applied in order to approach interactions and perceptions of teachers and students in the VLE. It is a reflexive investigation based on a series of redundant analysis that aim to provide innovative elements regarding the ethical dimension of virtual education.

He focused on the ethical factors inherent in virtual education (Canavos, 1988, Punch, 2013; Sampieri, 2014; Lichtman, 2013). Another important element provided by this methodology is the sequence in phases, and which the following authors define as fundamental (Van den Akker, 2007; Hakkarainen, 2009; McKenney & Reeves, 2012; Plomp, 2013; Pool & Laubscher, 2016). They are phases that are linked as necessary links to continue in the investigation. The development in phases allows collecting and continuing on the results given previously, according to McKenney and Reeves (2012), an improvement can be given from the exploration and final proposal. In the previous stages of the research, quantitative tools such as interviews and panels of experts were developed to have a better initial understanding of the VLE's ethical experience. Values such as responsibility, commitment, respect, solidarity and tolerance were identified as typical of learning in the VLE. In the present investigation we delve into the ethical experience of the VLE.

We obtained the data presented below through an online questionnaire. The instrument validation came through the judgement criteria of 10 experts, teachers, with doctoral training in education and with more than five years of experience as tutors in virtual education. Their evaluation considered the following aspects: validity, property, and objectivity. The evaluation of the experts allowed us to adapt and contextualize some concepts. The survey took place online in the first semester of 2020, from guidance of the expert panel. We informed the participants of our research objectives, the voluntary nature of the study, and the confidentiality and anonymity of their responses. The reliability of the questionnaire was 0.861 (Cronbach's α).

The instrument, which is available in the annex, used a Likert scale ranging from 'strongly disagree' to 'strongly agree' and for this paper the following two categories will be taken into account.

1. Actions in the virtual campus
2. The ethical experience in the virtual campus.

With Ortiz, (2007) we understand the virtual campus as the environment made possible by technology and communications, which fully support the educational and social processes of educational institutions. The experiences of the VLEs happen in the virtual campus.

The participants were 205 students (172 women, 33 men) from universities in Colombia, Mexico, and Spain. 37 of them carried out their academic activities in mixed modality. That is, not entirely virtual but rather the technological resource supports face-to-face education (Contreras et al., 2011). We also included 30 teachers (15 women, 15 men). Table 1 describes the students and Table 2 describes the teachers.

Results

In the first section of the questionnaire, the two sample groups (students and teachers) were presented with a list of 10 ethical values. Participants had to mark the ethical values that they considered fundamental to virtual education in order, from the least to the most relevant. Considering that the groups of students and teachers shared virtual learning environments as a space for educational interaction, the Kruskal Wallis nonparametric test was used to measure this variable from different academic programs and universities.

We have decided to use the non-parametric Kruskal Wallis (shown in Fig. 1) test because it allows, on the one hand, the analysis of the combination between quantifiable data of qualitative elements, and, on the other hand, to compare the perceptions of two populations that share an educational experience. It was important that by handling two ranges in the surveyed samples, it was possible to determine the coincidences and/or differences in the perceptions of students (group 1) and teachers (group 2); the average range marks the trend of perception.

Table 1 General characteristics of the participating students

Age	n	%	Men	Women
23 years or younger	89	43.4	3	86
23–30 years	68	33.3	10	58
30–40 years	28	13.6	9	19
40 years or more	20	9.7	11	9
Time in virtual education				
Less than 1 year	138	67.3	9	129
1 to 2 years	24	11.7	5	19
More than 2 years	43	21	19	24
Knowledge area				
Bachelor's Degree in Early Childhood and Primary Education	132	64.7	0	132
Bachelor in English	26	12.6	9	17
Bachelor of Mathematics	26	12.6	14	12
Postgraduate	13	6.3	6	7
Psychology and communication	4	1.9	0	4
Engineering	4	1.9	4	0

Table 2 General characteristics of the participating teachers

Teacher characteristics				
	n	**%**	**Men**	**Women**
Virtual education experience				
From 1 to 4 years	3	10	2	1
4–7 years	6	20	4	2
From 7 to 10 years	11	36.6	4	7
More than 10 years	10	33.4	5	5
Level of studies				
Specialist	3	10	1	2
Master	18	60	9	9
Doctorate	9	30	5	4

The asymptotic significance value is greater than 0.05; therefore, it can be concluded that the 10 ethical values queried were important for the two sample groups (students and teachers). The results are shown in Fig. 2. As we do not know the probability distribution of this data set, which are qualitative, the parallel bars show the trends and levels of importance of the values accepted by students and teachers, which are not found in numerical perception. Some reasons may be the generational difference of the two populations or the preconceptions about the ethical view.

The list of the ten ethical values was not arranged by chance, on the contrary, it is worth mentioning that this writing is part of a broader investigation that precedes this present paper (Piragauta & de Oliveira, 2020). In this previous study some cases of experiences in the VLEs were proposed and from there the values arise as inferences made by the students and that later coincided with the answers of the teachers. Figure 2 shows significant percentage differences in some values. For example, the value of Understanding was chosen by only 36.6% of the teachers, while it was considered important by 76% of the students. It is important to highlight that Responsibility and Commitment were perceived as fundamental values in virtual education by both students and teachers. Tolerance is one of

Fig. 1 Kruskal Wallis non-parametric test

Kruskal-Wallis test

Ranges

	Students (1) and Tutors (2)	N	Average range
Ethical values	1	10	
	2	10	
	Total	20	

Test Statistics [a,b]

	Ethical values
Chi-squared	1.126
gl	1
Asymtotic sig.	.289

a. Kruskal-Wallis test
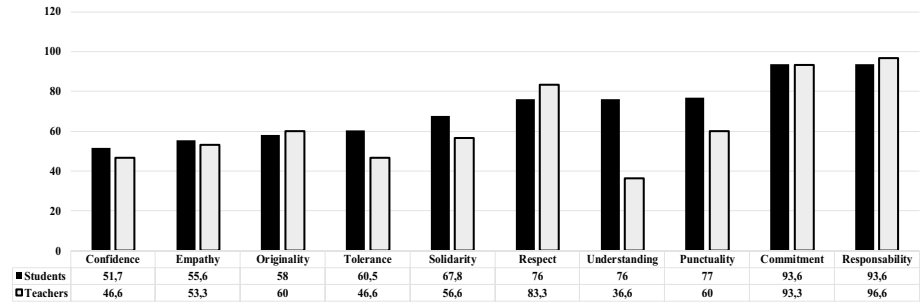b. Group variable: Students (1) and Tutors (2)

Fig. 2 Hierarchy assigned to the values surveyed

the more important values to students than to teachers, while Respect was more important to the teachers.

In the following section of the questionnaire, students were asked about their experience with VLE (see Table 3). The global mean of responses in which the participants affirmed to act in solidarity in the VLE was 4.34 (standard deviation [SD] = 0.70). Students predominantly perceived their own participation in the VLE as disciplined (mean [M] = 4.14; SD: 0.84) and tolerant (M = 4.36; SD: 0.61). When asked about the coherent of their actions on the VLE and on other social networks, the general mean of responses in which the participants claimed to act consistently was 4.49 (SD: 0.66). No differences are perceived, therefore, between the virtual experience of the learning environment and the experience of reality. On the contrary, the connections can be interpreted in the experience of the same values in both spaces.

Table 4 presents samples data based on the experiences of the participants in the virtual campus. Students were asked about the relevance of different values in the VLE. The response trend shows a non-dispersed consensus that values such as commitment, responsibility, respect, honesty, punctuality, and solidarity are relevant values in virtual education. A general mean of responses of 4.35 (SD: 0.68) expresses a high level of commitment when participating in activities in the VLE. An average of 4.63 of the participants (SD: 0.64) affirmed that responsibility and respect are relevant values for learning, and an average of 4.69 of the participants believed that online tutors should promote values such as honesty, punctuality, and solidarity. The foregoing ratifies that it is one education with two modalities of application. Being punctual, honest, respectful, etc., are not values only for face-to-face settings. They are values for education, whether face-to-face or virtual.

We now turn to the answers given by the teachers in VLE. We ask teachers about their actions and beliefs. Table 5 shows that most teachers consider it important to explain the

Table 3 Students' responses

1. Actions in the virtual campus	M	SD
I am solidary in the virtual learning environment	4.34	0.707
I am disciplined when I participate in virtual learning environments	4.14	0.846
I am tolerant of the different situations that are experienced in the virtual learning environment	4.36	0.617
I am coherent with my actions in the virtual learning environment and in the social networks that I use	4.49	0.666

Table 4 Students' responses

2. **The ethical experience in the virtual campus**	M	S D
I have a high level of commitment in the virtual learning environments where I participate	4.35	0.681
In virtual education it is important to learn about values such as responsibility and respect	4.63	0.649
It is essential that tutors promote values, such as honesty, punctuality, and solidarity in virtual courses	4.69	0.602

norms of behavior in a VLE (M=4.55, SD=0.68). However, the mean of the responses that indicated whether teachers raised ethical dilemmas with their students was moderately low (M=3.97, SD=0.90). Teachers believe that the collaborative construction of knowledge implies being supportive and respecting others (M=3.97, SD=0.90). Most teachers believe that ethics should be promoted in virtual education because it facilitates coexistence among students (M=3.97, SD=0.90). In the last answer of this category, about promoting ethics in virtual education because it facilitates coexistence among students, it was obtained (M=4.58, SD=0.53).

Regarding the ethical experience of the professors in the virtual campus, it is shown in Table 6: the general average of the answers recognizes the positive role that ethics plays in virtual education. Teachers believe that ethical values allow students' capacities (M=4.55, SD=0.73) and that ethics humanizes the VLE. (M=4.66, SD=0.58). Most teachers agree that virtual education can develop relevant ethical values for the exchange of political, social, and cultural positions (M=4.63, SD=0.51) and that ethics in virtual education favors the formation of better citizens (M=4.69, SD=0.47). The expectations in the case of teachers may be higher, the generational difference determines different demands and puts on a different plane what the teacher thinks about ethics and what the student thinks about similar aspects.

Discussion

The aim of our research was to understand the ethical experience of VLE from the perspective of university students and their teachers. The necessary relationship between ethics and education is of interest and a concern to make ethical education a fundamental cornerstone in virtual education (Briones & Lara, 2016). Indeed, the theoretical review has insisted that it is possible to instill moral values in students who interact in a virtual learning environment, with the future responsibilities that this entails. In this regard, Farrow (2016, p. 101)

Table 5 Teachers' response

1**. Actions in the virtual campus**	M	S D
I consider that it is my task as a teacher to explain the norms of behaviour in a virtual learning environment	4.55	0.686
I have suggested ethical dilemmas to my students as an exercise to form criteria in decision making	3.97	0.906
The collaborative construction of knowledge implies being supportive and respecting others	4.79	0.491
Ethics should be promoted in virtual education because it facilitates coexistence among students	4.58	0.538

Table 6 Teachers' response

2. The ethical experience in the virtual campus		
Ethical values experienced in the virtual learning environment facilitate the development of the human potentialities of the participants	4.55	0.736
Virtual education can contribute to the development of ethical values relevant to the exchange of political, social, and cultural positions	4.63	0.511
Ethics humanizes virtual learning environments	4.66	0.584
Ethics in virtual education allows the education of better citizens	4.69	0.471

believes that the classic deontological theory on ethics and virtue will continue to be relevant, even in the case of virtual education. On the other hand, interaction with the virtual world involves personal successes or mistakes directly influenced by values (Childs et al., 2012). This study provides empirical evidence showing that the experience of students and teachers in virtual learning environments is ethical and stems from the expectation of desired ideal behaviors. The high pedagogical and didactic factor that Silva (2011) underscores as an important part of the interaction with the student cannot be ignored.

The data presented above suggest that students and teachers may have a different understanding of the values experienced in virtual learning environments. The actions that occur on a virtual campus are motivated by students' interests for learning purposes, which result in the ranking of values according to an understanding that is different from the teachers' intentions. On the other hand, the virtual education exercise of asynchronous and synchronous learning can impact on the importance of what happens over time in the face of potential conflicts or real situations involving an immediate ethical response in the virtual learning environment. More research is needed to understand, for instance, why a student's ethical action or omission can be interpreted as surmountable (for example, lack of Respect) as long as the teachers assigns greater importance to the given event. Despite the differences between virtual education participants, it is possible to say that ethical values exist on the virtual campus.

First of all we found that students believed they acted with solidarity in the VLE. Students largely perceive their own participation in the VLE as disciplined and tolerant. They see consistency in their actions in the VLE and in other social networks. Students analyze commitment, responsibility, respect, honesty, punctuality, and solidarity as relevant values in virtual education. The students felt that they expressed high levels of commitment when engaging in activities in the VLE. They agree that online tutors should promote values like honesty, punctuality, and solidarity. Secondly our study found that teachers consider it a task to explain behaviour norms in a VLE. Teachers believe that being supportive and respectful is relevant in the processes of knowledge construction. They consider that ethics should be promoted in virtual education because it facilitates coexistence among students, but the discussion of ethical dilemmas as a learning activity is not as important. Most teachers think that identity theft and other forms of deception are preoccupying issues in virtual education.

The results of the study show that commitment, responsibility, respect, honesty, punctuality, discipline, and solidarity are relevant values in virtual education for both students and teachers. Students expect their teachers to promote them in a learning environment. Although teachers believe that an ethical approach is beneficial, it is not yet a part of most pedagogical designs. Teachers worry about cheating behaviour. These findings reinforce the considerations of Teja (2011), who argues for ethical curriculum programmes that

devise the involvement of students in an exploration of different value dimensions of life. The author affirms it as part of the formation of a good person, a good life, and a good society through education. Virtual education, we argue, can also contribute to that end. The findings discussed here resonate with the considerations of Foltz (1996). The author highlights that the very project of considering 'values'' in education suggests an assumption that 'education must be more than imparting positive knowledge and recognized skills, and hence should be something closer to the Greekpaideia, which meant not merely education in a narrow sense, but included the inculcation of culture and the formation of character' (Foltz, 1996, p. 19).

Conclusion

We should begin an authentic discussion on the human values of education in digital environments. In this article, we present an approach that identifies the virtual environment with a knowledge delivery space. Values are an intrinsic part of virtual education. We must work on a pedagogy that aims to generate authentic ethical commitments for future professionals training in virtual environments.

The discussion around virtual education ethics that transcends plagiarism assumes there are people on both sides of the screen that separates students and teachers. Teachers and students are human beings who act according to their values. Education carried out through technology plays a crucial role in ethical construction. The learning experience in virtual environments is ethical. Responsibility, commitment, respect, solidarity, and tolerance are typical values of learning in VLEs. We found that students and tutors shared ethical experiences around the values of virtual education.

Pedagogical designs that support the VLE must embrace and promote humanizing and authentic interactions among students and teachers. This poses a challenge to the designer of a virtual course to generate content and didactics. The assessment of VLEs that establish bridges of human encounters promoting an ethical experience is an important line for future research. We consider a humanistic teaching–learning process an ethical value. The practical implications of the results presented here show that we must reconsider the pedagogical paradigms that guide virtual education to promote humanity and acknowledge their ethical dimensions as fundamental. Our data suggests that the academic community needs a deeper ethical discussion about virtual education. Controversial as it may seem, the pedagogy of virtual learning has not sufficiently approached ethics, having dedicated most of its attention towards aspects related to plagiarism, cheating, privacy and security. These are obviously important issues, however, we argue, a pedagogical approach of ethics is still lacking. This article presents empirical evidence that a comprehensive approach to ethically minded pedagogy must transcend a prohibitive approach, dealing with plagiarism and cheating behavior to a custodial approach, dealing with privacy and security. This study contributes to an approximation of ethics and online education. Being able to generate authentic ethical commitments in the training of future professionals is a maxim of higher education in general, but by delimiting the field to virtual education, different challenges arise. In this case, the virtual learning environment as an environment for human interaction and, at the same time, as a technological device that facilitates virtual education. The subject is approached from conjunctural elements, in this regard it can be deepened in Nadolny et al. (2013). Therefore, a quality virtual education is needed that generates authentic ethical commitments and that maintains the development of the human being as a citizen. Human actions are shown

in everyday reality; these actions can be expressed in different areas, currently progress is being made in studies that relate artificial intelligence and human actions (Bertrand et al., 2018, Rueda & Lara, 2020; Slater et al., 2020).

As limitations of the present study, we should mention the lack of previous empirical research relating ethics and education which transcends the topic of plagiarism and the limited number of participants who answered the questioner. Further research should include sufficient sample size for statistical measurement and explore practical recommendations that online tutors could consider in order to appropriately approach the ethical dimension in virtual learning environments.

Declarations

Conflict of Interest The authors declare that they have no conflict of interests.

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