International Journal of Virtual and Personal Learning Environments
Volume 13 • Issue 1

Empowering Girls' Higher Education Through Social Learning Platforms:
Implications for Socio-Cultural Change

Abdulrahman M. Al-Zahrani, University of Jeddah, Jeddah, Saudi Arabia*
https://orcid.org/0009-0007-9885-0730

ABSTRACT

This study explores the potential of social learning platforms (SLPs) to enhance female students' learning experiences in Saudi higher education and address socio-cultural constraints. It examines the advantages and disadvantages of SLPs from the perspective female students and analyses the impact of personal beliefs on their perceptions of SLPs. The study includes a mixed-methods approach, combining a survey questionnaire (n= 87) and semi-structured interviews (n= 3). Results indicate that female students generally perceive SLPs as beneficial, despite implementation challenges. Preference for male instructors and family teaching preferences vary among participants. Computer experience was found to influence perceived advantages of SLPs. Qualitative analysis provides deeper insights, including educational, cultural, and economic aspects. The study offers recommendations for future research and implications for enhancing the learning experiences of female students in conservative higher education systems.

KEYWORDS

Gender Gap, Mixed Methods, Social Learning, Social Learning Platforms

INTRODUCTION

For the last few years, Saudi Arabia has been booming economically, socially, and culturally (Saudi_Vision_2030, 2017; United Nations in Saudi Arabia, 2023). Saudi Arabia is undertaking initiatives to diversify its economy and society, reduce its dependence on oil revenue, and promote innovation, entrepreneurship, and sustainable development (Saudi_Vision_2030, 2017). To achieve its vision, Saudi Arabia has launched several initiatives and programs, such as the National Transformation Program (NTP), the Quality-of-Life Program (QLP), the Public Investment Fund (PIF), and the Saudi Industrial Development Fund (SIDF). These programs aim to support the growth of non-oil sectors, including tourism, healthcare, education, renewable energy, and technology. Saudi Arabia also encourages foreign investment and international partnerships to enhance its global competitiveness and knowledge exchange (Saudi_Vision_2030, 2017; United Nations in Saudi Arabia, 2023).

DOI: 10.4018/IJVPLE.331383 *Corresponding Author

Furthermore, the country has introduced significant social reforms to promote gender equality, empower women, and promote cultural diversity. These reforms include lifting the ban on women driving, granting women the right to travel and work without male guardianship, and opening up the country to international tourism. Saudi Arabia is also investing in its human capital by improving education and training programs, increasing job opportunities, and enhancing the skills and capabilities of its workforce (United Nations in Saudi Arabia, 2023). One significant social change in Saudi Arabia is women's empowerment and rights regarding work and education, as well as political and community participation. Under the economy theme, Saudi Vision 2030's objective is to increase women's participation in the workforce from 22% to 30% by 2030 to aid in the economic growth of the country. It states, "Saudi women are yet another great asset… we will continue to develop their talents, invest in their productive capabilities, and enable them to strengthen their future and contribute to the development of our society and economy" (p. 37). This can be achieved through the adoption of proper educational policies- and the implementation of a competent educational system in the social structure of the country.

Despite the goals outlined in the Saudi Vision 2030 to empower women, the status of female education in Saudi Arabia has not yet reached the desired level. Recent statistics from the Ministry of Education indicate that while female enrollment in Saudi higher education has exceeded that of males, the total number of female faculty members remains lower than that of their male counterparts (MoE, 2023). Interestingly, the number of female students studying abroad is less than half of the number of male students (MoE, 2023). See Table 1.

The discrepancy in the numbers shown in Table 1 highlights the necessity for male faculty members to address the growing number of female students and alleviate the shortage of female colleagues in higher education. This is a straightforward solution that can be implemented without difficulty. The educational system in Saudi Arabia is segregated according to the Educational Policy in Saudi Arabia (MoE, 1980). Men are not allowed to teach female students, exclusively in person, in Saudi higher education. Therefore, to facilitate teaching female students by male faculty members, other teaching and learning mediums must be used. Among these mediums is BlackBoard, which is currently the most dominant Learning Management System (LMS) implemented in most Saudi universities.

In the current era of digital technologies, educational systems are challenged, and learners are exposed to powerful online communication via social media platforms and networking tools (Alasmari, 2020; Al Rawashdeh et al., 2021; Al-Zahrani, 2015; Deaton, 2015; Khechine & Augier, 2019; V.Rasiah, 2014; Thaiposri, & Wannapiroon, 2015). Technology has undergone significant transformation, reshaping students' cognitive processes, behavior, and information processing methods (Khechine & Augier, 2019). The widespread access to social networks has become an integral aspect of a learner's online persona and a standard characteristic of educational platforms (Ferguson & Shum, 2012). The ability to access learning materials from any location, at any time, and in a diverse array of formats has the potential to augment a student's capacity for profound learning and enable students to independently build knowledge (Amry, 2014). Therefore, Saudi educators should enthusiastically

Table 1. A statistical summary of Saudi higher education (MoE, 2023)

Faculty Members	Male	41,250
	Female	30,717
Student Enrolled	Male	87,546
	Female	125,435
Students Studying Abroad	Male	11,068
	Female	4,619

adopt this new paradigm and equip students to take part in the significant global knowledge exchange that unfolds on the digital stage (Deaton, 2015).

It is also crucial to enhance students' confidence in selecting and utilizing technology that aligns with their interests (Blasco, 2016).

Emerging technologies such as Social Learning Platforms (SLPs) have significantly expanded opportunities for teaching and learning and have a great potential in solving persisting educational challenges (Al-Zahrani, 2015; Amry, 2014; Deaton, 2015; Khechine & Augier, 2019). So, the current study aims to investigate the possibilities of SLPs in the advancement of female higher education students in Saudi Arabia. This study also seeks to understand the pros and cons of SLPs from the perspective of female students and what resources may help them to overcome contextual socio-cultural constraints.

UNDERSTANDING SLPS

SLPs rely heavily on social media, which is initially driven by the social learning theory. The following diagram (Figure 1) serves as the proposed conceptual theoretical framework in this study. Each concept (stage/part) is interconnected with the others, reflecting and influencing each other throughout the learning process.

Social Learning Theories

Bandura (1971) is the leading scholar of Social Learning Theory (SLT). He asserts that learning is a cognitive process that takes place in social contexts where people learn from their observations and imitation of other people or models. Social learning can be influenced by individuals' attention, motivation, attitudes, and emotions. Behaviors and actions that are rewarded are more prone to be copied and replicated, while those that are punished are generally avoided (Cherry, 2022).

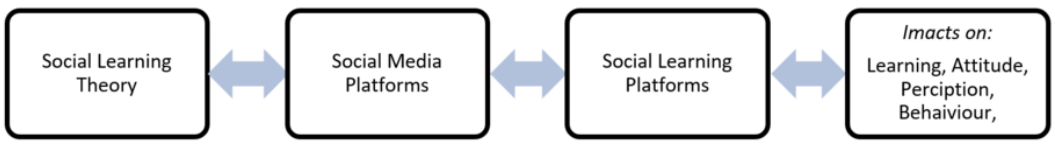
Similarly, the Sociocultural Theory, derived from Lev Vygotsky & Cole's work (1981), can also offer valuable insights into the utilization of SLPs in social online learning environments. Vygotsky & Cole asserted that people learn most effectively within social contexts, and their process of constructing meaning is enhanced through interactions with others (Vygotsky & Cole, 1981).

However, traditional face-to-face classroom learning is a structured academic process centered on imparting information to individuals, potentially fostering social learning depending on teachers' instructional methods. Yet, it's reasonable to argue that lecture-heavy teaching approaches, prevalent in some traditional classrooms, offer limited chances for social interaction compared to the emerging SLPs, which are purposefully crafted for collaborative learning. SLPs play a vital role in knowledge building and guiding learners in adapting to new technologies with integrated social communication and networking (Amry, 2014).

Social Media and SLPs

Social learning is a concept inspired by SLT (Khechine & Augier, 2019). "Social learning is a concept that existed far before the advent of information technology. However, the growth of social media has revived interest in social learning" (Khechine & Augier, 2019: 54). Social media is typically motivated by commercial interests and not initially created with educational objectives in mind (Weber, 2012).

Figure 1. SLPs: From theory to practice



Most social media platforms are adapted creatively by educators and applications developers to serve educational purposes, specifically SLPs (Weber, 2012).

In this essence, "the advent of social media has changed the platform for social interaction and human experience. Educators have a unique opportunity to apply the concepts of Bandura's Social Learning Theory toward enhanced student engagement and learning in a social media context" (Deaton, 2015: 1). In particular, social media has the potential to enhance cognitive processes such as attention, memory, and motivation (Deaton, 2015). According to Khechine and Augier (2019), the utilization of social media for educational purposes not only holds significant promise but is also expected to endure and grow in importance over time. The fast expansion of social media platforms such as wikis, blogs, Twitter, and Facebook, has infiltrated the daily lives of millions of individuals worldwide (V.Rasiah, 2014). Through the implementation of social media, educators can create an engaging and interactive learning environment that promotes collaborative learning and facilitates the acquisition of new knowledge and skills (Deaton, 2015). However, there seems to be a possible mismatch between the technologies favored by today's students such as social media and those adopted by educators (V.Rasiah, 2014). Higher education institutions are now acknowledging that their current students are becoming more proficient at using social media platforms, and therefore, need to consider how to address their students' digital behaviors, habits, and preferences in order to better meet their needs (V.Rasiah, 2014).

Connecting Theory With Practice

Implementing SLPs has initially been proven to be useful for teaching and learning. SLPs have a great potential to improve the development of higher-order learning skills, problem-solving skills, student-centered pedagogy, authentic learning, and interactive learning communities (Al-Zahrani, 2015; V.Rasiah, 2014; Sievertsen & Carreira, 2018; Thaiposri, & Wannapiroon, 2015). SLPs, by incorporating different forms of social media and networking, enable the fulfillment of students' needs and preferences, leading to an improvement in the learning experience (Khechine & Augier, 2019; V.Rasiah, 2014; Siahaan et al., 2020; Thaiposri, & Wannapiroon, 2015). Further, SLPs have the potential to save costs associated with traditional learning and teaching methods (Scavarelli et al., 2020).

For illustration, Khechine and Augier (2019) investigate the factors that influence students' willingness to use SLPs and the actual usage of an SLP, named 'PairForm'. The findings indicate that attitude and facilitating conditions are the main predictors of behavioral intention. The researchers propose that personal traits such as autonomy, anxiety, and attitude would account for the use behavior. Based on these outcomes, the researchers propose that educational institutions should enhance students' attitudes toward learning technologies, specifically SLPs, to improve their adoption of them. Additionally, they suggest that educational institutions should provide more facilitating conditions to promote the integration of LMSs with social media.

Furthermore, the study of Thaiposri & Wannapiroon (2015) shows that students utilize SLPs to connect and cooperate with each other while engaging in learning tasks. By teaching students through inquiry-based learning exercises using social media and cloud computing, critical thinking abilities are improved, and students can gain the knowledge and skills needed for success in today's information age. Another example is the V.Rasiah study (2014). This study aims to assess the effectiveness of SLPs, in this case, Facebook, to enhance teaching and learning. The results show that students perceive Facebook as an innovative and effective tool in a student-centered learning environment that enriches students' experiences, improves the relevance of the subject matter, and encourages students to collaborate effectively with their peers and faculty. From the perspective of the educator, the use of Facebook significantly enhances the teaching and learning process as it allows them to tap into the digital learning styles of their students and provides innovative ways of involving and motivating students during the learning process.

Similar findings are established by Sievertsen & Carreira (2018). They implement an SLP, called 'Apoc Social', referring to Advanced Problems in Organic Chemistry Social, which is a mobile application designed to aid both learning and teaching of college-level organic chemistry, both in and outside of the classroom. Results indicate that Apoc Social facilitates collaborative learning and fosters enthusiasm for complex course subjects. Moreover, the study of Siahaan et al. (2020) investigates whether the implementation of SLPs can enhance students' English proficiency in comparison with e-Learning. The results indicate a significant difference between the two groups showing favor of the SLP group in terms of English test preparation.

In the context of Saudi Arabia, Amry, (2014) investigates how the use of WhatsApp, as an SLP, affects the academic performance and attitudes of university female students' learning experiences. The results reveal that using SLPs for education enhances learners' both academic achievements and attitudes. However, this study has no implications for the enhancement of female students' learning experiences by considering social and cultural norms.

The Impact of SLPs on the Learning of Minority Groups

Research examining how SLPs impact minority education outcomes is still emerging, but initial studies suggest these technologies may confer benefits for marginalized learner groups (Ke & Kwak, 2013; Kumi-Yeboah et al., 2019; Kumi Yeboah & Smith, 2016). For instance, Ke & Kwak (2013) investigate if online learning interaction, perception, and satisfaction vary among different age and ethnicity groups. Their results show no significant difference in interaction quality and quantity for non-traditional age or minority students. However, survey-based modeling reveals that minority students perceive learner-to-instructor interaction positively but are less satisfied with web-based distance education.

Moreover, Kumi Yeboah and Smith (2016) explore how technology use, social media, online courses, program of study, satisfaction, and academic performance are connected among minority students. Findings indicate that satisfaction and social media use do not influence academic performance. However, technology use, number of online courses, and program of study show positive relationships with academic performance. The study emphasizes cultural, personal, and efficacy factors impacting the online academic success of minority students while underscoring the need for a multicultural presence in online courses and effective pedagogical strategies for teaching minority students.

Further, the study of Kumi-Yeboah et al. (2019) focuses on minority graduate students' views of and challenges in online learning. They reveal four themes: using multicultural resources for learning, improving diversity inclusion, employing collaborative learning for cultural diversity, and addressing obstacles such as communication issues and lack of relevant content. The findings stress the need for online instructors to consider students' diverse backgrounds for an improved online learning experience.

Overall, existing research provides preliminary support for SLPs in minority education, but wider research is needed to validate findings and provide guidance for realizing the social, cognitive, and motivational gains these technologies may offer.

RESEARCH PROBLEM

Research with regard to advanced SLPs and their impact on learning is still limited. This is due to the fact that educational communities have some doubts regarding the appropriate role that SLPs should have in promoting effective teaching and learning (V.Rasiah, 2014). Thus, further research is needed to cover this gap as well as to discover the fruitfulness of SLPs (Khechine & Augier, 2019).

In addition, due to the paradoxical state of female education in Saudi Arabia because of the contextual socio-cultural constrains (M. Alasmari, 2020), female students seem to have less access

to quality education. To address the shortage of female faculty in higher education, male faculty typically teach female students using conventional LMSs (BlackBoard) that do not integrate any SLPs. As a matter of fact, in the era of digitally accustomed learners, LMSs struggle to maintain their effectiveness in light of the wide and advanced capabilities of SLPs. This initiates the need for more research with regard to the potential of SLPs in advancing female students' learning experiences with careful consideration of the dominant socio-cultural constrains.

RESEARCH AIM AND SCOPE

Accordingly, the current study aims to investigate the possibilities of SLPs in the advancement of female higher education students' learning experiences in Saudi Arabia. The objective of this study is also to examine the advantages and disadvantages of SLPs, considering the factors that affect them, from the viewpoint of female students, and to determine how to address the socio-cultural boundaries that may exist in their society.

RESEARCH QUESTIONS

Key questions of the study follow:

1. How do female students perceive the advantages of SLPs?
2. How do female students perceive the difficulties associated with SLPs?
3. Do personal independent variables (teaching preference, family teaching preference, academic achievement, computer experience, access to a personal device, and access to the Internet) have an impact on female students' perceptions of SLPs?

RESEARCH METHODOLOGY

The study design implements a sequential mixed-method approach that consists of quantitative and qualitative methods to answer the research questions, which are presented in a complex educational and social context (Mertens, 2020).

Research Design

The study design includes two sequential phases. The first phase is quantitative by employing a survey questionnaire developed for the purpose of the current study. The questionnaire includes 36 items distributed across three major sections. The first section (six items) collects descriptive information about participants in terms of personal teaching preference, family teaching preference, academic achievement, computer experience, access to a personal device, and access to the Internet. The second section (16 items) evaluates the participants' general views about the advantages of SLPs. The third section (14 items) studies the views of female students regarding the difficulties they encounter during their learning activities. The questionnaire has a five-point Likert scale (from 5= strongly agree to 1= strongly disagree).

The second phase involves conducting semi-structured interviews with the female students, which will serve as a follow-up to the earlier quantitative phase. The interviews carry out over the phone and are recorded, considering the results obtained in the previous phase. Probing is the main strategy used in the interviews to ensure their depth and richness (Gillham, 2005). Further, participants are provided with an information sheet, which makes them aware of many issues surrounding the current investigation, such as the current study purposes, risks, if any, and benefits associated with their participation (Gillham, 2005). The interview protocol considers some preliminary questions

including What do you think about using SLPs?, What are the main advantages of using SLPs in your learning?, What are the main disadvantages of using SLPs?, and What suggestions do you have to improve your learning using SLPs?

Participants

Participants included female students enrolled in the 'Computers in Education Course' (ETEC-233) and who implement BlackBoard, in addition to several other social learning apps including the following:

- **Social communication app (Twitter):** Hashtags were created to search, share, and locate information, articles, and other online materials.
- **Blogging (WordPress):** A blog was created to share the course content and discussions, as well as to integrate relevant social media materials from YouTube and SlideShare.
- **Instant communication app (WhatsApp):** A group was created to provide students with course instructions and answers to their inquiries.
- **LMS (BlackBoard):** A class platform that communicated lectures, presentations, assignments, and assessments between teacher and students.

Survey answers collected from 87 female students (ages 21–23 years) from the Faculty of Education at University of Jeddah were collected using Google Forms for the current study. The online survey allowed participants to easily access the survey, review their answers, and edit their responses. For the phase of follow-up semi-structured interviews, most female students indicated a willingness to participate. However, only three female students (Student 'A', Student 'J', and Student 'S') were randomly selected and contacted to conduct phone interviews.

Students provided informed consent prior to completing the survey and interviews. Participants were provided with necessary information to ensure their informed consent, including the study's purpose, expected duration, procedures involved, and confidentiality protections. Their full names and identification information were kept confidential.

Procedures for Data Analysis

Because this study employs quantitative and qualitative approaches, it generates different sets of data.. For quantitative data, SPSS software (V.22) is used to create a database to examine the female students' views about the social learning and the difficulties associated with this strategy (Pallant, 2007).

For qualitative data, significant answers from the semi-structured interviews are identified and translated into English.

Validity and Reliability

The validity of the questionnaire validity was tested using a panel of experts to check its relevance, content, and construct (Mertens, 2020). Based on the experts' opinions, necessary changes were made. Reliability statistics were conducted using Cronbach's alpha coefficient and reached an acceptable level of internal consistency ($\alpha = .86$) (Pallant, 2007). See Table 2.

Further, to improve the accuracy and consistency of the translation of qualitative data generated from the interviews, three experts in the field of education, who are Arabic and English speakers, were consulted to test the validity of translation (Mertens, 2020).

Table 2. Reliability statistics

Cronbach's Alpha	N of Items
.86	36

RESULTS

Descriptive Statistics

Table 3 shows that the majority of female students perceive no difference between male and female instructors (53.6%). Interestingly, more than one-third of them prefer to be taught by male instructors (32.1%). In contrast, they report that most of their families prefer to be taught by female instructors (73.2%). With regard to academic achievement, most of them point out that they are at the same level as their classmates (62.5%); whereas 32.1% of them indicate they are ahead of other female students.

Perceived Advantages of SLPs

Regarding the study question, How do female students perceive the advantages of SLPs? Table 4 exhibits the advantages of using SLPs. The participants report several benefits of using SLPs, such as the ability to download course content and save it on their personal devices ($M = 4.73$, $SD = 0.49$), using SLPs to organize and present course content in a new and modern way ($M = 4.64$, $SD = 0.62$), and the ease of accessing course instructions ($M = 4.62$, $SD = 0.68$). Other reported benefits include the ability to communicate with classmates and instructors easily ($M = 4.55$, $SD = 0.74$; $M = 4.45$, $SD = 0.85$, respectively), the availability of helpful learning resources ($M = 4.54$, $SD = 0.63$), and the preference for SLPs over traditional teaching approaches ($M = 4.52$, $SD = 0.74$). As Table 4 shows, the total mean score for the advantages of SLPs is 4.50 ($SD = 0.57$), indicating that participants find SLPs to be beneficial, overall.

Table 3. Descriptive statistics (N = 87)

Factor	Group	%
Personal teaching preference	I prefer to be taught by male instructors.	32.1
	I prefer to be taught by female instructors.	14.3
	There is no difference between male and female instructors.	53.6
Family teaching preference	My family prefers to be taught by male instructors.	8.9
	My family prefers to be taught by female instructors.	73.2
	My family does not care; It is my personal preference.	17.9
Academic achievement	Less than my classmates	5.4
	At the same level of my classmates	62.5
	More than my classmates	32.1
Computer experience	Beginner	1.8
	Intermediate	5.4
	Advanced	92.9
Access to a personal device	I do not own a personal device.	1.8
	I have a shared device.	55.4
	I own a personal device.	42.9
Access to the Internet	I do not have a connection to the Internet.	8.9
	I share an Internet connection with my family.	8.9
	I have a private connection to the Internet.	82.1

Table 4. Advantages of SLPs (N = 87)

Items	*M*	*SD*
1. I can download the course content and save it on my personal device.	4.73	.49
2. Social learning tools organize the course and present it in a new and modern way.	4.64	.62
3. I can get the course instructions very easily.	4.62	.68
4. I can get the course syllables and content at any time.	4.61	.68
5. I can get my course marks and observe my progress very easily.	4.57	.76
6. Using social learning tools helps me communicate with my classmates very easily.	4.55	.74
7. I can get helpful learning resources through social learning tools.	4.54	.63
8. I prefer using social learning over the traditional teaching approaches.	4.52	.74
9. Using social learning tools opens new learning environments that are limited to our male colleagues.	4.50	.60
10. I can share helpful learning resources with my classmates and discuss them easily.	4.48	.71
11. Using social learning tools helps me to communicate with the instructor very easily.	4.45	.85
12. Using social learning is useful and fun.	4.43	.68
13. I can share my work and manage it easily.	4.41	.95
14. I wish I could implement social learning tools in my future courses.	4.36	.86
15. Dealing with social learning tools is easy and poses no difficulties for me.	4.30	.91
16. Using social learning tools helps me overcome the obstacles of traditional teaching approaches such as the CCTV.	4.30	.89
Total	**4.50**	**.57**

Perceived Difficulties of SLPs

With regard to the second question, How do female students perceive the difficulties associated with SLPs?, Table 5 presents the difficulties reported by the participants regarding social learning tools. The total mean score for the difficulties is 2.83, with a standard deviation of 0.95. Among the reported difficulties, the most common are that some social learning tools are new to the participants (M=3.66, SD=1.25) and that they fear security issues associated with social learning (M=3.34, SD=1.35). Other difficulties include language proficiency, preventing participants from taking full advantage of social learning (M=3.20, SD=1.33), lack of training and support to use social learning tools efficiently (M=2.91, SD=1.42), and feeling isolated when using social learning tools (M=2.89, SD=1.40). Table 5 suggests that while there are some difficulties reported by participants, the mean scores are still relatively low, indicating that the majority of participants do not experience significant difficulties with using social learning tools.

Further Analysis

For the third question, Do personal independent variables (teaching preference, family teaching preference, academic achievement, computer experience, access to a personal device, and access to the Internet) impact female students' perceptions of social learning?, a one-way, between-groups multivariate analysis of variance (MANOVA) was performed to investigate the influence of personal teaching preference, family teaching preference, academic achievement, computer experience, access to a personal device, and access to the Internet as the independent variables on the female students' perceptions about the advantages of and difficulties with social learning. Preliminary assumption testing was conducted to check the sample distribution, linearity, and normality, with no violations noted.

Table 5. Difficulties associated with SLPs (N = 87)

Items	*M*	*SD*
1. Some social learning tools are new to me.	3.66	1.25
2. I fear for the security issues associated with social learning.	3.34	1.35
3. My language proficiency prevents me from taking full advantage of social learning.	3.20	1.33
4. My computer experience does not allow me to take full advantage of social learning.	2.95	1.43
5. I do not have enough training and support to use social learning efficiently.	2.91	1.42
6. I do not have enough time to use some of the social learning tools.	2.89	1.37
7. I feel isolated when using social learning tools.	2.89	1.40
8. Some social learning tools are complicated..	2.88	1.31
9. It is difficult to deal with some social learning tools.	2.88	1.40
10. The course supervisor does not sufficiently respond to our queries about social learning.	2.66	1.37
11. Using social learning costs me more time and effort in the course.	2.52	1.34
12. Using social learning does not satisfy my learning needs.	2.32	1.31
13. The course instructor does not sufficiently respond to our comments and inquiries about social learning.	2.32	1.40
14. I own no private device to take full advantage of social learning.	2.25	1.24
Total	**2.83**	**0.95**

Table 6 presents the results of the multivariate tests conducted to examine the relationship between various factors and the participants' preference for social learning. The test results indicate that computer experience is significantly related to teaching preference [F (4, 50) = 2.76, p= .038]. The Wilks' Lambda values for all other factors, including teaching preference, family, achievement, personal device, and Internet access, are not statistically significant ($p >$ .05), indicating that these factors are not significantly related the two participants' preference for social learning.

Thus, Table 7 presents the results of the tests of between-subjects effects for the variables computer experience, advantages of social learning, and difficulties with social learning. The results indicate that the computer experience variable has a significant effect on the advantages of social learning (F= 5.941, p= .007). However, there is no significant effect of computer experience on the difficulties with social learning (F= 1.218, p = .312).

Table 6. Multivariate tests (MANOVA)

Effect		Value	F	Hypothesis df	Error df	Sig.
Teaching preference	Wilks' Lambda	.881	.819	4.000	50.000	.519
Family teaching preference		.837	1.164	4.000	50.000	.338
Level of achievement		.850	2.208	2.000	25.000	.131
Computer experience		.671	2.760	4.000	50.000	.038
Device ownership		.856	2.104	2.000	25.000	.143
Internet access		.822	1.283	4.000	50.000	.289

Table 7. Tests of between-subjects effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Computer Experience	Advantages of social learning	1.643	2	.822	5.941	.007
	Difficulties with social learning	1.728	2	.864	1.218	.312

DISCUSSION

The purpose of the current study was to explore methods for improving teaching and learning practices in female higher education in Saudi Arabia. Specifically, the study examined the potential of SLPs to enhance learning approaches, as well as to identify the advantages and disadvantages of SLPs from their perspective. Additionally, the study provided indirect evidence that sociocultural factors impact students' perspectives with regard to the use of an implementation of SLPs.

Results show, interestingly, that more than one-third of female students prefer to be taught by male instructors, while the majority of them perceive no difference between male and female instructors. This indicates that they believe the abilities of their male instructors are equal, if not greater than, their female instructors. This attitude is mainly motivated by the fact that male instructors may feel sympathy for female students as they lack visual or face-to-face contact with them. In the absence of visual contact, male instructors tend to bridge this gap by engaging their female students in various learning activities including the use of social networking such as Twitter, blogging, and other SLPs.

During the follow-up interviews, the issue of preference of being taught by male instructors is addressed.

For instance, student 'A' spontaneously responded that, "*Because they [male instructors] are empathic and easy to work with*!"

Conversely, female students stated that the majority of their families prefer female instructors. Hence, female students did not seem to share their families' cultural bias against women being taught by men.

The difference between female students' perspectives and their families' preferences can be linked to socio-cultural constraints in this particular context, which continue to exist, despite recent advancements towards openness in Saudi Arabia (Saudi_Vision_2030, 2017; United Nations in Saudi Arabia, 2023).

The finding that female students do not share their families' preference for female instructors is particularly interesting. It suggests the students themselves may be more open to cross-gender education than their elder family members. This generational difference highlights how socio-cultural perspectives can evolve over time, even in a conservative context like Saudi Arabia. The students have more exposure to modernizing influences and perhaps see less risk or stigma in working with male instructors. Though, respecting local cultural values is still important in education. Preserving local socio-cultural values and norms is a main goal in Saudi Education (MoE, 1980). Accordingly, the goals of Vision 2030 need to be balanced with maintaining social stability, as excessive acceleration of change could potentially elicit negative consequences. SLPs can provide valuable opportunities for connection, collaboration, and knowledge sharing among female students who may be physically separated from male faculty. Additionally, the ability to interact and learn together online can help overcome barriers to minority education (Ke & Kwak, 2013; Kumi-Yeboah et al., 2019; Kumi Yeboah & Smith, 2016).

Further, female students perceive SLPs to be generally beneficial with insignificant perceived difficulties. The only difficulty reported by participants is that that they have limited prior experience with certain social learning tools such as WordPress, which make these tools somewhat challenging to use.

In the follow-up interviews, only student 'J' confirmed that *"Some apps are hard to use… They could update them and make them a bit easier for students… some others are a bit old!"*

During the interviews, all female students confirmed the benefits of using SLPs. For example, student 'J' explained, "*Using SLPs give learning a new path.*"

'J' further elaborates that it is not only about facilitating learning, but there is an economic benefit as "*they make learning easier for me personally because I live far away from the university… I can save money because I don't have to pay for gas!"*

Student 'S' added, "*SLPs made it easier to share information with my classmates. It is fun and I enjoy it.*"

The results align with previous research conducted by several authors, including Al-Zahrani (2015), Amry (2014), Khechine & Augier (2019), V.Rasiah (2014), Siahaan et al. (2020), Sievertsen & Carreira (2018), and Thaiposri & Wannapiroon (2015). These studies also show that SLPs have a positive impact on students' learning experiences, thinking skills, and attitudes. This cannot be achieved without female students given activities that match their learning interests, which in turn enhances their confidence when using technology such as SLPs (Blasco, 2016).

The present study identifies a new advantage of using SLPs, which is economic efficiency. SLPs have the potential to save costs associated with traditional learning and teaching methods (Scavarelli et al., 2020). One way in which SLPs can accomplish this is by eliminating the requirement for physical infrastructure as well as generating and distributing educational materials. SLPs can also provide access to a wider range of educational resources and experts, which can be more cost-effective than traditional methods. Lastly, SLPs can facilitate collaborative learning and peer-to-peer support, reducing the need for expensive one-on-one teaching and support.

The current study makes a valuable contribution by identifying isolation as a potential social drawback of SLPs, which is highlighted by student 'A' during the follow-up interviews. Student 'A' worried that, "*They [SLPs] can make you a bit isolated and not have social interaction [physical interaction] with your classmates… I do not even know how they look like because I study online!*" This result may be attributed to the cultural differences among learners in conservative and more open societies. In culturally conservative contexts such as Saudi Arabia (Alasmari, 2020), learners tend to value community participation over individualism, and prioritize visual communication and interaction over isolation.

Concerning the impact of computer experience on the perceived advantages of SLPs, there is evidence that computer experience affects the perceived benefits of SLPs. As the greater their experience with technology, the more positive attitudes they hold for SLPs. Student 'J' illustrates, *"Sure! Because it is so much easier to read a book on my iPad instead of reading an actual book… If there is a word I don't understand, I can just easily google it from my iPad at that moment. But if I am reading from my book, I have to put it away and open my phone and search for the word instead of just clicking on it!"*

The follow-up interviews yield concluding ideas and recommendations for enhancing the execution of SLPs in the field of education. For instance, student 'S' suggests *"giving breaks during classes, because classes can be so long, and you could get distracted and bored!"*

LIMITATIONS AND FURTHER DIRECTIONS

One drawback of this study is that it was conducted exclusively in Saudi Arabia, making the generalization of findings to other contexts uncertain. Consequently, more research is required in similar and diverse contexts to verify or disprove the conclusions of this study. Additionally, this study only examines the impact of SLPs on the advancement of female students' learning experiences in higher education, making it limited in scope. Therefore, further investigation in other educational

settings such as primary and high school is necessary to obtain a better understanding of the role SLPs play in promoting effective learning and equality in education. Moreover, the follow-up semi-structured interviews conducted via mobile phone result in the loss of valuable impressions such as body language and facial impressions.

The study's results can provide guidance for future research in exploring the relationship between SLPs and the development of higher-order thinking skills like critical thinking and creativity. Despite contemporary approaches like SLPs, enhancing higher-order thinking skills has received limited research attention. Therefore, further research is necessary to explore the potential of SLPs to foster their effectiveness. Future studies should also examine how interaction and collaboration between students in SLPs can enhance their learning using various qualitative and quantitative methods. Additionally, it is important to investigate how students with different learning styles learn, communicate, and interact in SLPs.

CONCLUSION AND IMPLICATIONS

The present study delves into the potential of SLPs to enhance the learning experiences of female students in Saudi higher education. Initially, it scrutinizes the advantages and disadvantages of SLPs from the perspective of female students. Subsequently, it probes the impact of various personal beliefs held by female students, including their teaching preferences, family teaching preferences, academic achievements, computer experience, access to personal devices, and Internet connectivity, on their perceptions of SLPs.

The findings unveil that over one-third of female students display a preference for male instructors, while the majority perceive no significant distinction between male and female instructors. In contrast, most female students report that their families favor instructors of the same gender. Moreover, participants generally regard SLPs as advantageous, notwithstanding some challenges encountered in implementing these new tools. Finally, the study reveals that computer experience is the sole personal belief that exerts an influence on the perceived advantages of SLPs. Qualitative analysis further enriches the findings, offering a deeper comprehension that encompasses educational, cultural, and economic perspectives.

This study suggests that SLPs is generally beneficial for the advancement of higher education students' learning, especially female students in conservative monocultural or high-context societies. Although advanced technologies like SLPs are present in the fourth industrial revolution and bring about significant changes globally, different societies react to change in different ways. Nonetheless, change is inevitable, but the pace at which it occurs is greatly influenced by the degree of socio-cultural domination. This can be applied to the topic of female education in Saudi Arabia, where change is definitely taking place, but within the context of its own terms and interpretation of openness, global economy, and societal values. Therefore, SLPs present a significant opportunity for conservative educational systems like the one in Saudi Arabia. It can aid in the effective integration of technology such as SLPs and facilitate the delivery of quality higher education without disregarding local socio-cultural values.

To realize the aforesaid implications, it is imperative to create awareness about the potential of SLPs. Faculty members and students require additional training to effectively incorporate SLPs in their teaching and learning approaches. Furthermore, appropriate instructional designs, which involve a thorough analysis of learners, tools, context, and environment, are crucial for the successful implementation of SLPs in higher education. Finally, careful thought needs to be given to ensuring these platforms are culturally appropriate and safe spaces for female students. Achieving these objectives also necessitates supportive policies that are relevant to the local context, while considering socio-cultural barriers such as those encountered in Saudi Arabia.

DECLARATIONS AND STATEMENTS

- **Data Availability:** The data and materials used in this study are available upon request. Please contact the corresponding author for further information.
- **Competing Interests:** The author of this publication declares there are no competing interests.
- **Funding:** This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors. Funding for this research is covered by the author of the article.

REFERENCES

Al Rawashdeh, A. Z., Mohammed, E. Y., Al Arab, A. R., Alara, M., Al-Rawashdeh, B., & Al-Rawashdeh, B. (2021). Advantages and disadvantages of using e-learning in university education: Analyzing students' perspectives. *Electronic Journal of e-Learning*, *19*(3), 107–117. doi:10.34190/ejel.19.3.2168

Al-Zahrani, A. M. (2015). From passive to active: The impact of the flipped classroom through social learning platforms on Higher Education Students' Creative thinking. *British Journal of Educational Technology*, *46*(6), 1133–1148. doi:10.1111/bjet.12353

Alasmari, T. M. (2020). Can mobile learning technology close the gap caused by gender segregation in the Saudi educational institutions? *Journal of Information Technology Education*, *19*, 655–670. doi:10.28945/4634

Amry, A. B. (2014). The Impact of Whatsapp Mobile Social Learning on the Achievement and Attitudes of Female Students Compared With Face to Face Learning in the Classroom. *European Scientific Journal*, *10*(22).

Bandura, A. (1971). *Social Learning Theory*. General Learning Press.

Blasco, D. (2016). Promoting female students interests in studying with educational technology. *International Journal on Integrating Technology in Education*, *5*(2), 19–31. doi:10.5121/ijite.2016.5202

Cherry, K. (2022, October 14). *How Social Learning Theory Works.* Verywell Mind. https://www.verywellmind.com/social-learning-theory-2795074

Deaton, S. (2015). Social learning theory in the age of social media: Implications for educational practitioners. *I-Manager's Journal of Educational Technology*, *12*(1), 1–6. doi:10.26634/jet.12.1.3430

Ferguson, R., & Shum, S. B. (2012). Social Learning Analytics. *Proceedings of the 2nd International Conference on Learning Analytics and Knowledge*. doi:10.1145/2330601.2330616

Gillham, B. (2005). *Research Interviewing: A practical guide*. Open University Press.

Ke, F., & Kwak, D. (2013). Online learning across ethnicity and age: A study on learning interaction participation, perception, and learning satisfaction. *Computers & Education*, *61*, 43–51. doi:10.1016/j.compedu.2012.09.003

Khechine, H., & Augier, M. (2019, January 8). *Adoption of a social learning platform in Higher Education: An extended UTAUT model implementation.*https://hdl.handle.net/10125/59446

Kumi-Yeboah, A., Dogbey, J., Yuan, G., & Amponsah, S. (2019). Cultural diversity in online learning. *Care and Culturally Responsive Pedagogy in Online Settings,* 230-251. 10.4018/978-1-5225-7802-4.ch012

Kumi Yeboah, A., & Smith, P. (2016). Relationships between minority students online learning experiences and academic performance. *Online Learning : the Official Journal of the Online Learning Consortium*, *20*(4). Advance online publication. doi:10.24059/olj.v20i4.577

Mertens, D. M. (2020). *Research and evaluation in Education and psychology: integrating diversity with quantitative, qualitative, and mixed methods* (2nd ed.). SAGE.

MoE. (1980). *Educational policy in the Saudi Arabian Kingdom* (3rd ed.). Ministry of Education.

MoE. (2023). *Statistics of higher education.* https://moe.gov.sa/ar/knowledgecenter/dataandstats/edustatdata/Pages/HigherEduStat.aspx

Pallant, J. (2007). *SPSS survival manual: A step by step guide to data analysis using SPSS for Windows version 15* (3rd ed.). McGraw-Hill/Open University Press.

Rasiah, V., R. R. (. (2014). Transformative higher education teaching and learning: Using social media in a team-based learning environment. *Procedia: Social and Behavioral Sciences*, *123*, 369–379. doi:10.1016/j.sbspro.2014.01.1435

Saudi_Vision_2030. (2017). *The Progress & Achievements of Saudi Arabia*. Saudi Arabia. Retrieved from https://www.vision2030.gov.sa/media/rc0b5oy1/saudi_vision203.pdf

Scavarelli, A., Arya, A., & Teather, R. J. (2020). Virtual reality and augmented reality in Social Learning Spaces: A literature review. *Virtual Reality (Waltham Cross)*, *25*(1), 257–277. doi:10.1007/s10055-020-00444-8

Siahaan, A. U., Aji, S. B., Antoni, C., & Handayani, Y. (2020) Online social learning platform VS E-learning for higher vocational education in purpose to English Test Preparation. *Proceedings of the 7th International Conference on English Language and Teaching (ICOELT 2019)*. doi:10.2991/assehr.k.200306.013

Sievertsen, N., & Carreira, E. M. (2018). Apoc Social: A mobile Interactive and Social Learning Platform for collaborative solving of advanced problems in Organic Chemistry. *Chimia*, *72*(1-2), 43. doi:10.2533/chimia.2018.43 PMID:29490792

Thaiposri, P., & Wannapiroon, P. (2015). Enhancing students' critical thinking skills through teaching and learning by inquiry-based learning activities using social network and cloud computing. *Procedia: Social and Behavioral Sciences*, *174*, 2137–2144. doi:10.1016/j.sbspro.2015.02.013

United Nations in Saudi Arabia. (2023). *The Sustainable Development Goals in Saudi Arabia*. The United Nations in Saudi Arabia. Retrieved May, 2nd from https://saudiarabia.un.org/en

Vygotsky, L. S., & Cole, M. (1978). *Mind in society: The development of Higher Psychological Processes*. Harvard Univ. Press.

Weber, A. (2012). Considerations for Social Network Site (SNS) Use in Education. *International Journal of Digital Information and Wireless Communications, 2*(4), 306–321. https://sdiwc.net/digital-library/considerations-for-social-network-site-sns-use-in-education.html

Abdulrahman M. Al-Zahrani is a Saudi scholar, currently holding the position of Associate Professor of Educational Technology within the Department of Educational Technology at the University of Jeddah in Jeddah, Saudi Arabia. With a profound interest in the intersection of education and technology, Dr. Al-Zahrani has dedicated his career to advancing the field.