





ENGAGEMENT AND ACADEMIC PERFORMANCE IN UNIVERSITY STUDENTS: EXPERIENCE IN A HEALTH MANAGEMENT COURSE

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ABSTRACT

Objective: The objective of this study is to analyze the engagement and academic performance of university students enrolled in the Health Management course during the year 2023. **Material and methods:** This research employed a correlational non-experimental design. The study population consisted of students from the Professional School of Obstetrics who were enrolled in the Health Management course. Intentional non-probabilistic sampling was utilized. Data collection was conducted using the "Student Engagement Questionnaire," which comprises 35 questions across five dimensions, with responses measured using a Likert scale. The questionnaire demonstrates a reliability coefficient ranging between 0.70 and 0.93. Academic performance was assessed based on the final grade average using the vigesimal scale. Data analysis was performed using SPSS version 22 and Spearman's Rho test. **Results:** The final sample included 64 students with an average age of 22.7 years. The average score for the opportunity to participate in class was 4.22. The ability to provide information and generate different problem-solving ideas received a score of 4.03, while the teacher's assistance in answering questions was rated at 4.08. The dimensions of teacher-student relations and teaching received average scores of 3.85 and 3.6, respectively. In terms of academic performance, 35.94% achieved a score of 14. The coefficient of determination between engagement and academic performance did not show a significant relationship ($p=0.02$). **Conclusion:** Students demonstrate higher engagement levels in the dimensions of teamwork and teacher-student relationships. However, engagement does not exert a significant influence on students' academic performance.

Key words: Students, academic performance, health management (Source: MeSH NLM)



INTRODUCTION

The health system in Peru is characterized by its fragmentation and segmentation in terms of structure and organization, which hinders the State's ability to provide quality health care to the population. This fragmentation is reflected in various sources of financing, various insurance schemes with different coverages, and multiple channels for the provision of health services (1). The financing of the health system is complex, and the provision of services is carried out through different insurance schemes, among which the Comprehensive Health Insurance stands out, financed through general taxes and aimed mainly at people in poverty to provide free assistance (2,3).

On the other hand, regional governments' plans for the health sector continue to focus on the construction of hospital infrastructure as a solution to health problems. However, the history of investment in health in recent years reveals a set of actions that have failed in the country.

For several years, the healthcare system has aimed to transform itself, prioritizing patient needs, safety, quality, and properly organized care. This transformation seeks to solve complex problems in healthcare by integrating innovation and values to deliver adequate health care (4,5).

Various solutions have been proposed, including the updating of curricula in universities that train health professionals. These plans integrate courses dedicated to teaching administration, management, and management for health services through various pedagogical approaches and teaching-learning strategies with the purpose of training professionals to lead health systems efficiently in the coming years. However, the teaching methods used are still traditional and not very participatory, limiting the ability of students to become actively involved in their learning process through collaborative work, active participation, case development, presentations and demonstration workshops (5,6).

The majority of students' interest in clinical and care courses persists, while management and administration courses are perceived as less relevant to their professional development. The aim is to effectively integrate management skills

training, which requires modifying pedagogical approaches and course content. Continuing with the traditional lecture-debate teaching method might teach students the skills they need to acquire, but it wouldn't give them the opportunity to develop them. The use of traditional approaches gives the erroneous impression that managerial, administrative, and managerial skills are simply techniques to be memorized and applied, when necessary, rather than skills to be actively developed (7-9).

During the development of a class, the teacher usually plans the best strategy to engage the students with the content. This commitment refers to the degree of a student's participation in a learning activity (10). Student engagement is an important indicator of student learning, performance, and academic progress, so it is crucial to assess it consistently in the classroom (11).

In recent years, the concept of student engagement has emerged, which has become increasingly relevant in higher education as an indicator of success and quality for both students and universities. This concept has been described in the literature for more than seventy years with the meaning of the construct evolving over time (12,13).

Student engagement is a key predictor of academic performance, grades, and the dropout rate, making it a critical element for their future careers. This commitment is defined as the student's psychological investment and effort directed towards learning, understanding, or mastering the knowledge and skills that are intended to be promoted in academic work. Although the importance of engagement for learning is recognized, very little research has been done on how to foster it in management courses (14).

Although there has been a lot of research focused on engagement from a psychological perspective, little research has been done on student engagement in management courses. In addition, there is a lack of focus on engagement in the classrooms of health management and administration courses, as well as gaps in the literature in terms of interventions and methodological aspects related to student

engagement and academic performance in the teaching of courses in health management (15).

The objective of this research is to analyze the engagement and academic performance of university students in the health management course during the year 2023.

Data were collected using the Student Engagement Questionnaire (SEQ) developed by Bernardo Gargallo et al. (16). This questionnaire consists of 35 questions distributed in 5 dimensions: intellectual abilities, teamwork, relationships between students, teacher-student relationship, and teaching.

Table 1. Student engagement results according to the average value of the dimensions of intellectual abilities and teamwork

Indicators – questions	X	OF
Intellectual Abilities		
I have developed my ability to judge alternative points of view	3,77	0,73
I've become more willing to consider different points of view	3,98	0,68
I have been encouraged to use my own initiative	3,91	0,83
I've been challenged to come up with new ideas	3,92	0,63
I feel like I can take responsibility for my own learning	3,92	0,74
I have gained greater confidence in my ability to continue learning	3,84	0,72
In this subject I have learned to be more adaptable	3,66	0,80
I have improved my ability to use knowledge to solve study problems	4,00	0,56
I manage to complete the course requirements without feeling excessively stressed	3,48	0,91
The amount of work we are asked to do is quite reasonable	3,50	0,91
Teamwork		
I have developed my ability to communicate effectively with others	3,81	0,69
In this area I have improved my ability to convey ideas	3,84	0,70
I have learned to be an effective member for group work	3,91	0,66
I feel safe using computer applications when needed	3,89	0,67
I've learned more about using computers to present information	3,66	0,88
Students are given the opportunity to participate in classes	4,22	0,79
I have a strong sense of belonging to my class group	3,67	0,76

MATERIAL AND METHODS

A non-experimental, correlational, cross-sectional research was carried out. The population consisted of 73 students from the Professional School of Obstetrics enrolled in the health management course at a public university in Lima. Students who agreed to participate voluntarily and with 70% attendance were included. A purposive non-probabilistic sampling was used because the students were selected because they were enrolled in the health management course during the year 2023.

Responses were rated on a Likert scale from 1 to 5, with 1 indicating total disagreement and 5 indicating total agreement. The questionnaire has a reliability coefficient between 0.70 and 0.93; as well as values of 0.90 and 0.95 for the comparative fit index and goodness-of-fit index, respectively.

The course took place from August to December 2023 and included activities such as the socialization of required competencies, formation of work teams, facilitation of reading materials and videos, as well as the preparation of summaries and presentations by the students.

Academic performance was evaluated by means of the final grade point average according to a

vigesimal scale, which includes knowledge grades, application activities, attitudinal assessment, and final projects. Ethical considerations and good practices in the research were followed to ensure the integrity and confidentiality of the participants. Data analysis was performed with SPSS version 22, using means, proportions, trends, and Spearman's Rho correlation test.

RESULTS

The final sample consisted of 64 students who met the inclusion criteria, while nine students were excluded due to their withdrawal from the course or their refusal to participate. The mean age was 22.7 ± 1.43 years, with 95.3% (61) being women. In terms of intellectual abilities, the indicator related to the improvement in the ability to use knowledge to solve problems obtained an average value of 4 ± 0.56 , while the indicator that evaluates the willingness to consider different points of view was 3.98 ± 0.68 . Regarding teamwork, the indicator on the opportunity to participate in class obtained an average value of 4.22 ± 0.79 , and the indicator of having learned to be an effective member of work teams was 3.91 ± 0.66 (Table 1).

Regarding the relationships between students, the average value for the indicator of willingness to change points of view and accept new ideas was 3.98 ± 0.68 , and for the indicator of ability to contribute information and different ideas to solve problems was 4.03 ± 0.64 .

In the teacher-student dimension, the outstanding findings include the assessment that the teacher helps when asked, with a score of 4.08 ± 0.8 , and that the teacher strives to help understand the course material, with a score of 3.89 ± 0.98 . In terms of teaching, the indicator of developing good analytical skills received an average score of 3.94 ± 0.85 , while the indicator that evaluates whether the design of the course helps students understand the content obtained a score of 3.20 ± 1.01 (Table 2).

The consolidation of the results by dimensions showed that teamwork had an average value of 3.86 ± 0.44 , teacher-student ratios had a value of 3.85 ± 0.7 , and teaching had an average value of 3.6 ± 0.68 . The overall mean value was 3.79 ± 0.46 (Figure 1).

Table 2. Student engagement results according to the average value of the dimensions of relationships between students, teacher-student relationships and teaching

Indicators – questions	X	OF
Student-to-student relationships		
I've become more willing to change my views and embrace new ideas	3,98	0,68
I am able to provide information and different ideas to solve problems	4,03	0,64
I feel confident in dealing with a wide range of people	3,81	0,71
I often work with my classmates	3,86	0,73
I have frequently discussed course ideas with other students outside of class	3,53	0,93
Teacher-student relations		
The teacher uses a variety of teaching methods	3,61	1,00
The teacher strives to help you understand the course material	3,89	0,98
When I have difficulties with the learning materials, the explanations given by the teacher are helpful	3,78	0,92
There is enough <i>feedback</i> on activities and tasks to make sure we learn of the work we do	3,84	0,76
Communication between teacher and students is good	3,88	0,92
The teacher helps when asked	4,08	0,80
Teaching		
Course design helps students understand your content	3,20	1,01
To do well when being evaluated in this area you need to have good analytical skills	3,94	0,85
The assessment assesses our understanding of the key concepts in this subject	3,56	0,96
Discussing the course material with other students outside of class has helped me achieve a better understanding of the subject matter	3,63	0,88
I can see how the subjects fit together to make a coherent program of study for my major	3,75	0,87
The curriculum of my major is well integrated	3,50	0,96

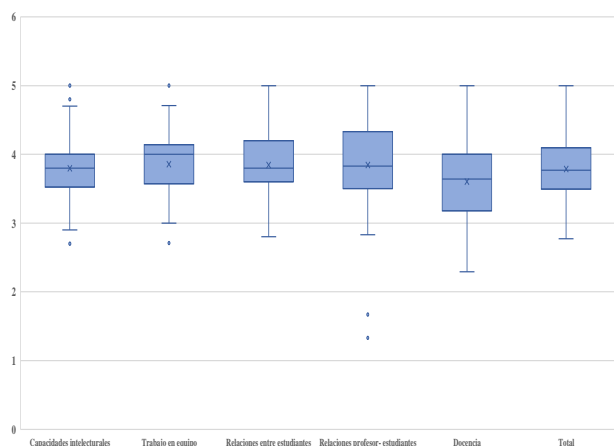


Figure 1. Student Engagement Results by Dimensions

Regarding absences during the course, 39.06% of students attended all classes, 25% had one absence, 17.18% two absences, 12.5% three absences, while the average non-attendance was 1.32 during the course. No significant relationship was found between absences and student engagement ($p > 0.05$).

In relation to academic performance, assessed by the final grade of the course on a vigesimal scale, 9.38% of the students obtained a performance corresponding to 12. 20.31% achieved a return of 13, while 35.94% achieved a return of 14. 26.56% had a return of 15 and 7.81% had a return corresponding to 16. The average academic performance was 14.03, and no values higher than 16 were observed.

The correlation analysis between engagement indicators and academic performance showed a significant relationship with the following indicators: development of the ability to communicate effectively with others ($p = 0.02$), feeling safe in dealing with a wide range of people ($p = 0.01$) and adequate integration of the study program ($p = 0.03$). It is important to note that the coefficient of determination between engagement and academic performance did not show a significant relationship ($p = 0.02$). However, a concentration of average engagement values between 3.5 and 4 was observed, and students with academic performance between 13 and 15 (**Figure 2**).

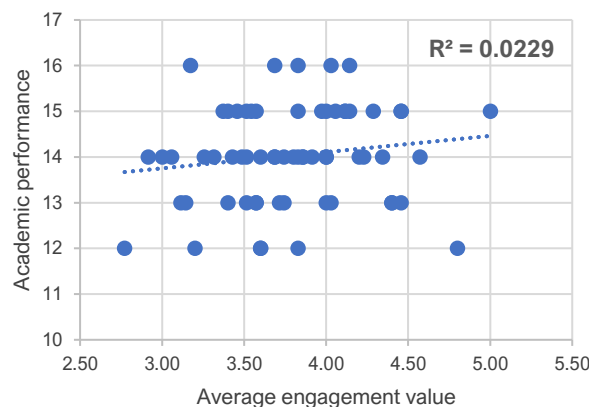


Figure 2. Correlation Analysis Between Student Engagement and Academic Performance

DISCUSSION

The literature on education provides a conceptual framework that is useful for understanding student engagement in health sciences educational settings within a multidimensional context. This approach places emphasis on the learner and how he or she experiences his or her participation in the learning process (17). It is recognized that engagement is not simply an individual trait, but rather a state influenced by the context and interaction between the student and his/her educational environment, constituting a dynamic process that is affected by external factors (18).

The results of this study confirm that the use of prior knowledge to solve problems can improve student engagement, especially when social networks are used as collaborative learning tools, in line with the principle of connectivism, which is based on the exchange of knowledge between students through a network of connections (19). In addition, O'Connor et al. highlight the importance of improving communication, interaction, and social media use to promote greater engagement and an optimal learning experience (20). Therefore, it is critical for midwifery students to recognize the benefits of integrating prior knowledge into their ethical practice and as future professionals in terms of communication and information sharing.

The design of courses in the field of health management that encourage the active participation of students and their commitment has

shown favorable results, evidencing that active learning is essential to improve student engagement. Previous research has shown that any teaching method that promotes student active participation can increase student engagement and, consequently, academic performance (21, 22). Therefore, it is recommended that teachers use engaging and modern technology-based teaching methods to improve student engagement. However, more research is still needed on how to promote engagement in the teaching of health management, administration, and management courses.

In addition, prior knowledge and information analysis have been shown to be important determinants for problem solving, as noted by Whitelock-Wainwright et al., who indicate that greater prior information analysis influences problem solving during classroom activities, as they regularly change strategies (23). The findings seem to confirm that students with more experience spend more time analyzing information. Therefore, it is reasonable to assume that the amount of knowledge and analysis of prior information that a student performs will positively influence his or her ability to solve problems.

Certainly, the teacher should take a mediating role during learning sessions, encouraging active participation and answering students' questions, as described by the findings of this research. This model is gaining popularity as a means of fostering engagement, known as active participation and flipped learning (24). This teaching method, popularized by Harvard professor Eric Mazur, seeks to transform traditional activities into activities focused on reviewing and analyzing information. In theory, this allows the teacher to take on the role of facilitator or coach rather than simply providing information (25).

Importantly, most of the educational activities took place in the classroom and had little transfer to management settings. In addition, the results indicate that engagement does not significantly influence academic performance. This can be explained in part because much of the teaching in obstetrics occurs in clinical settings, where educational activities may not be as relevant to fostering student engagement. The results of similar studies do not support the role of these activities in

fostering student engagement in management education (26). Research has shown that health science students have a higher motivation to learn courses from the clinical field, therefore, they are more engaged in these activities. However, more research is needed on student engagement in the field of health management and administration, as there is currently a lack of studies in this area (27). Teachers need to improve student engagement using innovative strategies to increase students' knowledge and skills and improve the quality of health services in the coming years.

Regarding the limitations of the study, it is important to note that it was carried out with a small sample of students who participated voluntarily, which could limit the generalizability of the results to all students of the Professional School of Obstetrics. In addition, the instrument used to measure engagement was a self-assessment questionnaire, which can introduce subjective biases into the results. Broader research involving students from a variety of professional health science schools is recommended.

CONCLUSIONS

Students expressed a positive assessment of the opportunity to participate in the classes, although they expressed a less favorable perception regarding the design of the course to understand the contents. A greater commitment on the part of the students was observed in the dimensions of teamwork and the teacher-student relationship. In addition, it was evidenced that engagement does not have an impact on students' academic performance.

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Contributions:

Hugo Gutiérrez Crespo: Conceptualization, research, project management, writing, review, editing and visualization. **Juan P. Matzumura Kasano:** Validation, data curation, formal analysis, research, methodology, original draft writing. **Raúl A. Ruiz-Arias:** Data analysis and interpretation. **Julio A. Gutierrez-Gutierrez:** Data curation, research.