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ORIGINAL RESEARCH:  
EMPIRICAL RESEARCH - QUALITATIVE

## An exploration of social participation in Caribbean student nurses' use of social media in their learning journey

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## Abstract

**Aims:** To identify how social participation facilitates pre-registration student nurses learning and professional development using social media.**Design:** A social survey using thematic analysis to explore Caribbean student nurses' views of social media usage from an open-ended question in a survey.**Methods:** A qualitative analysis of student nurses from Jamaica and Trinidad and Tobago, who completed an open-ended question in a survey. Data were analysed using thematic analysis.**Results/Findings:** The three themes identified were: (1) Social media and communication; (2) Social media and self-care; and (3) Social media and learning.**Conclusion:** This paper used qualitative evidence to identify and report a new way of viewing SoMe in nursing education as a student-centred educational learning tool. SoMe can improve the effectiveness of student nurses learning, while developing fundamental skills (open-mindedness, critical thinking, professionalism and decision-making) for nursing practice. Social participation and connectivism theory are embedded in student nurses' learning journey. However, it has been used by student nurses outside the traditional university teaching and their capacity to own their personal learning. To meet the new generation of student nurses' learning needs, it is important that higher education institutions develop guidance, support and use of social media for learning to support student nurses in their education as students and also future professionals.**Impact:** This study addresses how social participation is used in social media to contribute to Caribbean student nurses' education. The main finding is the introduction of a new learning theory supporting learning using social media. This study has an impact on using social media for learning.**Patient or Public Contribution:** No patient or public contribution.

## KEYWORDS

Caribbean student nurses, education, learning theories, social media, social participation

## 1 | INTRODUCTION

Students learning and engagement with academia including teaching, reading and research changed with the advent of social media (SoMe). SoMe are involved in numerous aspects of our lives (Ratheeswari, 2018), including work, learning and education (De Gagne et al., 2018). The phenomenon includes nurses, student nurses and nursing education (Daigle, 2020; Lefebvre et al., 2020; Zhu et al., 2021). Generation Z (1995–2015) students have never experienced life without Internet, and their engagement socially and in higher education relies on technology. SoMe and technology (e.g. computers, emails, healthcare software systems) take a central place in their education, development and professional life (Chicca & Shellenbarger, 2018; Hampton et al., 2020; Mohr & Mohr, 2018). The term social media appeared in the early 2000s (Lomborg, 2017) and several definitions are available (Barker, 2017). Kaplan and Haenlein (2010) described SoMe as digital technologies emphasizing user-generated content or interaction. Later Carr and Hayes (2015) defined SoMe as an Internet interaction opportunity, either in real-time or asynchronously with an audience from user-generated content. The latter definition is used in this article. The population investigated are student nurses attending universities in the Caribbean from Trinidad and Tobago and Jamaica.

## 2 | BACKGROUND

It is fundamental that nurses, nurse educators, higher education institutions, stakeholders such as hospitals, nursing councils and associations investigate, understand and support student nurses to use SoMe and adapt education to meet these generational needs. The literature investigating the use of SoMe by the nursing community is growing but further research and investigation are recommended (blinded; Lefebvre et al., 2020; Scott & Goode, 2020; Terzi et al., 2019). The existing literature explores mostly northern hemisphere and Asian populations' uses of SoMe in nursing and nursing education (Daigle, 2020; Lefebvre et al., 2020; Scott & Goode, 2020; Zhu et al., 2021). (Blinded) and (blinded) highlighted that the student nurses' population in the Caribbean are underrepresented in the literature. This may be to do with racial undertones of assuming Black students or those from the Caribbean region may be of little research value or significance, yet this population is of importance to the global migrant nursing workforce. Local intelligence indicates that student nurses attending Caribbean universities received little support in the use of SoMe as there is no policy or guidelines from the Caribbean Nursing Council(s) or nursing associations. Due to these Caribbean specificities, this article sets out to add knowledge and understanding from a Caribbean perspective and investigate the views and perceptions of using SoMe from student nurses attending university in the Caribbean.

Flynn et al. (2015) reported on connectivism in social media learning from their investigation on medical educators' use of conceptual frameworks in using SoMe as part of their curriculum design.

They mapped their findings to learning theories which include social development theory, communities of practice, discovery learning and cognitive apprenticeship. Linked to these theories is the work of Malcolm Knowles. Knowles developed the andragogy framework that contains six principles of adult learning: (1) Learner's need to know, (2) Self-concept of the learner, (3) Previous experience of the learner, (4) Readiness to learn, (5) Orientation to learning and (6) Motivation to learn (Mews, 2020). Behaviourism characterizes learning as a change of observable behaviour from an external stimulus and can facilitate rote learning and shaping student behaviour (blinded; Ahmad et al., 2020). Cognitivism contrary to behaviourism is an internal process that gains new knowledge (assimilation) through inciting mental processes alteration (accommodation), aiming at stabilization where there is no conflict between the new and existing knowledge (equilibration). Sharing readings, references, videos or discussions developing knowledge through self-directed learning can be means of cognitivism (Bandono & Sri, 2021). Connectivism offers collaborations, discussions and interactions by facilitating the exchange of information and knowledge between different nodes (John, 2016; Siemens, 2005) with the flow of information/knowledge accessible to any node. Decision-making is a learning process, where the selection of meaningful information for intended learning is fundamental (Baque et al., 2020). Bandura's social learning theory suggests that learning is facilitated by observation and interaction with other learners. It is viewed as the link between behaviourist and cognitive theories (Pinho et al., 2020). Community of practice is relevant to social media learning as it brings together people of similar learning interests together to share information and learning (Wenger, 2011).

O'Connor et al. (2018) mixed study systematic review (12 papers) developed a conceptual understanding of SoMe learning based on three interconnected mechanisms (person, environment and behaviour) that support educators and students learning with new technologies. To actualize learning theories concerning SoMe learning, an useful concept is social participation as part of the learning process. Student participation becomes a cornerstone for the learning theories used in this study (e.g. andragogy, social learning theory or connectivism). To understand student participation in learning, the concept of social participation can help to understand better how learning takes place.

Developed from Bourdieu's concept of social capital (1986), social participation was introduced in health research to represent the number of contacts a person has with another person during a period (Guillen et al., 2011). The concept is difficult to characterize as there is no consensus on the definition and it has been adapted by different fields like sociology, health, education and politics. Naud et al. (2020, p. 78) study on ageing populations defined social participation as: 'person's involvement in activities that provide social interactions in the community or society' and Sharifian and Grünh (2019) reported that social participation had an impact on well-being. In education, Rademaker et al. (2020) include four social participation themes: acceptance of students by their classmates, positive social contact/interaction between

students, social relationship/friendship and student perception of acceptance by peers. Our study defines social participation based on the educational context with the addition of the community component and the following four themes: acceptance of students by their peers and/or the community, positive social interaction in the community, social relationships and perceptions of acceptance by the community. This study investigates social participation using SoMe in nursing education. This article explores the responses to the open-ended question: '*Please tell us about your experience of using social media or why you do not use it*'. The data yielded was rich and we believe that this should be reported as it contributed to the knowledge on SoMe learning in nursing education and that we would be doing a disservice to nursing science if we did not report this facet of our study. We used a deductive inductive approach to examine social participation.

### 3 | AIMS

- a. To qualitatively report how Caribbean student nurses use social media in their pre-registration (pre-licence) nurse education.
- b. To identify how social participation facilitates pre-registration student nurses learning and professional development using social media.

### 4 | DESIGN

Social survey used thematic analysis to explore Caribbean student nurses' views of SoMe usage from an open-ended question in a survey. A social survey is a research technique, commonly used in sociology; it is a way to gather large amounts of social data which can include qualitative responses (Payne & Payne, 2011). We used a qualitative approach to analyse the responses to the single question. Qualitative analysis attempt to preserve data gathered in their textual form and uses it to generate analytical categories and theoretical explanations (Bailey, 2008).

### 5 | SAMPLE/PARTICIPANTS

The sample is a subset of a larger international sample that included student nurses from the United Kingdom, Trinidad and Tobago and Jamaica using convenience sampling. The survey was distributed to student nurses as described in the data collection section across the United Kingdom, Trinidad and Tobago and Jamaica. Due to the lack of studies on Caribbean student nurses' use of SoMe, we focused on a sample composed of student nurses from Trinidad and Tobago and Jamaica. In a previous paper (blinded), we reported that all participants from Trinidad and Tobago and Jamaica self-identified as Caribbean ethnicity. We collaborated with two Caribbean universities for this study. These countries were selected due to the lack of literature on the experience of SoMe use by Caribbean student

TABLE 1 Inclusion/exclusion criteria

Inclusion criteria	Exclusion criteria
Any student nurse enrolled on a pre-registration nursing programme	Anyone who is not a student nurse or enrolled on a pre-registration nursing programme
Student nurses on any year of the programme	Any student nurse who is not from either of the participating countries
Student Nurses from Jamaica and Trinidad & Tobago	

nurses. The authors have an existing work collaboration with the Caribbean. A total of 218 student nurses from Jamaica and Trinidad and Tobago participated in the study. A set of inclusion and exclusion criteria were used (Table 1).

### 6 | DATA COLLECTION

To ensure an audit trail (credibility, transferability, dependability and confirmability) (Moorley & Cathala, 2019) and good research practice (including ethics approval, instrument pilot testing, data analysis and reflexivity), a flow chart outlining the research process concerning data collection was created. Each participating country received: (1) the participant information sheet (PIS) providing information on the study and stating the ethics approval and contacts; (2) the link to the survey file; (3) an invitation that can be used to post on the virtual learning environment (VLE); (4) a thank you email to be sent to all participants for taking part in the study. The research documents, including an outline of participants' recruitment process, were sent to the research lead of each country for review and feedback. Each participating University's VLEs were used for advertising the study by sharing the survey link and the PIS. During data collection, responses were monitored and a daily advert for the first week followed by weekly adverts were posted on the universities' VLEs. The data collection was scheduled for 3 months. Due to recruitment challenges in the Caribbean, the deadline was closed after 6 months from March to September 2019.

A 31 items cross-sectional survey was used including six demographic questions and 24 on SoMe and learning using a five-point Likert scale, categorical responses and one single open-ended question. The survey was developed from the literature review, previous research and the authors' knowledge. Face and content validity was established by piloting. Piloting was with the student body and academic staff from the nursing faculty to help with identifying any required modifications to questions and to ensure cultural congruence. No changes were required. Data cleaning identified no anomalies for the open-ended question.

The quantitative findings are reported in two previously published papers (Cathala, Ocho, Moorley, et al., 2021; Cathala, Ocho, Watts, et al., 2021). These papers demonstrate that SoMe are embedded in student nurses' learning and professional development

with some specificity related to their country, generation and year of the programme. There was a significant difference ( $p \leq .001$ ) for checking social media and messaging in lecture use of social media for studies and classroom activities by country, generation (except classroom activities) and year of education. Other findings include no national or international consensus on the use of SoMe for professional development and there were no SoMe nursing council/Boards guidelines for Caribbean countries. However Caribbean countries used and integrate SoMe in their learning more than the UK ( $H(2) = 97.7, p < .001$ ;  $H(2) = 24.4, p < .001$ ). Therefore, the qualitative responses can help to understand better how social participation facilitates student nurses learning, and professional development using social media.

## 7 | ETHICAL CONSIDERATIONS

Ethics approval was granted from all the participating institutions. We ensured no coercion by reminding students at every stage that participation was voluntary and did not impact their studies. Anonymity was reiterated, and data were protected using a university password-locked server ensuring General Data Protection Regulations and local ethical compliance. The first question of the survey was a consent question, and any participants who did not consent were excluded. Participants were informed that once the survey was submitted, we could not withdraw them from the study.

## 8 | DATA ANALYSIS

Thematic analysis using Braun and Clarke (2006, 2012) analytic framework was performed using NVivo® 12 software version 12.7.

## 9 | VALIDITY AND RELIABILITY/RIGOUR

This study upheld the tenets of research on transferability, credibility, trustworthiness and dependability (Moorley & Cathala, 2019) and published in our previous papers (Cathala, Ocho, Moorley, et al., 2021; Cathala, Ocho, Watts, et al., 2021). To ensure validity and rigour, Braun and Clarke (2006, 2012) thematic analysis framework was used (Table 2). Two authors (XC and CM) analysed the data separately at first and then met and discussed the findings and came up with overarching themes. There was not much difference in the themes, we had congruence and agreed on the phrasing of the themes (credibility). The data set was uploaded into NVivo for analysis, a first read was made by both authors for data familiarization (phase 1 of the framework). The second read was initial coding (phase 2). Then themes were identified by both authors separately (phase 3) and verbatim extracts were used to support the thematic narrative (trustworthiness and confirmability). Phases 4, 5 and 6 authors met to review, define, name and produce the analytical report.

TABLE 2 Braun and Clarke (2006, 2012), thematic analysis framework

Phase	Description
1. Familiarizing yourself with your data:	The researchers uploaded data onto NVivo software. Data were cleaned and read, noting down initial ideas
2. Generating initial codes:	Researchers undertook a systematic coding of the data across the entire data set, collating data relevant to each code
3. Searching for themes:	Researchers collated codes into themes, gathering all data relevant to each theme on NVivo
4. Reviewing themes:	Researchers checked if the themes work in relation to the coded extracts and the entire data set
5. Defining and naming themes:	Researchers undertook ongoing analysis to refine each theme, and the overall story the analysis tells, generating clear definitions and names for each theme
6. Producing the report:	At the final stage of analysis, researchers selected compelling extracts. Final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis

TABLE 3 Theme definitions

Theme	Definition
Social Media and communication	Any communication using social media
Social Media and self-care	Social media use for personal health and wellbeing purposes
Social Media and learning	Any shared learning experience using social media

Main themes and subthemes were discussed, identified and agreement was achieved (Table 3). Final themes and subthemes were established (Figure 1). Analysis was developed through consensus with all the authors. We also made memos to aid moving back and forth through the data, which added clarity to the development of the themes, and we used verbatim quotes for the final report, these demonstrate trustworthiness, credibility and dependability of the study.

## 10 | FINDINGS

Participants were from three different generations: 1.3% from generation X (1966–1976), 20.3% from generation Y (1977–1994) and 78.4% from generation Z (1995–2015). The SoMe platforms used were WhatsApp® (98%), YouTube® (90%), Instagram® (80%), Facebook® (69%), Twitter® (20%) and LinkedIn® (9%). The three



FIGURE 1 Theme identification process.

themes identified were: SoMe and communication, SoMe and Self-care and SoMe and Learning (Figure 1).

## 10.1 | Theme 1: Social media and communication

Through online participation and connecting, Caribbean student nurses identified different experiences associated with SoMe use as seen in the extract below:

'I love social media because it helps me to keep up with what is going on in friends lives and they can also stay in touch with me. We can plan events and share thoughts and ideas without making face contact' (P9) and 'Social media is good because it helps you to keep up to date on current things going on and you get to socialize with some persons you can't see in person' (P47). Staying connected is important even when you cannot meet physically: 't helps us to interact with others if we can't face to face...it can be used at any time' (P11).

SoMe help to maintain communication and links with people and develop new connections and networks as indicated by these participants' comments

'It's a place where I can create important links with people and learn more about the country' (P43) and 'I use social media because it allows you to see trends, learn and connect with individuals across the world' (P147). 'For me, using social media makes it easier to

communicate with colleagues, lecturers and other professionals especially in times of urgency and times when I do not have the funds to travel to the person I want to speak with' (P57); 'Professionally, I use it to contact my lecturers, tutors, study groups, classmates, coordinators etc' (P209) and 'It helps connect to more student nurses and allows us to share experiences' (P198).

Some participants expressed the ability to connect with more than one person, maintain communication and facilitate information sharing:

'It connects you with several people and makes communication and information easily available'. (P12)

Social participation in SoMe increases the accessibility of information at national and international level and facilitates information sharing:

't's a fast and easy way to stay connected to the world. I need it to keep abreast with what's happening in the world'. (P65)

Participants identified benefits about using SoMe as well as being mindful of its usage:

'Social has its benefits & disadvantages, more or less the info, content & communication are basically my usage of social media' (P84). Participants regularly cited SoMe as easy, affordable and accessible: 'Get



information quickly' (P149); and viewed it as 'Easy and efficient way to connect with people' (P164)

Participants identified that SoMe have limitations:

P1 voices the safety aspect: 'The only flaw is that despite all the pros and cons of such ... there are a lot of psychos and makes it unsafe like cybercrimes etc'. Whereas P162 expressed some emotional distress associated with '*Negativity on social Media*'.

Participants 57 and 58 stressed the efficiency of SoMe in communication:

'For me, using social media makes it easier to communicate with colleagues, lecturers and other professionals especially in times of urgency...'; 'It has made Information much more accessible, especially in emergency situations'.

Social media has become a tool for communication and helps to connect and keep student nurses in this study connected.

## 10.2 | Theme 2: Social media and self-care

Participants perceived SoMe as a method of relaxation and enjoyment and a time to connect with online communities:

'It's a good platform for relaxing' (P53); 'I use social media because it's very informative. Helps with relaxation. Keeps me updated with what's happening local and international' (P144); 'It keeps me entertained and informed' (P69); 'It's entertaining and educational...'. (P82)

Participants 8 and 48 recognized some limitations that should be considered in SoMe use:

'It can occupy your time unaware of how much time' (P8); 'It is my main source of procrastination' (P49).

Participants described SoMe as a potential driver and a source of motivation and aspiration:

'My social media experience and school life go hand in hand. I use YouTube to get educational videos that help with lectures, and I watch videos of other Nursing students that help influence and motivate me. With Instagram, I network with other Nurses, Nursing students and aspiring nurses'. (P163)

For participants 68 and 67, SoMe is viewed as a way to relax after a difficult day or to take a break:

'Social media is a form of relaxation after and during a hard day' and; 'I use social media to relax my mind and take a break from studies...'. Some limitations were expressed by the participants: '... it also has its negatives because it can be a distraction' (P123), 'Not worth the hassle unless its homework' (P156).

Multiple truths exist in using social media: it can be a motivation, a networking medium with acknowledgement of its limitations.

## 10.3 | Theme 3: Social media and learning

The growing body of literature demonstrates SoMe as a learning tool is gaining momentum. Participants identified and expressed the usefulness of SoMe in enhancing and supporting learning. The following extract demonstrates the usefulness of SoMe in learning:

'Social media is a positive for me when it comes to learning, especially visual, I love youtube it's great' (P5); 'It helps learn connect with people' (P17); 'Social media is not only entertaining but educating because I can learn new things everyday about what is happening around the country and world, and I can also have easy access to educating materials for my studies.' (P20); 'In my experience social media has made learning and staying on top my schedule much easier' (P196) and 'I can learn new things everyday about what is happening around the country and world' (P8).

The participants' comments demonstrated how various types of SoMe support different learning styles (visual, auditory, reading and writing, Kinaesthetic):

'when used for school I use it for research or to gain a better understanding on a topic' (P23), '... a tool for group projects' (P24); 'Just to point out one YouTube for example helps one to retain and also enforce what is learnt in class by breaking it down simpler and also show graphics of what is being thought so visual and auditory learning it make it easier to retain' (P74); 'I get a pdf version of textbooks on medical pages' (P90) and; 'Social media, especially YouTube has been great for me. I am a visual learner, therefore watching educational nursing videos has helped me practical wise'. (P112).

Participants reported that the use of SoMe can enhance educational achievement such as higher grades:

'The use of social media assist with my learning process. As YouTube videos helped me to get A- on a practical exam' (P60); 'I also use it during my studies for exam. Instagram and YouTube has helped me a lot, because



*there are pages that nurses can visit to gain information about different disorders and diseases about the body'* (P157); *'Super beneficial when it comes to group assignments as groups can interact online rather than meet up face to face'* (P164). It also helps with professional decision making: *'It has made Information much more accessible, especially in emergency situations and helps decision making'* (P58).

## 11 | DISCUSSION

This study aimed to identify and report how social participation of Caribbean student nurses using SoMe contributes to their pre-registration (pre-licence) nurse education. The three themes identified were: (1) Social media and communication, (2) Social media and self-care and (3) Social Media and learning. Participants' responses confirmed the use of SoMe in their daily life as demonstrated by Daigle (2020) and Zhu et al. (2021). SoMe are well embedded in their personal communication evidenced in participants' extracts. The adoption of SoMe in daily communication has positive features such as convenience, user friendliness and real-time interaction, especially when face-to-face meetings are not possible (Scott & Goode, 2020). It kept participants connected with the world and enabled them to stay up to date with information and enabled users to connect with educators, tutors, colleagues and professionals. Participants expressed the usefulness of SoMe communication to gain support and connect in emergency situations, demonstrating SoMe responsiveness and dynamism. SoMe interaction and communication between users enhanced links between people who may not actually communicate with each other but feel an affinity by reading or viewing posts from each other (Krutka & Damico, 2020). The flow of interaction and communication between users allows the presentation of users' different perspectives. The creation of social groups and SoMe networks can provide a sense of belonging and engage the user in social participation which is aligned to and is a facet of how community of practices engage social learning.

Participants described some negative aspects of SoMe with the presence of cybercrimes, unfavourable behaviours and creating some unsafe feelings (Ramage & Moorley, 2019). Negative aspects can prevent or stop some people from using SoMe; as seen in our participants, this can have a direct impact on social participation and connectivism. The risk of misbehaviour and misconduct on SoMe may have prevented institutions such as universities and employers from supporting and developing the use of SoMe by student nurses. However, organizations such as the Nursing and Midwifery Council in England and similar nurse councils or associations have accessible tools to manage online risk and prevent misconduct that Caribbean universities can access if they do not have their own policies and guidance. Even without SoMe guidance from the Nursing Councils in the Caribbean, participants clearly presented and demonstrated awareness of SoMe limitations. Despite the negative image of SoMe

presented by some institutions, student nurses are increasingly using SoMe and describe a self-care component through using SoMe at a personal level for relaxing and being entertained. Participants used SoMe as a safety valve to relax and get support after a difficult day with the help of the SoMe community. This aspect of SoMe is new and adds an additional dimension to SoMe as well-being support in managing stress, anxiety and daily challenges that student nurses may encounter. Well-being support and sense of belonging have an important impact on learning and motivation as they are part of Maslow's hierarchy of needs (1970) and humanistic education (Patti, 2022).

The benefits of SoMe are not limited to communication and self-care; participants also expressed their usefulness in learning. It helped participants to stay on schedule with their studies, connect with classmates, ease their anxiety and worry. In this study, a SoMe strength was the availability of learning material matching the users' learning style, for example, YouTube® with videos that break down the topic for visual learners to get a better understanding of the topic. Instagram® and YouTube® have helped participants achieve better grades in assessments and exams, proving the effectiveness of SoMe beyond its usefulness. Participants made choices and adapted the SoMe platform used in relation to their learning style to enhance their learning. This demonstrates awareness of student nurses' own metacognition that SoMe can develop further by offering a range of materials and formats to meet student nurses' learning needs. SoMe motivate and inspires student nurses through peer and/or community acceptance, positive social interaction in the community, social relationships and perceptions of acceptance by the community. SoMe allowed participants to share and disseminate articles or eBooks that can be downloaded and read, to participate in discussions, share ideas and challenge their own limitations. Social participation enables student nurses to gain, share and exchange knowledge, interpretations and points of view with SoMe peers and community. Social participation works as a booster and motivation to learn, improving learning experience and therefore students' outcomes, as described by Bandura and Walters (1977). Learning also happens in social interaction between individuals (Pritchard, 2018). By developing their learning through connectivism, student nurses go beyond the traditional university teaching and pedagogy to further enhance their education.

From these findings, we propose a social media learning process. Connectivism learning theory developed first by Siemens (2005) is a learning theory for the digital age and a framework viewing learning network phenomenon induced by technology and socialization (Goldie, 2016). This theory is based on an exchange of information and knowledge between different nodes (Baque et al., 2020) and scaffolds our study. The development of social participation as a catalyst for the exchange and interaction between the nodes boosts the flow between connectivism theory nodes (John, 2016; Siemens, 2005) (Figure 2). Social participation boosts the interaction between nodes and develops connectivism theory by allowing student nurses to access a more multimodal knowledge, refined learning and develop professional behaviour using means of social

## Connectivism theory powered by social participation

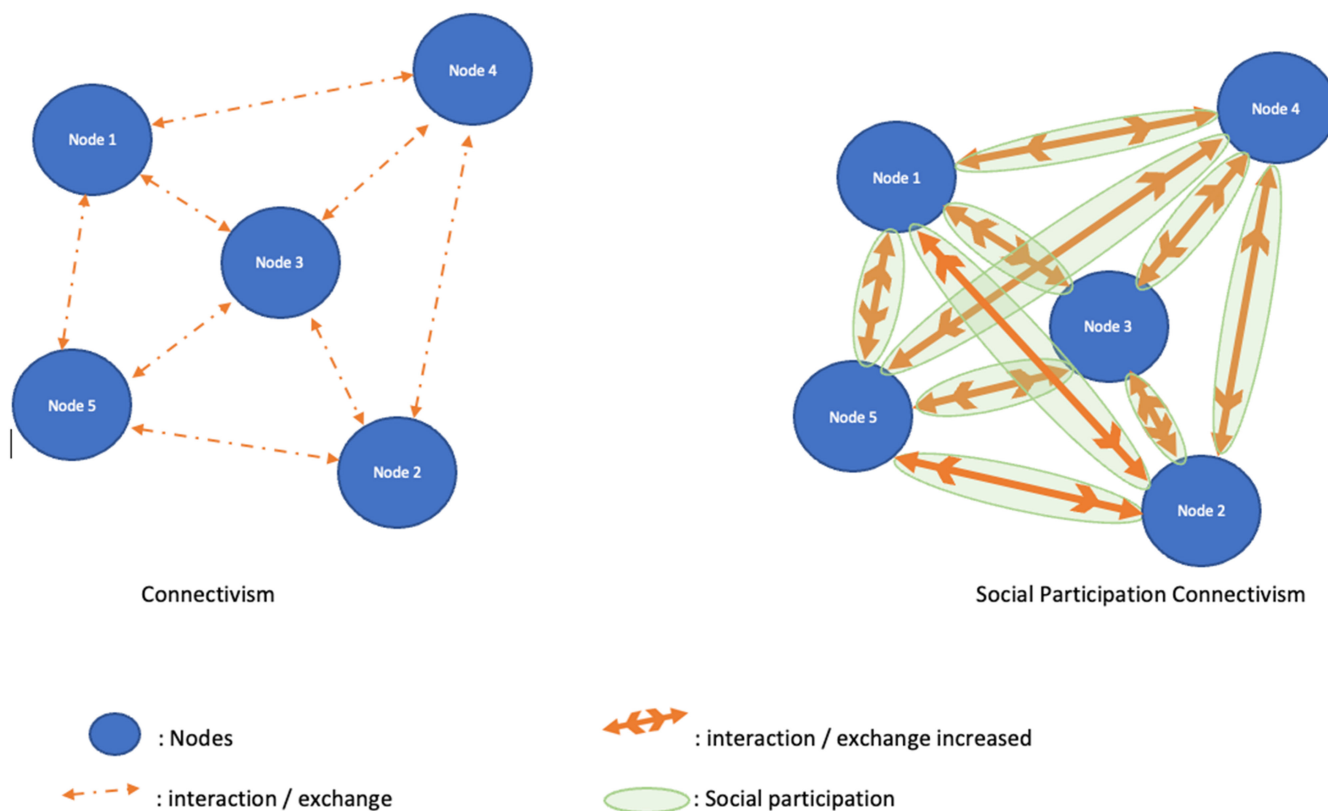


FIGURE 2 Social participation potentiation of connectivism theory.

learning theory. From a critical realism approach, student responses, interaction, acceptance and relationship with an increased number of peers and community enables them to connect the knowledge with multiple interpretations. These are based on reality enriching the original knowledge with various experiences and knowledge interpretations (Denzin & Lincoln, 2008; Lincoln et al., 2011). The more developed social participation is, the richer and more refined is the student learning. From this information knowledge processing, student nurses can make pragmatic decisions in selecting the most meaningful knowledge for the intended learning (Figure 3). This learning process is student-centred, enhancing student nurses' open-mindedness through exposure to different interpretations of realities. Figure 3 demonstrates this learning process based on students' four stages of interpretations.

The student's first stage of interpretation is reality based on their view and understanding of the world and knowledge around them. In this first interpretation stage, the knowledge gained through a personal lens leads to shaping the second stage interpretation. Stage 3 Interpretation is based on the online community of practice interpretation of knowledge. The community's interpretation can open students to new and different understandings of the world and knowledge through exposure to alternative realities. Social participation and SoMe enhance interpretation sharing and knowledge. Context shapes all realities and enables students to shape different

interpretations of the specific situation—the stage 4 interpretation. From the different interpretations and contexts, the student can choose the most appropriate information for knowledge and learning. Developing fundamental skills for best and safe nursing practice (e.g. the analysis of the different arguments, critical thinking and decision-making skills). These findings present an important understanding of social participation on connectivism theory, knowledge processing and the creation of a new learning experience.

With the COVID-19 pandemic and transfer of teaching from face-to-face to online, higher education institutions (HEIs) delivering nurse education have experienced one of the biggest challenges. Nevertheless, staff resilience, adaptability, training and existing online learning practices have overcome this challenge to ensure education delivery and student nurse graduation throughout the pandemic by developing connectivism strategies and integrating some technology approaches into students' learning (Whalley et al., 2021). It demonstrates the ability and capacity of HEI to develop strategies for implementing new processes to overcome challenges. With generation Z and soon generation alpha commencing university, social participation connectivism theory could be an answer to bring teaching delivery in the 21st century (McCrindle & Fell, 2019) and to support the youngest student generation in their education while developing fundamental skills for nursing practice.

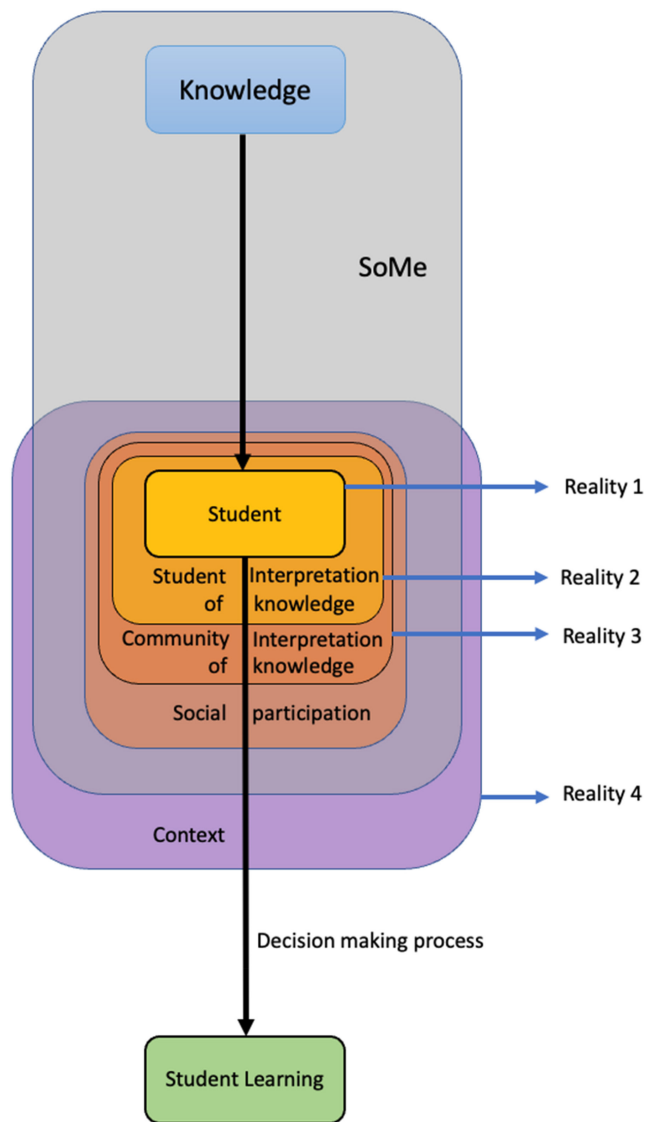


FIGURE 3 Social participation connectivism theory.

HEIs should work to allow the full potential of SoMe by providing training, support and guidance on SoMe use, management and development of social participation connectivism theory and student learning needs. The responsibility is not only with HEIs but also a wider approach is needed from stakeholders such as hospitals, regulatory bodies, nursing unions, nursing associations and the government, for example, Department of Health. The integration of SoMe into the nursing curriculum should be developed and stakeholders, regulatory bodies and students involved to ensure education meets students' needs and is delivered at the highest standards.

## 12 | LIMITATIONS

The survey used for data collection was a self-assessment tool used for the first time and developed by the authors. This study was conducted in two countries and participants were restricted to

student nurses. The data were collected via an open-end question which can be viewed as limiting control, length and differ in level of details of the responses. It can also be difficult for some participants to express their views in writing. Social participation connectivism theory should be tested further to demonstrate its effectiveness.

## 13 | CONCLUSION

This paper used qualitative evidence to identify and report a new way of viewing SoMe in nursing education as a student-centred educational learning tool. SoMe can improve the effectiveness of student nurses learning, while developing fundamental skills (open-mindedness, critical thinking, professionalism and decision-making) for nursing practice. Social participation and connectivism theory are clearly embedded in student nurses' learning journey. However, it has been adopted by student nurses outside the traditional university teaching and their capacity to own their personal learning. To meet student nurses' learning needs, it is important that HEIs develop guidance, support and use of SoMe for learning. This can support student nurses in their education as students and future professionals. Further research is needed to investigate social participation integration, development and management in SoMe learning and confirmation of its impact on student nurses' achievement.

## AUTHOR CONTRIBUTIONS

Xabi Cathala, Calvin Moorley, Oscar Noel Ocho, Paul Nicholas Watts, and Nichole McIntosh: Made substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data; Involved in drafting the manuscript or revising it critically for important intellectual content; Given final approval of the version to be published; Each author should have participated sufficiently in the work to take public responsibility for appropriate portions of the content; Agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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## DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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