



Research article

Nursing students' perceptions on motivation strategies to enhance academic achievement through blended learning: A qualitative study

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HIGHLIGHTS

- One of the most difficult challenges confronting today's instructors is motivation.
- The employment of BL in the nursing curriculum has expanded dramatically in current years.
- Students and nurses require immediate motivation in order to carry out health-related obligations in a new complex system.
- Saudi nursing students indicated the need for university and instructor academic support to increase motivation.
- Saudi nursing students expressed the importance of quality clinical education in enhancing motivation.

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ABSTRACT

Students who are motivated to learn novel knowledge and skills are needed to provide high-quality nursing services. Student nurses increasingly lose motivation as their program progresses due to various factors, especially in light of the recent academic situation with online education. As a result, the purpose of this study is to elucidate ways for improving academic motivation among Saudi nursing people who enrolled in blended learning. This study used a qualitative exploratory study design based on the phenomenological exploration, with 20 nursing students from a prominent Saudi institution. The qualitative analysis of the verbatim conveyed by the student nurses has yielded in the emergence of two main themes; "Extrinsic Motivation" and "Intrinsic Motivation". Under the first theme the following subthemes emerged; "University support through policy", "Instructor skills and communication", "Curricular organization", "Quality clinical experiences", and "Conducive blended environment", while under "Intrinsic Motivation", the thematic analysis resulted in, "Coping with blended environment" and "Control over learning process". Educators, students, academic staff, and clinical training are all identified as areas where academic motivation can be improved. In principle, boosting educational quality and instilling a good attitude among nursing students boost academic motivation.

1. Introduction

One of the most important principles in learning is motivation. It is a psychological component in the education process that is strongly linked to academic success in university and the continuation of education (Howard et al., 2021). Academic motivation is the propelling force behind scholastic pursuits, and it is seen as an important component in determining whether or not students finish their school or college programs. The significance of academic motivation stems from the fact that motivated learners are more engaged in learning activities and achieving goals in academic contexts (Rafii et al., 2019). One of the most difficult

challenges confronting today's instructors is motivation. Low academic motivation among learners is a widespread problem in educational institutions, and it results in significant academic, social, and economic losses (Steinmayr et al., 2019). Academic motivation is critical in nursing school because offering effective nursing care necessitates students having adequate drive to learn a significant quantity of knowledge and skills and to continue their study. In nursing students, there has been evidence of a positive and substantial association between academic drive and professional dedication. Furthermore, motivated nursing students are less likely to experience academic melancholy and have greater self-esteem (Moghadari-Koosha, et al., 2020).

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Therefore, students and health care workers require immediate motivation in order to collaborate with individuals and other institutions, carry out health-related obligations, recognize difficulties, and design and execute initiatives. They must be sufficiently driven to learn and develop the abilities required for their career. Student nurses and fresh graduates, according to research typically experience a loss of motivation and significant amounts of anxiety during their training and employment. Research has also revealed that this category of students are more likely than individuals enrolled in other health sciences and clinical disciplines to feel depressed (Sakineh and Ali, 2020). Nurse turnover has been identified as a significant difficulty in managing global healthcare demands, and motivational elements have been proven to have the greatest impact (Efendi et al., 2019).

On another note, the right blend of face-to-face instruction and digital techniques and learning technology that offer structured and self-paced learning techniques and educational strategies has been termed as blended learning (BL). The employment of BL in nursing curriculum has expanded dramatically in current years (Jowsey et al., 2020). It has been demonstrated to improve academic achievement and offer educational significance in terms of student contentment, understanding, and leadership abilities. Halasa et al. (2020) describes BL as having a high level of learner independence. To apply and manage learning abilities, a larger emphasis on motivation is required. Students have more independence and control over their study using BL. As a result, it's thought to help with higher cognitive skills acquisition and cooperative learning. In BL settings, increasing student motivation through tactics like accomplishment motivation (attainment and utility value) has been linked to good learning (Pragholapati and Putri, 2021).

Numerous local and foreign research have linked offering advice, students' support, instructional techniques, professor attitude, discipline, environmental characteristics, and university education services to students' motivation to study (Brown et al., 2021). Nevertheless, these researches used a quantitative method and did not look into the viewpoints of students, particularly nursing students, on the elements of motivation for learning. The focus of this research was to discover characteristics that influence students' motivation to acquire their education from the perspective of nursing students taking part in blended learning. A qualitative method of identifying characteristics impacting an occurrence in the viewpoint of those who have encountered it is a vital step in establishing mitigation and preventative strategies (Bagnasco et al., 2020). The importance of motivation in students' education, the role of social, contextual, and individual elements in developing motivation, and the inability to detect these aspects from the students' perspective prompted this research (Choi et al., 2020). Furthermore, the reduced motivation for gaining knowledge amongst nursing students, the occurrence of depression among nursing students, the importance of motivation among practitioners in engaging with patients and the importance of qualitative research methods in boosting the comprehension of sentient encounters all prompted us to look into the variables affecting learner's motivation from the perspective of nursing students (Terry and Peck, 2020).

2. Methods

2.1. Research design

The research design adopted in this study is qualitative content analysis methodology, where the investigator was able to gain a deeper understanding of the students' perspectives of techniques that might increase their motivation to study through blended learning opportunities owing to this methodology. A common qualitative research approach is content analysis. Rather than being a single approach, content analysis is now used in three different ways: conventional, directed, and summative. All three techniques follow the naturalistic model in that they derive interpretation from the substance of text data. Coding techniques, sources of codes, and risks to trustworthiness are the key distinctions between the techniques. Coding classes are produced immediately from text data

in traditional content analysis, which is the method adopted in this research. The participants' perspectives were explored using a constructivist epistemology, taking into consideration that they are contextual, individual, and construed by experiencing the environment around them and how they respond to the occurrence (Schmitt, 2017).

2.2. Study subjects

A sample of 20 nursing students at one major university in Saudi Arabia has been recruited through a purposive sampling technique. The approached students were from the second, third, and fourth years of a 4-year academic nursing program. First-year students were excluded from the study as the researchers intended to target students who were going through both theoretical and clinical training. The researchers specifically selected the participants who are actively experiencing both didactic and clinical instruction, thus have registered for both clinical and theoretical courses and strictly studying through a blended learning model. The students who were eligible for this study should be enrolled in the nursing program without any previous nursing education or professional experience and should have a sound academic record with no ethical or behavioral violations. The inclusion criteria also state that the students were not enrolled in other programs in a different field of study or have recently transferred to the nursing program. The university that was approached offered a credit-hour nursing curriculum to students and merged both theoretical and clinical education through a concurrent system. The university adopted a blended learning approach upon the COVID-19 pandemic, where students attend both face-to-face and online classes as per a specific distribution. The students have been attending blended learning for the past two years. The authors approached the 20 nursing students through email to inquire about their qualifications and readiness to participate in the research. Those who were interested and qualified were invited to respond to the email within two weeks. The overall sample included 20 students ranging in age from 21 to 25 years old. The 20 students were the students who were able to take part in the study out of a total of 26 students enrolled in the approached university which yields a response rate of 76.92%. The students who did not take part in the study indicated that their reason not to participate is mainly personal and work demands that might hinder them from having the time to actively participate.

2.3. Interviews

The interviews were conducted in the duration extending from October to December 2021. The respondents were interviewed in semi-structured, face-to-face focus groups. In qualitative research, focus group discussions are widely used to record group processes as well as individual dialogues and stories (Guest et al., 2017). The respondents were separated into five groups. Focus group discussions with groups of friends improved interaction since the positive group dynamic helped to the disclosure of information (Patton, 2014). The interviews were conducted in a classroom at the approached nursing school. The room was properly lit, it had adequate space for the students to sit in a circle facing each other and the interviewer. The space had good acoustics so that they can all hear each other. The room was private; the door was closed so that they can feel comfortable participating. The students were invited to reflect on their whole four-year academic journey. They were requested to create a visual timeline of their studying route and to highlight the critical events, both bad and good, that had affected their education before the discussions. The participants' visualizations and the impact of the indicated occurrences on their motivation were discussed during the discussions. Observation notes were taken throughout and following the discussions to capture the investigators' observations of nonverbal indications and document the interviewers' reflections on the respondents' discussions, which helped with data processing. Each discussion lasted 45–70 min, and they were all conducted in a meeting room and audio-recorded with the respondents' permission. To guarantee that the issues were covered as thoroughly as possible, an interview guide with

open inquiries was employed. The interview guidelines contained the following questions: “How do you describe your motivation through your nursing education?”, “How do you describe the strategies that affect your motivation?”, “What are the conditions that positively or negatively would affect your motivation to learn?”.

2.4. Data analysis

The participants who took part in this study were informed that their talks would be recorded and used in the data analysis. The participants' verbatims were transcribed into English and analyzed employing thematic material inductively. The examination included recounting direct quotes from respondents, open text labeling, and categorization, resulting in the identification of new themes (Corwin and Clemens, 2020). The assessment was carried out to get at the emergent conclusions, ensuring that the researchers' own opinions on the subject were not communicated throughout the process. The extracts were allocated in brief and understandable words to illustrate the right interpretation of the information communicated by the participants, and those phrases were then combined, reorganized, and collated into qualitative themes that were thoroughly studied.

2.5. Trustworthiness and credibility

The researchers undertook various methods in accordance with prior research within the field of qualitative epistemological research in order to increase the study's trustworthiness and eliminate any bias (Anney, 2014). Both researchers employed the exact interview forms and asked the same questions among all interviewed students, ensuring that the emergent concepts were adequately addressed and that no specifics on any aspect of the results were ignored. Many excerpts were used to explain the research's results, giving the students a real voice. Experts in the field of qualitative research were also contacted, and the data was validated using a control technique. The researchers used member-checking in conjunction with peer-checking to guarantee integrity and reliability. After finalizing the themes, the researchers returned the findings to the respondents for verification (Speziale et al., 2011). External peer-checking was also frequently employed to confirm that the results were transferrable, with nurses with similar characteristics to those who had previously participated in the study being needed to accept the authenticity of the developing trends and their own experiences.

2.6. Ethical considerations

The permission of the Institutional Review Board was acquired (IRB number: ECO-R-102). All of the students supplied formal informed consent through email after receiving the invitation to participate. All participants were told that their involvement in the research project was completely optional and that opting out would have no negative consequences. The pupils were also told that their participation would be kept private and that any information revealed would be kept anonymous.

3. Results

3.1. Characteristics of the nurses

The sample of this study comprised of 20 student nurses, where 11 (55%) of them were female, while 9 (45%) were male. Their age ranged from 21 to 25 years old, where 6 (30%) were second-year students, 4 (20%) were third-year students and, 10 (50%) were fourth-year students.

3.2. Emergent themes

The qualitative analysis of the verbatim conveyed by the student nurses has yielded in the emergence of two main themes; “Extrinsic

Motivation” and “Intrinsic Motivation”. Under the first theme the following subthemes emerged; “University support through policy”, “Instructor skills and communication”, “Curricular organization”, “Quality clinical experiences”, and “Conducive blended environment”, while under “Intrinsic Motivation”, the thematic analysis resulted in, “Coping with blended environment” and “Control over learning process”.

Codes	Sub-categories	Categories	Themes
Quality online platform	Engaging material	Conducive blended environment	Extrinsic Motivation
User experience			
Learning environment			
Conducive learning			
Videos and tutorials			
University understands the pressure	Less strict policies	University support through policy	
Considerate policies			
Taking our circumstance into consideration			
More consideration	More time and consideration		
Give us more time			
Support students to deliver			
Advisor really open and understanding	Academic and psychological support		
I am understood and supported			
Guidance from faculty			
Feel safe and supported			
Some professors make you so interested	Instructor communication	Instructor skills and communication	
The professor knows how to deliver			
The instructor talks to us in a very professional manner			
Very easy to talk to	Instructor teaching methods		
Innovative strategies			
New engaging ways			
Interacting through discussions			
Secondary courses did not really encourage me	Relevant courses	Curricular organization	
Off-track courses			
Courses are very tough and dry			
Given in the morning	Schedule		
Scheduled in the afternoon			
Out of energy			
More recurrent sessions			
Different clinical experiences	Clinical experiences	Quality clinical experiences	
Clinical rotations			
The clinical setting puts me in the mindset			
Excited about training			

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Codes	Sub-categories	Categories	Themes
Have to deal with the changes	Adapting to new model	Coping with Blended Environment	Intrinsic Motivation
Find new ways to study in blended mode			
New strategies to adapt to new techniques	Learning control	Control over learning process	
New learning tools			
Control the pace of your learning			
Decide when to start and finish			
More responsible			

3.3. Extrinsic Motivation

The first major theme that was prevalent upon thematic analysis related to all the extrinsic factors that have motivated the students to learn in the blended learning environment. This theme showed that the nursing students who participated in this study found that university support through more considerate policies and understanding of the shift in the learning environment, in addition to the instructors' skills in teaching and communicating through online portals, the curricular plan, and how classes are dispersed across the day, as well as the participation in quality clinical experiences while receiving blended learning made them feel more motivated towards achieving and succeeding in the academic journey.

3.4. Conducive blended environment

The students' preparedness and inclination to learn were clearly impacted by the organization of the BL atmosphere. The environmental framework was perceived to be enhanced and maintained by high-quality BL contexts and online educational management technologies, engaging online and face-to-face instructional approaches, exploratory learning methods, and practical educational tasks. Resource management and soliciting assistance from instructors and others, particularly peers, have been found to be important in promoting learning and reducing turnover. For instance, one of the students proclaimed, "...the quality of the online platform and the easiness of user experience really helped me be more engaged and motivated to learn through online and then blended experiences..." (S7). Another student also shared, "... being exposed to multiple resources through blended learning really makes it a rich experience and gets me excited about learning...having videos, tutorials, clinical, online meetings, online assignments, face to face discussions... this is a blended environment where I can benefit from a lot..." (S19). A further account was shared, "... having a well-designed and organized structured environment for blended learning... as in easy access to material and assessments... easy access and functionality of course work and richness of methods adopted all helps you be motivated and achieve more..." (S12).

3.5. University support through policy

Considering that their educational environment has drastically changed in the past two years, especially with the fast induction of online instruction with the COVID-19 pandemic spread and then moving to blended learning, the students expressed the need for more flexible policies as part of supporting them through adapting to the new circumstances. The students indicated that university support through less strict policies on attendance, academic and financial deadlines would help them mediate their psychological strain and thus feel more driven and capable to focus more on their learning. For instance, one of the

students said, "...to feel that the university understands the pressure you are under and to translate that into considerate policies, such as extending deadlines, installing payments and personalizing the academic process helps me feel at ease and makes me encouraged and motivated to give extra effort into my studying..." (S3). Another student also had a similar account, "... taking our circumstance and the new ways of learning and studying into consideration makes me feel like I am under less pressure and makes me more functional and productive..." (S10). One of the students mentioned giving more time for studying and longer duration for exams as they are studying through the blended system and that would take the extra time to study and rely on internet connection and web systems that sometimes can be unstable, "... the university should give us more time to study and more time to solve online assignments and exams as we are asked to do a lot of assignments at the same time and the exams are demanding to study for and to take online as sometimes the web system tends to lag and we would lose the time on our hands to solve the exams... more consideration of that would really push me to give more and study more..." (S9). Some students also mentioned the importance of formal academic and psychological support from university advisors, as that would help them feel secure and work according to plan. For example, one student said, "... having my advisor really open and understanding, listening to my problems and helping me develop a plan of action really makes the difference in my motivation for me as I feel I am understood and supported and can actually function..." (S1).

3.6. Instructor skills and communication

The third sub-theme that was emphasized by the student nurses during the interviews was the significance of the instruction skills, techniques used by the professors, and how they regularly communicated with them. The students stressed that professors who were using innovative and interactive teaching methodologies, using various student-based techniques increased their motivation. For instance, one of the students proclaimed, "... some professors make you so interested in the subject and get you so involved in the lecture... it makes me so excited. Their classes makes me want to do well on their exams as I am very happy to study and I have grasped the material by heart because of their excellent ways..." (S12). Another student also had a similar experience to share, "... team-based learning... case-based learning... concept mapping... using videos... using games and simulation... all of this helped us with getting the material... interacting with the professor through discussions... these were important factors to motivate us..." (S19). Other students also highlighted the communication skills that professors used to make them excited and ready to learn. For instance, one student said, "...certain professors are impossible to deal with and others are just so open and so understanding and very easy to talk to.... It really makes a huge difference whether I would be motivated to study their subject or not..." (S5). A similar account was shared, "... it is all about the way we interacted with the professor and how they perceived us as students... did they use their ego and talk to us as if we do not understand or they were humble and discussed with us and talked with us as if we are grown-ups and befriended us... some professors really makes you so excited to learn whether online or face to face..." (S14).

3.7. Curricular organization

Another sub-theme that was highly prevalent through the discussion related to the courses of the curriculum and how they were organized and how relevant were these courses to their practice. The participating nursing students expressed that courses that are more relevant to their career definitely were more motivating, a convenient schedule where courses were mainly situated mid-day and shorter sessions were more exciting and more encouraging to work on. For instance, one of the participants shared, "...secondary courses like biochemistry and microbiology did not really encourage me a lot to study as they feel quite off-track to me at many instances... I mean I am not going to brew soap to be patient in the hospital you know that is not my practice... and the courses are very tough and dry which really does not get me up and studying ..." (S3). Another student

also said, "... some courses really do not have anything to do with nursing and in blended or online learning they are even harder to study and feel even more bizarre to me... I am more motivated to study pure nursing courses rather than general sciences..." (S20). Students also voiced their preference of morning and reasonably long classes rather than afternoon and very lengthy classes with tedious subjects. For instance, a student proclaimed, "... hard material really have to be given in the morning and more simple and easy to grasp material have to be scheduled in the afternoon... when it is the other way around sometimes...rather of most the times I find myself compelled not to attend and even less interested to study as I would be out of energy..." (S15). Another similar account was shared, "...courses with advanced concepts have to be scheduled into shorter and more recurrent sessions... otherwise I would definitely not be able to grasp anything and would be less. Motivated to even touch on the topics honestly... especially through online classes..." (S11).

3.8. Quality clinical experiences

The final sub-theme that was prevalent in the group discussions with the participating students was relating to the quality of clinical education that they received in parallel with the blended theoretical learning. The students voiced how important was their exposure to diverse clinical experiences that helped them link theory to practice, especially while engaging in blended learning activities. According to them, they felt that their clinical training made them feel extremely motivated to go back to class and discuss their experiences with peers and colleagues and link the concept they learn to the cases they see. For instance, one of the students said, "... having access to different clinical experiences while receiving lectures in parallel really motivated me to study more and achieve more to become a competent nurse... I mean this is what I am going to be when I graduate and when I go to clinics it gives me a great push to study harder and succeed so that I can be an official registered nurse..." (S4). Another student also shared, "... caring for patients in my clinical rotations always gets me up and going ... boosts my energy and makes me feel that all the studying and the stress is worth it..." (S18). A similar account was also shared, "... getting to practice my skills and work on my competencies in the clinical setting puts me in the mindset that I will be a nurse soon and that I want to be as qualified as possible... and when I get feedback from my patients and from my instructors it gives me an extra boost to be better and study more..." (S7).

3.9. Intrinsic Motivation

The second major theme that resulted from thematic analysis related to the intrinsic factors that have motivated the students to learn in a blended environment. The results showed that the students felt that they are in control of their learning at many instances throughout the blended learning experience, and this helped them develop a sense of responsibility and drive towards achievement. In addition, the results showed that the students found themselves required to develop coping strategies and techniques to get used to the new model of learning so that they can feel motivated to study and face new challenges while striving for success.

3.10. Coping with blended environment

The first subtheme that emerged from the thematic analysis showed that the students intrinsically felt that they are driven to adjust to the circumstances to feel balanced and ready to study. The need for such coping yielded in higher motivation to learn in the blended environment as once they got used to it they felt more encouraged to navigate and study. For instance, one of the students said, "...it took me some time to get used to learning in blended mode as I was used to conventional learning... I had to cope by researching more about digital tools and up my computer skills...once I felt comfortable navigating through the various tools... I felt much more confident and much more encouraged to keep learning in blended environments as it provides rich experience..." (S6). Another student also proclaimed, "...once I adapted to the new learning tools I became more

familiar with the environment which also made me motivated to use these tools to heighten my knowledge and increase my grades..." (S13).

3.11. Control over learning process

The final subtheme that emerged from the interviews related to the innate feeling that the students have acquired through blended learning which potentiated them to enhance their learning. The results showed that students intrinsically perceived more control over the educational process and had more options and choices to learn and benefit from, which posed a sense of responsibility for academic achievement and motivated them to exert more effort. For instance, one of the students said, "...blended learning gave me more options for learning tools and resources...this made me feel I had more control over my learning ...more options to choose from...so I felt more responsible for my grades and my learning as I am the one making the choices..." (S1). Another student also said, "... I felt more motivated in blended learning rather than strictly online learning as I had more choice, more control...this produced some positive stress which encouraged me to do better..." (S20).

4. Discussion

This study is one of the first studies to tackle motivation among Saudi nursing students in a qualitative exploration of their own perspectives, especially after the spread of the pandemic and the shift to new teaching methodologies namely blended learning as an obligatory policy to safeguard the quality of education and abide by COVID-19 regulations and preventive measures. The findings showed that students indicated that the support from the university in alleviating their challenges through academic and financial policies was crucial in enhancing their motivation to learn in addition to the psychological and scholar support from their advisors and professors. This is consistent with Allahqoli et al. (2019) which have found that university policy that eased the educational process was a key factor in mediating the motivation of nursing students. This is also supported by Tharani et al. (2017) which have also conducted a qualitative analysis on the motivation of nursing students and have found that the rules and regulations set by the university has had significant impact on the motivation of the students, where more considerate policies has shown to enhance the motivation and academic achievement. A professor's communication and instructional abilities affect whether or not he or she is effective in his or her profession. These abilities are crucial in motivating students. Jowsey et al. (2020) in line with the results of this research underlined the need of developing academics' communication skills and suggested hosting seminars in this field. Academic motivation among nursing students may be improved by encouraging professors to enhance their teaching quality and empowering them. Teachers may motivate learners, according to Croy et al. (2020), by improving class organization and employing appropriate teaching approaches. The students in this study also indicated that the curriculum itself and the way it is scheduled and organized has affected their motivation as well. Some academics have emphasized the direct impact of the curriculum on students' academic motivation. Important curriculum preparation, per the respondents, is an adequate aspect in motivating learners according to Porter et al. (2020). Goh et al. (2021) has often said that lack of curriculum development is one of the causes that contribute to pupils' lack of enthusiasm. Furthermore, the intense load of coursework was one cause for nursing students dropping out during the early stages of the program. Given these factors, it is critical for curriculum developers and instructors to consider students' learning preferences and skills while designing and teaching. Furthermore, students in this study have emphasized the importance of quality clinical experiences in enhancing their motivation, as it improved their vision of nursing and made them excited about graduating. Developing a good mindset and enthusiasm in nursing, per the respondents, was successful in academic motivation of students. Many researchers have observed a link among nursing students' academic drive and their enthusiasm in

their field of study. Demotivating influences among nursing students include negative ideas about the profession, which are often founded in an inadequate knowledge, as well as the influence of colleagues and family who are unaware of the nursing field (Godsey et al., 2020). Because nursing is a practical vocation, clinical experience is an integral aspect of nursing practice and plays a significant role in the formation of key expertise among learners. Improvements in clinical and instructional quality, per the respondents, had an impact on nursing students' motivation (Soler et al., 2021). Students can be motivated by enhancing the quality of clinical instruction by selecting skilled trainers with strong interpersonal skills, according to Donely and Norman (2021). Another helpful component, according to the respondents, was improving interactions between students and employees, particularly nurses. Cooper et al. (2020) consistently found that the quality of interaction and the manner nurses engage with students were useful in nursing students' academic motivation.

4.1. Limitations

The key drawback of this research may have been the inability to access students from other universities thus limiting the results to the academic institution at hand. In addition, the students who participated in this study were strictly Saudi, which also hinders the applicability of these findings to students from other nationalities and cultural backgrounds. Moreover, despite the sample being considerably representative of the students at the approached university considering the number of enrolled nursing students, this number is notably small for other universities, thus replication of this study among more students at more diverse universities and contexts would help in the transferability of data.

5. Conclusion

Nursing students have a variety of requirements in order to maintain and develop their motivation to study. Support from their family, institution, and instructors, as well as aiming for greater student achievement, not only improves students' mental wellbeing but also improves their vocational and social competence. The family, the university, and the students all play important roles in motivating students to learn, and the mentality of society, authority, and politicians toward health is particularly important. This study however emphasized the main role of the academic institution, its staff, and its programs from the perspective of the students in enhancing motivation and academic achievement, especially through blended learning. Academic motivation tactics are identified among instructors, students, personnel, and clinical experiences. The findings of this study can be utilized to construct academic motivation enhancement initiatives for nursing students by policymakers, administrators, and instructors of nursing.

Declarations

Author contribution statement

Dalyal Nader Al-Osaimi; Mirna Fawaz: Conceived and designed the experiments; Performed the experiments; Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data; Wrote the paper.

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Data availability statement

Data will be made available on request.

Declaration of interests statement

The authors declare no conflict of interest.

Additional information

No additional information is available for this paper.

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