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The Influence of Social Networks within Educational and Social Fields: A Comparative Study between Two Generations of Online Students

Ana Cristina García , Manuel Gil-Mediavilla * , Ildefonso Álvarez  and María de los Ángeles Casares

Facultad de Humanidades y Ciencias Sociales, Universidad Isabel I, 09003 Burgos, Spain; anacristina.garcia@ui1.es (A.C.G.); ildefonso.alvarez@ui1.es (I.Á.); mariadelosangeles.casares@ui1.es (M.d.l.Á.C.)

* Correspondence: manuel.gil@ui1.es

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Abstract: New uses for social networks are emerging in educational fields offering endless materials for the teaching–learning process. Skills development therefore leads to an education focused on sustainable development. Proper use of social media is especially important to achieve Sustainable Development Goal (SDG) 4 of the 2030 Agenda, which proclaims inclusive and equitable quality education and promotes lifelong learning opportunities for all—a trend that implies large data volumes that can be manipulated and adapted to the needs of each student, thus opening up new perspectives. This study aims to identify the differences between the use of social networks among students classed into two generations, X and Y. With that aim in mind, the results of a survey administered to 338 university students engaged in online studies showed significant differences, mainly in relation to social issues. Both generations nevertheless agreed on the benefits and uses of social networks within the academic field. The conclusions reaffirm the use of these resources for improving teaching and learning processes within online environments.

Keywords: digital technology; e-learning; social network; innovative pedagogical practices; higher education; generation gap; educational organization; socio-education

1. Introduction

Quality education is closely related to Sustainable Development Goals (SDG). One of the most important focal points of this intergenerational study is the use of social networks as an element of change to achieve sustainable education. To that end, target 4.3 of SDG 4 indicates that it is necessary to ensure equal access for all men and women to affordable quality technical, vocational and tertiary education, including university by 2030 [1].

In this context, the globalized society, whose goal should be sustainable development, is becoming more immersed in the world of technology. It produces vast amounts of information and its immense scope for communication makes it irresistibly attractive for human beings. Today's technological advances provide a source of enjoyment through the use of many new tools and applications. A good example can be observed in terms of social networks [2].

The importance of this disruptive relational element is due not only to its potential as a communications tool, but it is also due to the fact that it facilitates an understanding of teaching and learning as a social process. It likewise promotes exchange and collaboration between subjects [3]. It is therefore appropriate to explore how university students use social networks, with the goal of showing the attitude they have regarding its use, as well as confirming the need to incorporate social networks into teaching and to investigate their educational potential.

The tendency towards extensive use appears to grow steadily within university students, who take advantage of the possibilities offered by social networks, in order to facilitate interaction and communication [4]. Nevertheless, the different groups that can coexist in these spaces—especially in online education—are relevant to whether there are significant differences, to recognize their educative implications and to propose solutions.

The aim of this study is to identify the differences between students of the X and Y generations regarding the influence of social networks within academic and social fields. Thus, a descriptive analysis of the students' responses to the questionnaire items will be carried out and it will be verified whether there are significant differences between the means achieved in the scores for each item depending on the group of subjects to which they belong.

The generational concept has been studied from different perspectives in the field of Social Sciences [5]; however, its most accepted definition is: “a group or combination of individuals who share one or several characteristics”.

For years, different generations have been defined by a temporal context, a common denominator related to thoughts, attitudes, values, beliefs, and behaviors [6]; nonetheless, this categorization nexus varies in the different projects that have been reviewed [7–9].

On one hand, some consider that each generation is the result of the time period in which it lives, and how it is influenced by the cultural, political, and social context that surrounds it [10]. At different historical moments, certain circumstances can spur a certain group to acquire a set of concrete beliefs, attitudes, and behaviors that might remain stable during an indeterminate period until the next disruptive event. On the other hand, there is a tendency towards grouping and categorizing generations in age brackets, assuming that they will have experiences and shared values that define their way of life [11].

Keeping both points of view in mind, different classifications can be found captured in an assortment of proposals [5,12–14], without, in a lot of cases, reaching agreement (Table 1).

Table 1. Generations classification.

Author	Classification
Levickaitė	Generation X: 1960–1974 Generation Y: 1975–1989
Dimock	Baby Boomers: 1946–1964 Generation X: 1965–1980 Millennials: 1981–1996
Kolnhofer-Derecskei, Reicher & Szeghegyi	Generation X: 1965–1975 Generation Y: Born after 1982
Tapscott	Baby Boom: 1946–1964 Generation X—The Baby Bust: 1965–1976 Net Generation, Gen Y or Millennials: 1977–1997

The cutoff points or limits that different works establish to classify generations are not always exact, but they must be used as a tool with the aim of analyzing different elements and, by doing so, designing successful solutions that can fulfill generational needs.

Considering the classifications listed in the table and the demographic data of the sample population of students, the two generations will be analyzed with age as a denominator, establishing the following classification: Generation X (1965–1980) and Generation Y (1981–1992).

Generation X is characterized as a social group with low expectations, but with high qualifications at each level. It is considered as the first generation that began to think in global terms, due to its education, communication advances, and the impact of important events that happened during its life cycle [7,15].

In comparison to the baby boomers, its predecessor, Generation X is quite an independent generation with firm values; prevailing family, friendships, and school [10]. Even though they have limited access to technological progress, they appreciated the changes that they witnessed as they matured and developed their creativity and problem-solving skills. As examples, there are the creators of Google, Sergey Brin and Lawrence Page, born in 1973, in the same way as the social networks tool, Twitter, and its co-founders, Jack Dorsey, born in 1976, Biz Stone, in 1974, and Evan Williams in 1972 [16].

In short, one could say that this generation is the bridge between the digital native (baby boomers) and those called the Net generation, millennials or Generation Y, who were born and grew up with technology [12,15]. Sometimes you will hear “what are they doing spending so many hours on the computer?”, and the answer is simple: busy, right now. Tapscott [12] remarked that the time spent in front of a computer is not passive but active. In this time span, users perform such activities as reading, researching, developing abilities and solving problems, analyzing, evaluating, and organizing thoughts and writing.

Even though the most distinctive trait of Generation Y is technology, the use they made of technology was not what made them stand out, but rather their behavior, both in organizations and in teaching and social spaces [12]. Generation Y members are distinguished because they transform their environment, their institutions, their workstations, the marketplace, as well as the educational field, through the evolution of new pedagogical models and relationships with their equals; without leaving politics aside thanks to their high participation and social activism [15].

To understand this generation, we can point out some characteristic behaviors, such as the desire for freedom through technology that may be seen as a form of escapism from traditional limitations. Instead, they change and personalize the surrounding environments, have a curious mentality and remain in constant interaction with their surroundings, friends, and others on the internet [12,15,17,18]. Two distinct generations emerge after gathering all the relevant data. At first glance, they may have some characteristics in common, such as the use of technology. However, in the case of Generation X, they had to learn about and adapt to the digital culture, unlike Generation Y [9]. However, can this fact create significant differences between both groups?

The generational gap can be analyzed in different fields. It is important to differentiate the characteristics that define each group and identify those of relevance to their age [14], as the impact of other variables stands out, among which are technological progress and Internet usage [13].

While some historical events define generations, they can also set new challenges in the academic field. As regards online education, a set of students with different demographic characteristics, coexisting and interacting, might reveal some improvements for teaching–learning processes [16,19,20].

As reflected in SDG 4 of the 2030 Agenda, “education enables upward socioeconomic mobility and is a key to escaping poverty and helps reduce inequalities and reach gender equality and is crucial to fostering tolerance and more peaceful societies” [1]. The COVID-19 pandemic has become a new obstacle to guarantees of education for all. The closure of schools around the world, as a measure to avoid Coronavirus in classrooms, means that improvements to distance education are alarmingly urgent [21,22].

In this new context, it is essential to have resources and to implement solutions that are appropriate in each context. Online education can provide quality distance education that will take advantage of the technology possibilities. Moreover, it is very likely that the prevalence of online education will be maintained for some time [23].

The intergenerational study of habits with the use of technology aims to assist prospective surveys of student opinions on the influence of social networks. In this way, it can contribute to the reorientation of teaching practice towards sustainable development.

Online interaction in social networks has given us different ways of establishing social and personal “real-life” relationships. This new cyberspace will for some be a parallel world where pleasure and consumerism take prevalence, undermining reality and bringing consequences, even at

an emotional level [24]. Certainly, this change has impacted our way of thinking and behaving, due to the promotion of multitasking, the removal of social and cultural barriers, and the encouragement of contact between people who share interests and a desire to interact.

This distinctive interactivity of digital technologies generates not only new communication models, but also teaching and learning ones—a new context that is here to stay and that will evolve hand in hand with other elements of society. However, what is the role of social networks in these spaces?

Several studies conducted in a university setting [3,25] showed that the use of social networks is not just for entertainment and socializing with friends online, but it is also an academic tool for sharing learning experiences, as well as having access to information and events related to their studies at a national and international level.

In addition, in online environments, the students consider that social networks have great potential as a learning environment: enabling the exchange of content, interaction and collaboration, increasing motivation, and making studying more engaging [26]. Consequently, perception is the key to the most positive impact on academic performance, separating social from academic use [27].

However, is this perception common to all generations? According to some studies, it may appear that both generations follow the same trends and adapt quickly to digital changes that are enveloping the globe [28]. Nevertheless, some significant differences related to age can be present in technology using patterns [29]. Hence, the objective of this study is as follows: to understand the perceptions that students from Generation X and Generation Y have regarding the influence of social networks.

The results that this study might deliver will provide orientation for the development of an academic environment that promotes the use of digital media, with the goal of improving the processes and simultaneously fostering the creation of learning communities where students belonging to different generations can coexist, participate, and cocreate.

2. Materials and Methods

The data were collected through a survey designed to analyze perceptions of online students on the influence of social networks in their own lives [2,30]. The web-based survey was administered via e-mail to a sample of 3781 students from Universidad Isabel I, who were studying for either bachelors or masters' Degrees at the School of Humanities and Social Sciences. The subjects were selected by purposive sampling. Participation was voluntary and anonymous, and an informed consent form was attached to the first page of the survey.

The total of 338 respondents (F = 77.7%, M = 22.3%) amounted to 8.94% of the total group. The sample was divided into two categories: 208 people formed part of Generation Y, while 130 formed part of Generation X. Participants had an average age of 36 years, with a standard deviation of 6.8 (Generation Y: mean = 23.75, standard deviation = 1.34; Generation X: mean = 31.37, standard deviation = 3.28). We can consider that the sample is representative of the population of university students who are studying bachelors or masters' degrees online as a unit of distance learning, due to the great extension of the main factor of interest in this study. Table 2 details the results by degree.

Table 2. Frequency of answer to the survey in the sample and population.

Degree	Frequency in the Sample	Frequency in the Population
Course to qualify for teaching Geography and History	6	25
Bachelor's in Kindergarten Education	63	1266
Bachelor's in Elementary Education	145	1293
Bachelor's in History and Geography	6	47
Master's degree in E-learning and in Techno-pedagogical Design	17	95
Master's degree in teacher training dedicated to Secondary Education and Language Teaching	101	1055
Total	338	3781

The results analysis was performed with the IBM SPSS (Statistical Product and Service Solutions) statistics package, version 22.0. The design used in the study is considered nonexperimental, *ex post facto*. The analysis of the results followed a quantitative, descriptive, and inferential methodology.

3. Results

The items were scored on a 4-point Likert-type scale (Never = 1, Sometimes = 2; Frequently = 3, Always = 4), in which lower values indicated disagreement with the statement and higher values, agreement. Table 3 shows the descriptive statistics (mean and standard deviation) for each item.

Table 3. Descriptive statistics.

Item	Generation Y		Generation X	
	Mean	Standard Deviation	Mean	Standard Deviation
1. Sometimes I think that my life would be boring without social networks.	1.47	0.628	1.27	0.462
2. I cannot understand life without social networks.	1.4	0.667	1.26	0.536
3. Social networks make me feel closer to my friends.	2.62	0.843	2.37	0.808
4. Social networks use allows me to make new friends.	1.5	0.667	1.38	0.574
5. Social networks use does not improve my relationships with others.	1.97	0.884	1.91	0.944
6. I have given up other activities in favor of being connected to social networks.	1.25	0.527	1.25	0.487
7. Social networks give me the opportunity to explore and do things that I would not be able to do otherwise.	2.05	0.806	2.1	0.756
8. If you are not connected to social networks you are not aware of what happens around you.	2.02	0.748	1.73	0.668
9. Social networks are cyber-activism's new space.	2.52	0.804	2.46	0.728
10. Social networks use promotes the acquisition of new knowledge.	2.44	0.678	2.28	0.671
11. Social networks allow me to stay connected with University.	2.4	0.932	2.52	1.036
12. Social networks use enables me to share information and resources with my classmates.	2.78	0.872	2.76	0.913
13. Social networks use stimulates team work.	2.78	0.894	2.76	0.947
14. Social networks use enables me to answer the subject-related questions that I am studying.	2.53	0.952	2.61	0.984
15. Social networks use is of no help when I am preparing for exams.	1.95	0.91	2.02	1.023
16. My academic performance suffers because I spend too much time using social networks.	1.5	0.695	1.29	0.577
17. I communicate with my teachers using social networks.	2.24	1.062	2.31	1.154
18. Social networks do not improve teacher–student relationships.	1.82	0.719	1.84	0.833

The item that shows the highest disagreement in both subgroups is item number 2 (“I don’t understand life without social networks”), while items 12 and 13 are the items with which most respondents are in agreement, relating to the benefits given by the use of social networks in the academic environment.

The scores based on each group to which the students belonged were analyzed with the Student-*t*-test for independent samples, to identify the differences between the averages of each item. As it is a parametric test, the fulfillment of the assumption of homogeneity of variances in each data set had previously been verified. When the previous assumption is not fulfilled, a strong “*t*” test that can transform degrees of freedom is applied. Cohen’s *d* effect size value completes the interpretation of average absolute differences. The interpretation proposed by the author states that absolute values at around 0.2 represent a small effect size; if around 0.5, they may be considered a medium effect size, and values near 0.8 or more point to a large effect size.

Table 4 shows the data obtained by choosing the contrast method suitable for each item based on homoscedasticity compliance.

Table 4. Comparison of means for independent.

Item	t	Signification	Mean Difference	“d” Cohen
1. Sometimes I think that my life would be boring without social networks.	3.311	0.001 *	0.197	0.36279
2. I cannot understand life without social networks.	2.157	0.032 *	0.142	0.23138
3. Social networks make me feel closer to my friends.	2.652	0.008 **	0.246	0.30278
4. Social networks use allows me to make new friends.	1.871	0.062	0.128	0.19285
5. Social networks use does not improve my relationships with others.	0.625	0.532	0.063	0.06561
6. I have given up other activities in favor of being connected to social networks.	0.017	0.987	0.001	0
7. Social networks give me the opportunity to explore and to do things that I would not have otherwise done.	−0.535	0.593	−0.47	−0.06399
8. If you are not connected to social networks you are not aware of what happens around you.	3.59	<0.001 **	0.288	0.40895
9. Social networks are cyber-activism’s new space.	0.721	0.472	0.063	0.07823
10. Social networks use promotes the acquisition of new knowledge.	2.127	0.034 *	0.161	0.23720
11. Social networks allow me to stay connected with University.	−1.14	0.255	−0.124	−0.12178
12. Social networks use enables me to share information and resources with my classmates.	0.223	0.824	0.022	0.02240
13. Social networks use favors teamwork in projects.	0.216	0.829	0.022	0.02171
14. Social networks use enables the resolution of questions related to the subjects that I am studying.	−0.686	0.493	−0.074	−0.08263
15. Social networks use does not help me prepare for exams.	−0.666	0.506	−0.071	−0.07230
16. My academic performance suffers because I spend too much time using social networks.	2.973	0.003 **	0.208	0.3288
17. I communicate with my teachers using social networks.	−0.587	0.557	−0.072	−0.06312
18. Social networks do not improve teacher–student relationships.	−0.239	0.811	−0.021	−0.02570

* Significant difference of 0.05. ** Significant difference of 0.01.

The decision-making process on the mean differences hypothesis follows Neyman and Pearson’s approach with a maximum fixed-value significance of $\alpha = 0.05$.

As can be graphically verified in Figure 1, in the items where significant differences appear, the meaning of the subjects belonging to Generation Y showed higher values than those of Generation X. Younger people perceive social networks as an indispensable element in their everyday activities. They showed higher agreement than the preceding generation, in so far as they could not imagine life without them and they also thought that life might be more boring without them.

Furthermore, in contrast to older people, they thought that social networks were significantly useful to stay closer to their friends. In the same way, they agreed on the importance of being informed of local news to obtain new knowledge. However, they knew that excessive use of social networks ends up jeopardizing their academic performance. The values reflected in the table show medium effect sizes where the mean difference is significant and low effect sizes when otherwise.

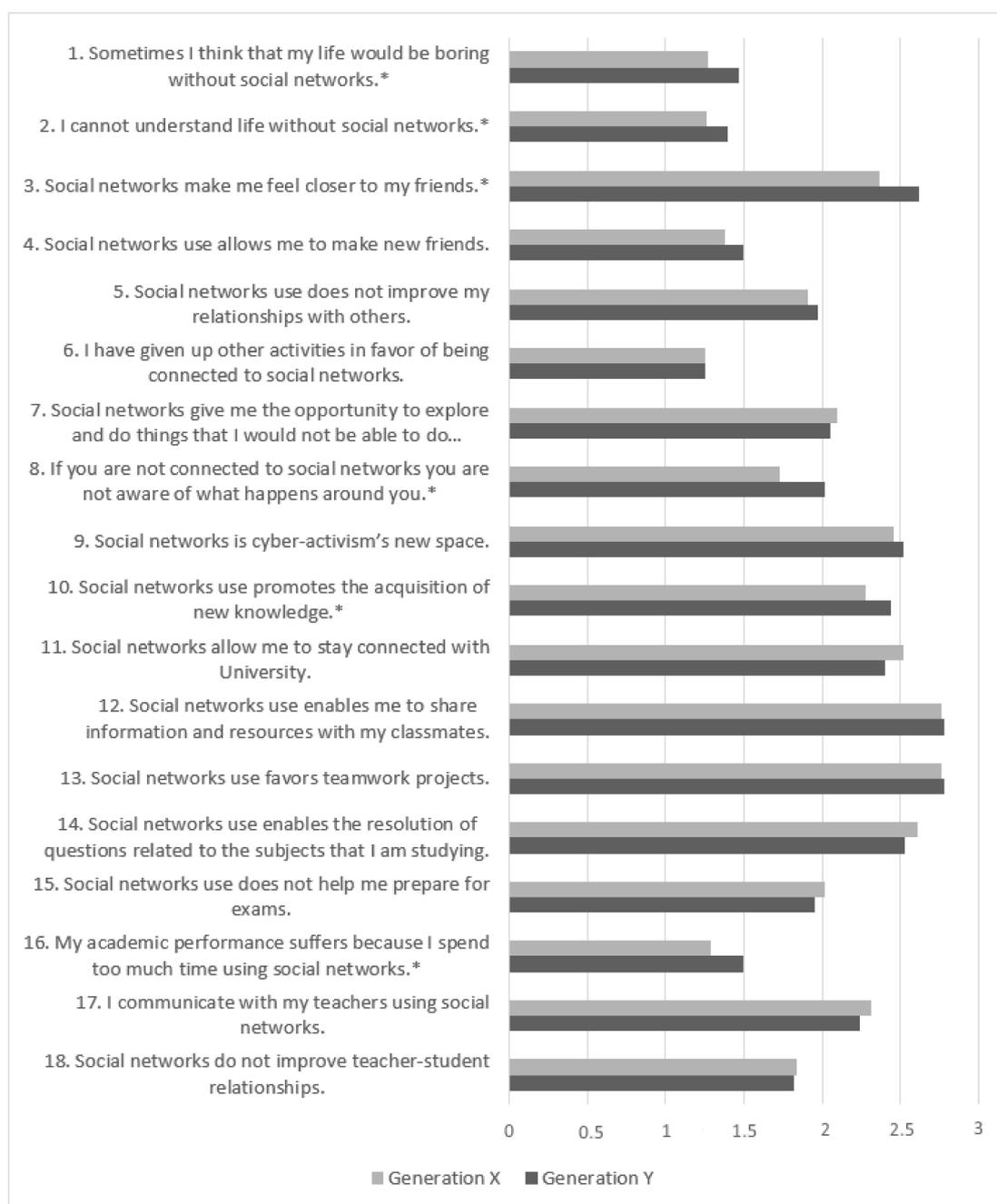


Figure 1. Comparison chart between group means. * The differences between the groups with a confidence level of $* p < 0.01$.

4. Discussion

When the MDGs (Millennium Development Goals) were conceived, the reality of certain vulnerable societies was not always considered. It was therefore necessary to improve both the quality and the coverage of the statistical indicators for monitoring specific MDG objectives and targets. In this way, these parameters serve as a tool to apply effective policies in developing countries [31]. The current SDGs were developed with an integrative approach, which includes the study of intergenerational differences and statistical indicators which can quantify the perception of social networks in the academic environment.

When performing an analysis of the results, we were able to identify significant differences between both (generations X and Y) groups, as well as equally important similarities, with a view to improvements in teaching and learning processes.

We observed how both generations agreed and pointed to the benefits offered by social networks in the academic field: information and resource sharing with classmates, group projects, and solving questions related to their respective course content. These results coincided with the findings of other authors [3,4,32,33], confirming the potential of social networks when applying active and participative methodologies and encouraging exchanges between equals with common academic goals. In addition to the improvement that social networks offer to the development of group projects, easing student integration, they also add a motivational component [34,35].

The levels of social-network usage within the academic environment, results that are not reached by other studies [2,27,36], may differ because the students who were administered the survey were studying online degrees. Nevertheless, we consider that this fact, rather than being a limitation, is an opportunity, since it has led us to identify future lines of research and design actions to utilize these spaces. Social networks can be a tool through which new learning models may be devised, arising through interaction and cooperation, where the focus is on the students.

Continuing with the significant differences, we can observe how social networks have a different meaning for each generation. Although students belonging to Generation Y considered them an important element in their lives, Generation X students could not share that view. This difference may be due to the fact that the former group has grown up immersed in a highly technological environment, whereas the latter had to adapt to it, to learn how to use it, but has not completely rejected older instruments. Other authors have pointed out [37] that the difference is not in the use, but in the perception of technology, affecting the behavior in each mean.

Therefore, the main differences found in this study are concentrated within the social field, like the implications that social networks may have in maintaining friendships or raising awareness of what happens around them. This dependency may be one reason behind the social pressure that some authors have noted, as well as the integration in their daily life of social and digital media, transforming them into indispensable elements [37,38].

Having said that, in the academic field, discrepancies found among students from both generations are focused on two aspects: the ability that social networks have to promote the acquisition of new knowledge and the way that excessive use of them can impact students' performance. Even though existing concerns have been raised in other studies for how the time dedicated to social networks may affect a student's academic performance [27,36], the results suggested that it is not a factor of distraction for Generation X students. It could be connected to the frequency of use; even though we encountered no findings that reflected significant differences between the time each generation dedicated to the use of these tools [18,39]. Hence, we relate this more with the differences perhaps present within both, in relation to attitudinal characteristics [40–42].

5. Conclusions

In view of the work that has been presented and the results, the following conclusions may be drawn:

1. It can be argued that the tool is not the cause of the differences between the two generations, but it is the way the tool is used and the meaning it has as a social medium and as a learning resource. It all emphasizes the role of the generation to explain students' behavior in the management of different media for academic progress.

2. According to the perceptions of the students participating in this study, it is important to highlight how social networks have become a learning strategy, as well as a tool that enables the development of communication skills. These can be used to improve teaching processes, promoting the creation of a new environment where dialogue and mutual enrichment between different generations are encouraged. It also demonstrates the importance of social models and it boosts sustainable education.

3. Social networks can promote and transform teaching–learning processes, providing more social, open, and collaboration-oriented environments. This challenge is ever present for teachers, demanding changes within their roles, as well as in communication and learning assessment.

4. The presentation of evidence that shows positive attitudes towards the use of social networks in the academic environment encourages the development of future studies that could explore the design of methodologies that integrate the use of these tools, replicating the development of activities that promote collaborative learning.

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