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ORIGINAL

The Teacher-Student Relationship in the Use of Social Network Sites for Educational Purposes: A Systematic Review

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ABSTRACT

This paper aims at exploring the educational scholarly writing on the teacher-student relationship and performance within the use of Social Network Sites (SNSs) for educational purposes. To that end, a systematic review of 111 journal articles focused on young people, and found in ten relevant databases (ERIC, SCOPUS, WOS, JCR (SSCI), DOAJ, EBSCO, ISOC, REDIB, JSTOR, and PsycARTICLES), has been performed. The results show continuity in the roles of educators and students between physical and virtual spaces. This homogeneous conceptualisation is grounded on student-centred theories. Also, the existence of a theoretical confrontation between the figurative dichotomy of vertical (distance) and horizontal (closeness) teacher-student relationship is revealed and discussed. While most of the reviewed studies focused on requirements for technical training, the need for acquiring digital cultural knowledge is stressed. Finally, some of the educational implications of the ethical dimension of the teacher-student relationship in digital spaces are exposed.

Keywords SOCIAL NETWORK SITES, PEDAGOGICAL ISSUES, POST-SECONDARY EDUCATION, TEACHING STRATEGIES, 21ST CENTURY ABILITIES

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1 INTRODUCTION

In the same way technologies did, Social Network Sites (SNSs) have grown into a world-wide phenomenon in which people connect, communicate, and socialise (Campbell et al., 2016). SNSs are considered online spaces where people open a public or private profile in order to interact with worldwide communities (Chugh & Ruhi, 2018) linked by different interests and preferences (Abu-Shanab & Al-Tarawneh, 2015; Arnold & Paulus, 2010; Hatzipanagos & John, 2017; Rodríguez, Ruiz-Palmero, & Rivas, 2015; Vázquez-Martínez & Cabero-Almenara, 2015) and transcending the time and space spheres of traditional social networks. Especially used but not limited to young people, SNSs have contributed to change the rules of traditional ways of communication. Thus, people are not only allowed to have

direct access to knowledge and obtain up-to-date information and news, but they also play an active role by creating and sharing content on the web (prosumers) (Jover, del Rosario González Martín, & Fuentes, 2015; Martínez, 2014; Nagel, Remillard, Aucoin, & Takenishi, 2018). Since SNSs have occupied new channels for the interaction and communication, emerging educational challenges have surfaced (Alvarez-Flores & Gómez, 2013; Kieslinger & Ehms, 2010; Molinillo, Anaya-Sánchez, Aguilar-Illescas, & Vallespín-Arán, 2018; Rodríguez et al., 2015).

The increasing interest in exploring the educational possibilities of using SNSs can be noticed when observing the academic literature of the last 10 years (Akçayır & Akçayır, 2016; Fernández-Díaz, Rodríguez-Hoyos, & Haya, 2017; Rodríguez-Hoyos, Salmón, & Fernández-Díaz, 2015; Valero, Vendrell, & Camas, 2018, 2020). Although most studies focus on the analysis of the educational use of SNSs as a medium, space, or tool that facilitates learning (Ling, 2014; Rama & Chiecher, 2012; Sadowski, Pediaditis, & Townsend, 2016; Túñez & Sixto, 2012), there are few works that explore SNSs implications for the teacher-student relationship. Following the approach of some authors like Hershkovizt and Forkosh-Baruch (2017) and Jones, Gaffney-Rhys, and Jones (2011), the introduction of SNSs as educational settings has broken the hierarchical structures of traditional relationships. However, there is a lack of evidence that explores to what extent this phenomenon has supposed a real change in the traditional performance of educators and students, as well as in the way they interact and communicate in the community. Furthermore, while educational scenarios and performance are being rethought due to the COVID-19 crisis, digital tools have become an essential part of educational practises. In the light of this landscape, it is worth wondering what types of teacher-student relationships are fostered within the new digital settings, as well as what roles are emerging due to the use of SNSs as educational environments. Therefore, a thorough review of the academic literature that locates gaps and critically analyses the findings, implications, ambiguities, and challenges of the impact of SNSs on the teacher-student relationship is required.

2 MATERIALS AND METHODS

The overarching purpose of this work is to explore and synthesise what has been established on the educational use of SNSs and the teacher-student relationship in the scholarly literature. Accordingly, this work is aimed at creating an articulate theoretical systematic framework of the literature by means of a systematic review. That is, through structured and predefined processes selected in order to minimize bias and ensure that results are reliable and meaningful for readers (Higgins et al., 2019). In the light of this context and from a critical perspective, several questions arise around how the teacher-student relationship has been reported when using SNSs for educational purposes, under what theories the performance of educators and students is supported, and finally, what educational implications arise from these statements. Overall, this paper aims to:

- Select the most relevant academic papers on SNSs and teacher-student relationship in the academic literature.

- Explore the impact that SNSs might have on the teacher-student relationship.
- Examine the performance of educators-students' when using SNSs for educational purposes.
- Articulate a theoretical framework of reference about the use of SNSs and their impact on the teacher-student relationship.
- Locate gaps that can indicate future lines of research.

In order to create a database with a comprehensive census of the literature for the educational use of SNSs, ten leading electronic databases were selected: ERIC, SCOPUS, WOS, JCR(SSCI), DOAJ, EBSCO, ISOC, REDIB, JSTOR, and PsycARTICLES. Next, with the purpose of identifying relevant literature in the selected databases, two detailed searches through search terms of interest were conducted at 4:09 p.m (UTC), April 18, 2019. The first search strategy was the following: (Allfields: "Social Network Sites" OR "Social Networking Sites" OR "Redes Sociales") AND (Abstract: (Education) OR (Teaching) OR (Learning) OR (Educación) OR (Enseñanza) OR (Aprendizaje)). Subsequently, with the object of finding articles better suited to the subject of study, a search strategy that used more specific terms was designed. This was the following: (Abstract: ("Social Network Sites" OR "Social Networking" OR "Social Networks")) AND (Abstract: ("Teacher-student Relationship" OR "Student-teacher Relationship" OR "Student Performance" OR "Teacher Performance")). Aside from the search terms, the strategy encompassed five inclusion criteria: journal articles (as document type); 2006-2019 (as timespan); Spanish and English (as publication language); peer-reviewed; and full-text academic articles. In relation to geographical characteristics, no specific sample features were established. Similarly, no sociodemographic restrictions were applied. Upon completion of the search process, 4,437 academic works were identified as potentially relevant for this study (see Figure 1).

Afterwards, article titles and abstracts were scanned for relevance by one reviewer according to a comprehensive set of 6 inclusion and exclusion criteria (see Table 1). Once the scanner was completed, a second reviewer checked the selection and discrepancies were resolved through a consensus discussion with a third reviewer. This search yielded a total of 474 articles. Afterwards, a total of 69 duplicated studies were removed. At this point, the content of the 405 articles was skimmed by the three reviewers. This process ended with the removal of 249 articles for failing to meet eligibility criteria and incorporating 24 through a snowball technique, leaving 111 articles relevant to the subject of this study. The Snowball technique consists of identifying relevant references cited in the selected papers in order to increase the number of sources revised (Wnuk & Garrepalli, 2018; Wohlin, 2014). Finally, the 111 selected articles were subsequently read, further analysed through a standardised data extraction, and categorised into 3 main categories: a) teacher-student interaction and communication, b) teachers' and students' performance and c) teacher-student relationship. To calculate the reliability of the coding, an external observer carried out the analysis of 20% of the data (n=22). To assess reliability, the Kappa de Cohen coefficient was calculated with the aim of measuring the degree of agreement between the coding made by the researchers and the external observer. The kappa coefficient of Cohen shows a concordance force (k= 0.71) that we could categorize as "good" following the works of Fleiss

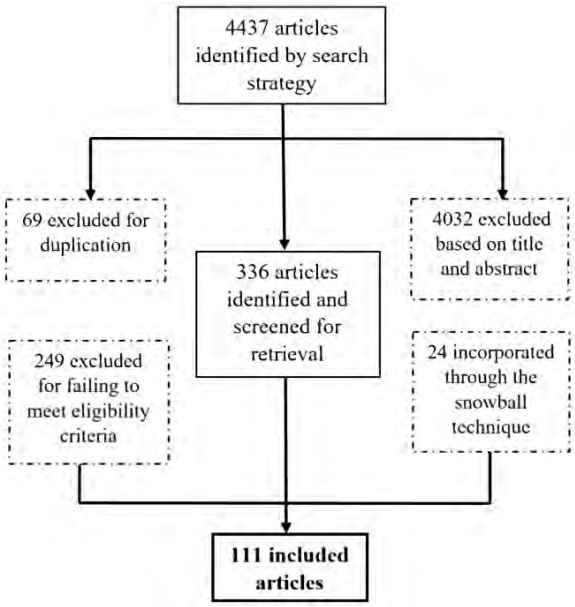

Figure 1 Flow diagram of identification of eligible studies

(1981) and Altman (1991) (0.61<k<0.75 and 0.61<k<0.80, respectively). Discrepancies were resolved by discussion.

Table 1 Inclusion and exclusion criteria

Criterion	Included	Excluded
(1) Content	(1.1) Aimed at the use of SNSs within formal educational contexts (1.2) Bonded with teacher-student relationship	(1.3) Related to non-formal education(1.4) Not bonded with teacher-student relationship
(2) Language	(2.1) Spanish and English	(2.2) Other languages
(3) Reviewed procedure	(3.1) Peer-reviewed academic journal articles	(3.2) Not evaluated by a peer-reviewed procedure
(4) Full-text	(4.1) Full-text available	(4.2) Non full-text online available
(5) Population	(5.1) Teenagers or young people	(5.2) That do not refer to teenagers or young people
(6) Level of Education	(6.1) Secondary and tertiary education	(6.2) Other levels of education

3 RESULTS

As several studies have highlighted, one of the major implications of the countless possibilities for socialising through SNSs concerns the relationship between teachers and students (Bosch, 2009; Cheung & Vogel, 2011; Madge, Meek, Wellens, & Hooley, 2009; Selwyn, 2009) and its quality in favour of academic performance (Birch & Ladd, 1998; Callaghan & Bower, 2012; Ha & Shin, 2014; Hamre & Pianta, 2001; Hershkovitz & Baruch, 2013; Hershkovizt & Forkosh-Baruch, 2017; Hutchens & Hayes, 2014; Mazer, Murphy, & Simonds, 2007; Sabol & Pianta, 2012). With regard to these statements and considering that virtual spaces are encouraging a new culture of reasoning and functioning (Liu, Maes, & Davenport, 2006; Padilla, 2012), it is worth exploring their educational implications.

3.1 Teacher-Student Interaction and Communication

There is a general agreement in the literature on the statement that SNSs are intended to promote interpersonal connections and interactions among the community (Abu-Shanab & Al-Tarawneh, 2015; Chiroma et al., 2017; Chugh & Ruhi, 2018; Colás-Bravo, Conde-Jiménez, & Martín-Gutiérrez, 2015; Erjavec, 2013; Gafni & Deri, 2012; Gomez et al., 2013; Heo & Lee, 2013; Hershkovizt & Forkosh-Baruch, 2017; Hollyhead, Edwards, & Holt, 2012; Lang, 2012; Seifert, 2016). Considering the teacher-student relationship, the interactions produced within SNSs are usually framed under a constructivism approach. Following the assumptions of Vygotsky's Zone of Proximal Development (ZPD), justified in some works such as in the one of Fernández-Díaz et al. (2017) or Yakın and Tınmaz (2015), the nature of SNSs promotes interaction, reflection, exchange of information, and collaborative knowledge construction among stakeholders. In this context, these characteristics are likely to generate spaces for the collaborative construction of learning (Al-Rahmi & Zeki, 2017; Asterhan & Bouton, 2017; Cabero & Marín, 2014; Charles, 2012; Chugh & Ruhi, 2018; Dewick & Miozzo, 2004; Esquivel & Rojas, 2014; Jang, 2015; Jiang, Tang, Peng, & Liu, 2018; Junco, Elavsky, & Heiberger, 2013; Keng & Ching, 2015; Liccardi et al., 2007; Ling, 2014; López-Bonilla & López-Bonilla, 2013; Manca & Ranieri, 2017; Maroulis & Gomez, 2008; Mccarthy, 2010; Morón, López, & Cobos, 2017; Phungsuk, Viriyavejakul, & Ratanaolarn, 2017; Ricoy & Feliz, 2016; R. B. Wang & Du, 2014). In particular, research by Al-Rahmi and Zeki (2017) showed that collaborative learning mediated by SNSs has a positive influence on student performance. Aiming to create collaborative environments, Phungsuk et al. (2017) argued the need to create a "virtual learning environment" in which the SNSs are the communication system that allows students to have collaborative experiences. Authors such as Jiang et al. (2018) have pointed out that the type of collaborative relationships created while using SNSs for educational purposes are more equitable and egalitarian as they offer the same opportunities for participation to all students.

As interactions are defined in terms of active participation and multidirectionality, SNSs provide a boost, not only between teachers and students but also among peers, families, authorities, or other socialisation agents (Badri, Alnuaimi, Rashedi, Yang, & Temsah, 2017; Chiroma et al., 2017; Hamid, Waycott, Kurnia, & Chang, 2015; Rama & Chiecher, 2012; Thalluri & Penman, 2015; Wu, 2014). In this regard, several studies have found a positive relationship between peers' interaction within SNSs and academic achievement (de Laat, Lally, Lipponen, & Simons, 2007; Maroulis & Gomez, 2008; Martínez, Dimitriadis, Rubia, Gómez, & de la Fuente, 2003; Putnik et al., 2016; Romero, López, Luna, & Ventura, 2013; Russo & Koesten, 2005; Vercellone-Smith, Jablokow, & Friedel, 2012), measuring them in terms of support and social influence in most of these works.

At the same time, there are some studies that have framed the scholar interactions in terms of communication as a more complex and wider process than mere interactivity (Alvarez-Flores & Gómez, 2013; Hershkovizt & Forkosh-Baruch, 2017; Leite, Hoji, & Junior, 2018; Seifert, 2016; Túñez & Sixto, 2012). The review carried out by Froment, García, and Bohórquez (2017) on the impact of SNSs on teacher-student communication is remarkable. Their work reviews numerous papers that show the positive correlation

between the communicative use of SNSs and motivation and empowerment among students, creation of a positive learning environment and satisfaction among students. Special emphasis was placed on Facebook groups as they promote satisfaction and conflict resolution (Hershkovizt & Forkosh-Baruch, 2017). Following this conceptualisation, the communicative potential of SNSs lies in the numerous opportunities for teachers and students to: a) be engaged in attractive discussions and activities, normally through forums, informal working, or focalised group sessions (López, Flores, & Espinoza, 2015; Romero et al., 2013; Vercellone-Smith et al., 2012), b) being in touch in and outside the classroom (Túñez & Sixto, 2012), c) sharing thoughts and feelings about academic performance (Norman, Nordin, Din, Ally, & Dogan, 2015), d) providing an individualised rapport (Froment et al., 2017), or e) solving specific aspects of learning tasks (Chugh & Ruhi, 2018; Rama & Chiecher, 2012; Vázquez-Martínez & Cabero-Almenara, 2015).

3.2 Teacher-Student Performance

The inclusion of SNSs in educational settings has suggested possible and multiple understandings about what learning means as well as variations in the performance of teachers and students (Greenhow, Gleason, & Li, 2014; Hershkovizt & Forkosh-Baruch, 2017; Leite et al., 2018; Putnik et al., 2016). At this point, it is important to remark that this inclusion of the SNSs does not constitute the mere expansion of their use for students' entertainment; it might also involve a significant change in the traditional roles of educators and learners. Regarding the role of educators, teachers play an essential role in the effective implementation of SNSs as educational settings (Hutchens & Hayes, 2014; Vázquez-Martínez & Cabero-Almenara, 2015). As a result of the review of the literature, two main roles referring to educators' performance have been detected.

Firstly, the need for teachers to be technologically competent seems to be highly relevant to students' academic performance (Seifert, 2016). Following this assumption, Martínez (2014) expresses that educators not only have to be trained in the attitudes towards and implications and possibilities of SNSs, but also in some of their technology skill set, such as creating content, analysing information, evaluating procedures and tools, or disseminating data widely. Considering that students are digital natives, teachers are required to become 'as savvy as their students' (Blair & Serafini, 2014, p. 28), which means that both parties should develop similar digital competencies (Rama & Chiecher, 2012). Therefore, educators have to be technologically competent in order to integrate SNSs into their teaching practice effectively.

Secondly, several authors lay stress not only on the demand of teachers to acquire digital competencies but also on acting as mediators in spaces of participation. According to Lackovic, Kerry, Lowe, and Lowe (2017), Chugh and Ruhi (2018), and Ling (2014), the role of teachers is conceptualised in the light of the student-centered methodologies, where educators act as facilitators of learning into participatory and collaborative environments (Charles, 2012; Seifert, 2016).

The characteristics of this type of educator's role are concreted in an empirical study conducted by Hernández and Medina (2015): 1) tutor (27.5%), 2) provider of students' feed-

back (25.9%), and 3) facilitator and learning' invigorating (21.4%). Likewise, some other functions such as planner, organiser, or moderator were also considered in the study. At the same time, a considerable number of authors have specified some of the responsibilities with regard to the teacher functions: a) being available to help students to be integrated into the digital culture; b) establishing significant links between physical and virtual spaces; c) defining the criteria and rules of participation in the educational scenarios; d) selecting the most appropriate SNS; e) producing and organising pedagogical content, materials and activities; h) promoting dialogue and interaction among the learning community; f) participating and collaborating with their students as an equal member; g) fostering students' motivation; h) offering different sources of information; and i) evaluating the teaching and learning process (Ling, 2014; Palacios, 2012; Pérez, Tur, Negre, & Lizana, 2017; Phungsuk et al., 2017; Rama & Chiecher, 2012; Seifert, 2016; Túñez & Sixto, 2012; Vázquez-Martínez & Cabero-Almenara, 2015).

Moreover, the recent studies of Camas, Valero, and Vendrell (2018) and Nagle (2018) relate the participatory role of educators to the construction of a democratic culture based on educating in critical and digital literacy. Following this line of thought, according to Morón et al. (2017), the SNSs are suitable environments for the promotion of global citizenship and "democratic, critical, sustainable, supportive and participatory" values (p.13). Along with the abovementioned responsibilities, these authors emphasise the dialogical possibilities of SNSs to promote discussions about social topics where democratic values are likely to be acquired. Some of the educational strategies that might be useful for achieving this goal are: a) to suggest topics about unfair and exclusive situations, b) to conceive participatory technologies as a choice, and c) to prevent and respond to the pitfalls of SNSs by offering supportive tools. Following these implications, teachers might act as a guide to the teaching and learning process (Cao & Hong, 2011), whereas the active role of the student is boosted under the principles of a democratic society.

In relation to the student's performance, the role of students as active agents in their own learning process has been remarked by the majority of the scholarly works analysed (Gonzalez & Delgado, 2016; Keats & Schmidt, 2007; Norman et al., 2015; Phungsuk et al., 2017; Rama & Chiecher, 2012; Túñez & Sixto, 2012; Vázquez-Martínez & Cabero-Almenara, 2015). More precisely, the possibilities of interaction, collaboration, and participation of SNSs place the student at the centre of the teaching practices, letting them become the real protagonist of the educational process (Chen & Fang, 2014; Chiroma et al., 2017; Seifert, 2016; Túñez & Sixto, 2012). This autonomy is highlighted so that they might have the responsibility of 'what and how they want to learn', in terms of Phungsuk, Viriyavejakul, & Ratanaolarn (2017, p. 303).

Following a 'self-directed learning model' (Gonzalez & Delgado, 2016; Seifert, 2016) students have to manage their own time efficiently, be self-motivated, solve their problems, or make their own decisions. The traditional reactive attitudes and actions become proactive, having a clear and active implication, and commitment to the teaching and learning process (Rama & Chiecher, 2012; Túñez & Sixto, 2012; Vázquez-Martínez & Cabero-Almenara, 2015). Likewise, Norman et al. (2015) found diverse student roles in mobile media learning

that affect the proper implementation of SNSs (ordered from lower to higher participation): a) lurker; b) gradually mastering member or passive member; c) recognised member, and d) coach. As shown, they found the presence of passive members when the entire teaching and learning process was accomplished by using mobile devices. This may suggest some limitationswhen leading students to develop their total activity exclusively across digital spaces. On the one hand, some limitations are related to the promotion of learners' passive attitudes towards participation, lower commitment of teachers when students use digital environments, or the lack of physical teacher-student' interaction (Alvarez-Flores & Gómez, 2013; Ling, 2014; Martínez, 2014; Norman et al., 2015; Rama & Chiecher, 2012; Túñez & Sixto, 2012). On the other hand, other studies have found a relationship between the frequency in the use of SNSs and academic achievement, so that the latter increases when the student displays a moderate use of SNSs (Abu-Shanab & Al-Tarawneh, 2015; Al-Yafi, El-Masri, & Tsai, 2018; Paul, Baker, & Cochran, 2012) and avoids passive or addictive uses (Arquero & Romero-Frías, 2013; Buck, 2012; Gafni & Deri, 2012; Huang, 2018).

As 21^{st} century learners, some findings in the literature remind us that students not only have to be literate in a variety of digital technologies of communication but also in the critical use of SNSs (Ling, 2014; Nagle, 2018; Vázquez-Martínez & Cabero-Almenara, 2015). On the one hand, despite the fact that they are natural users of digital environments (Hershkovizt & Forkosh-Baruch, 2017), they also need to develop digital competencies and skills for their proper instrumental usage (Rama & Chiecher, 2012). Likewise, other transversal skills such as teamwork, leadership, self-confidence, or autonomy in decision-making, are expected to be developed (Leite et al., 2018). Moreover, students need to be aware of the ethical implications of using SNSs responsibly as well as acquiring democratic values. SNSs constitute spaces full of civic content and, therefore, have the potential for the development of students' democratic engagement (Camas et al., 2018).

3.3 The Distance and Closeness of the Teacher-Student Relationship

Among other factors, one of the most relevant implications of the educational possibilities of SNSs concerns the limits in the construction of the teacher-student relationship (Daly, Moolenaar, Bolivar, & Burke, 2010; Froment et al., 2017; Seifert, 2016). Firstly, the establishment of closer relationships between educators and students as well as the improvement of the teaching climate has been remarked by several authors (Asterhan & Rosenberg, 2015; Kio, 2015; Ling, 2014; Maroulis & Gomez, 2008; Mazer et al., 2007; Roblyer, McDaniel, Webb, Herman, & Witty, 2010; Seifert, 2016; Thalluri & Penman, 2015; Túñez & Sixto, 2012). Along with Cotton (1996), Maroulis and Gomez (2008), and Raywid (1997), the extended and meticulous work of Froment et al. (2017) evidenced that SNSs favour a more individualised follow-up, which facilitates a deeper personal knowledge of students and teachers. Likewise, the idea that communication and effective relationships are promoted in a positive way within these environments is highly sustained (Abella & Delgado, 2015; Albayrak & Yildirim, 2015; Amador & Amador, 2014; Aydin, 2012; Bowers-Campbell, 2008; Conole & Culver, 2010; Hernández & Medina, 2015; Irwin, Ball, Desbrow, & Leveritt, 2012; Lee, Lee, & Kim, 2015; Ormart & Navés, 2014; Rezende, van Kruistum, &

van Oers, 2016; Rienties & Kinchin, 2014; Roblyer et al., 2010; Saifudin, Yacob, & Saad, 2016; Sobaih, Moustafa, Ghandforoush, & Khan, 2016; J. Wang, 2013; Wodzicki, Schwämmlein, & Moskaliuk, 2012). The study by Saifudin et al. (2016) showed that the use of Facebook groups for educational purposes strengthened the links and relationship between students and teachers. This approach was particularly relevant to students in the early and late stages of undergraduate studies. In this sense, Rezende et al. (2016) have reviewed two trends about using Facebook groups as a "Class Agenda" and as a forum in order to increase knowledge about "interdisciplinary themes" (p. 238). These authors also showed that the use of SNSs increased the relationship and the closer and more fluid interaction not only in the virtual class but also in the face-to-face context.

On the contrary, there are some studies that express the negative consequences that exceeding the closeness or keeping an excessive distance in the teacher-student relationship might have. First of all, teachers and students becoming friends might lead to: a) lack of educators' authority (Chugh & Ruhi, 2018; Cole, Hibbert, & Kehoe, 2013; Gomez et al., 2013), b) sense of favouritism felt by some student, c) excess of personal information uploaded on the stakeholders' profiles, d) damage use of information disclosure, complacency, or e) loss of motivation and the deterioration of academic performance (Evans, 2014; Froment et al., 2017; Jones et al., 2011). Subsequently, the promotion of authoritative and non-dialogical interactions (Charles, 2012; Kio, 2015) and the risk of replacing the face-to-face interaction and communication among stakeholders (Badri et al., 2017; Ling, 2014; Martínez, 2014; Rama & Chiecher, 2012; Sadowski et al., 2016; Túñez & Sixto, 2012) have been remarked when their relationship tends to distance. For that matter, the statement that digital interactions should never replace the physical spaces and times for communicating has been highlighted in the aforementioned works. Finally, and in an attempt to find the proper balance, there are some studies that support the suitability of negotiating the limits of this relationship (Charles, 2012; Hershkovizt & Forkosh-Baruch, 2017; Kio, 2015).

4 DISCUSSION AND CONCLUSIONS

Along with other technological paths, the phenomenon of SNSs in education has inevitably led to new educational challenges. As a result of this systematic review, the principal implications of the incorporation of SNSs for educational purposes concerning the teacher-student relationship and their performance have been exposed.

First of all, the vast majority of the studies sustain that the use of SNSs in educational settings contributes to breaking the traditional hierarchical relationships and, thus, the promotion of horizontal ones (see 3.2 section). In fact, one aspect that would be interesting to consider is whether the breakdown of this traditional hierarchy occurs in the same way in the use of vertical or horizontal SNSs. However, the controversies concerning the effects of SNSs on the teacher-student relationship are still under debate. On the one hand, the positive effects of this supposed change, especially on students' motivation, engagement, and participation, have been justified in the literature reviewed. Besides, it might be ambiguous and complex to find where the limits are as well as achieving the appropriate balance with

regard to the distance or closeness of this relationship. Should educators have to become friends or 'followers' or keep their distance from their students? Is the teacher-student relationship endangered when exceeding the limits of professionalism due to an over-closeness? As it has been argued, the limits are highly dependent on different variations among institutions, cultures, policies, regions, or countries. For instance, while some countries, such as Ireland, regulate the teacher-student communication via SNSs by its educational legislation, this communication, unless in exceptional circumstances, is considered unacceptable in countries, such as Australia (Hershkovizt & Forkosh-Baruch, 2017). Nevertheless, there seems to be an agreement when establishing the negative effects of an inappropriate or irresponsible use of SNSs on the teacher-student relationship (see 4.3 section). This evidence leads us to the classic debate about the reflection on whether the educator should be an authority figure (which does not mean authoritative, see Martínez, Esteban, Jover, and Payá (2018) or acting as a leader of the educational process. In fact, most of the studies have conceptualised this issue under a dichotomous logic through which distance and closeness are confronted. This argumentative logic places on a single analytical level the terms of distance and verticality as well as closeness and horizontality. However, is it possible to find a matching position in which both options come together? In the attempt to overcome this reductionist view, the way to conserve the authority status (avoiding authoritative approaches), while also providing closeness is still being explored. Consequently, the teacher-student relationship should tend to a horizontal closeness, similar to friendship, but maintaining the vertical distance when considering ethical and responsible boundaries. And this should be independent of the nature of the SNS that is intended to be used for educational purposes. To follow this perspective would result in a relationship defined by horizontality under the premise of a different symmetry (authority) in the roles of students and teachers. Therefore, the tension between distance and closeness would be relieved.

Secondly, two educational implications have been found in relation to the way of using SNSs for educational purposes concerning teacher-student performance. In the first place, there seems to be a continuity in both physical and virtual spaces. Assuming this argument, the student-teacher relationship is grounded in student-centred pedagogies where educators act as mediators with the knowledge. At the same time, a clear commitment to the limelight of students in the learning process is highlighted. Therefore, when the teacher-student performance in the educational use of SNSs is analysed, the search for coherence from the theoretical frameworks of active pedagogies are observed. This could imply that this use does not seem to involve a reconfiguration of the student-educator's roles but rather a new expression of the same theoretical purpose. Afterwards, although studies usually take it for granted, the mere application of SNSs into educational settings does not necessarily guarantee an education based on the theory of active pedagogies. Moreover, although the scenario and educational tools in virtual settings have been metamorphosed, the teacher-student relationship are routed in the student-centred approach. Despite finding many similarities in the type of relationship within physical and virtual spaces, the introduction of technology has led to the literacy of teachers with tools and strategies of the virtual environment. For this reason, some authors have argued that the introduction of SNSs in the classroom might

be considered an educational innovation. However, would this consideration be sufficient to affirm that SNSs modernise the teacher-student relationship? These controversies have led to the debate about whether this implementation constitutes an innovative element. More studies on these issues are necessary.

Thirdly, the controversies around the role of teachers increase when students, as native users of SNSs and digital spaces, are able to manage them even better than educators. Although the teacher needs to be literate in technical knowledge about the use, risks, and good practices of the SNSs, there is a question that no article seems to highlight. Beyond the digital and technical literacy, teachers should also be trained in the knowledge of the digital culture shared by their students. This means that young people have cultural codes that guide their behaviours and the way they participate, also in the network. Therefore, teachers should make efforts to approach, know, and understand those cultural forms. Its importance lies in the need to ensure continuity in the culture of participation in digital scenarios within the ethical parameters. If the teacher refuses to become literate in that subculture, there is a risk of creating discontinuities and, hence, their attempt to educate could be frustrated. This situation might expand the conception of the learner to these agents and make educators prioritise the ethical use of SNSs over their technical utilization. In fact, as some authors have pointed out (Camas et al., 2018), the power of SNSs in digital times lies in the construction of a democratic culture and active citizenship. Thus, the need for boosting proper use of SNSs in ethical terms should be one of the main purposes that educators should follow, especially considering the risks of an inappropriate performance (Badri et al., 2017; Forbes, 2017; Paul et al., 2012; Renes-Arellano, Caldeiro-Pedreira, del Mar Rodríguez-Rosell, & Aguaded, 2018). In order to contribute to this issue, the need for developing a system of indicators which considers SNSs' principal risks, boundaries, recommendations, and challenges emerges.

Finally, another debate arises from the potential controversies that stopping worrying about the students' activity within digital spaces could lead to. This statement might be justified with an erroneous perception of the idea that the student is sufficiently autonomous to assume the full responsibility of their own learning process and to navigate through these environments without any supervision. Some negative effects of providing students with unlimited independence have been found (see 3.2 section). All in all, to be an educator within digital spaces does not mean disregarding the responsibility of creating continuity among different contexts, but also implies ensuring students' welfare.

Once the systematic review has been achieved, it is worth mentioning some limitations. First of all, the present study has only considered journal articles focused on the educational implications of the use of SNSs on the teacher-student relationship. Meanwhile, any books, chapters, or conferences have not been taken into consideration. Secondly, the fact that we only selected and analysed those articles written in English and Spanish constitutes another limitation for similar reasons. Thirdly, criteria related to the inclusion of open-access articles might ignore potential findings of the topic. Thus, the possibility to include other articles with different access policies will be considered. Another limitation is led by the fact that most of the articles make no difference between blended and face-to-face

learning. In this light, these ways of learning might probably have different implications on the teacher-student relationship. Consequently, they need to be considered separately for future research. Finally, future lines of research could be focused on unexplored statements, such as which digital spaces or educational strategies could facilitate the relationship between educators and students and, if so, which ones are more likely to have a positive impact on students' academic performance.

To sum up, although the use of SNSs for educational purposes has proliferated new pedagogical realities, it seems to be a theoretical continuity in conceptualisation of the teacher-student relationship in both virtual and face-to-face classes. While there would not be a significant change in the theorisation of the teacher-student relationship, this argument does not nullify the possibility that SNSs are spaces laden with educational challenges in the teacher-student relationship.

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