

Creative Learning Environment and its Relation with Nursing Student's Engagement, Academic Performance and Self-Concept

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Abstract

Background: Creative learning environment resulted in improving students' capacity to learn and retain new information, which has a good impact on engagement, academic achievement, and self-esteem. **Aim:** this study aimed to assess creative learning environment and its relation with nursing student engagement, academic performance and self-concept. **Design:** A descriptive correlational design was utilized with a sample of (982) nursing students at Faculty of Nursing Beni-Suef University. **Tools of data collection:** Four tools were used for data collection namely; Creative Learning Environment Questionnaire, Nursing Students' Engagement Questionnaire, Academic Performance Questionnaire and Academic Self –Concept Scale. **Results:** about two thirds (66.8%) of nursing student reported that creative learning environment was moderate, majority (73.3 %) of nursing student had moderate level of engagement, slightly less than two thirds (63.0%) of studied nursing students had average academic performance level, and three fifths (60.4%) of studied nursing student had positive self-concept. **Conclusion:** there was highly statistically significant correlation among creative learning environment and nursing student academic performance, engagement and self-concept. **Recommendations:** Provide more cohesive learning environments that give students the chance to engage in both academic activities and peer interaction.

Keywords: *Academic Performance, Creative Learning Environment, Engagement & Nursing Student & Self-Concept*

Introduction

Technology has created exciting new stimuli and learning situations that arise from the interaction between pedagogy and technology (Sasson, et al., 2021). In fact, there have been recent efforts to integrate a number of digital technologies to establish relevant learning environments that are centered on the development of learners. These skills include the growth of originality and creativity, analytical and problem-solving abilities, as well as communication and teamwork abilities. This setting makes it possible to achieve desired academic and educational goals and significantly alter the teaching-learning process (Cavadas & Correia, 2022).

The learning environment and the student's learning preferences both have an effect on how well students learn. The student's approach to learning, academic performance, level of motivation, level of self-esteem, and degree of learning effectiveness are all impacted by the learning environment. Additionally, evaluating the learning environment is crucial for delivering high-quality education. (Borba, et al., 2020).

There are several definitions of the term learning environment, which refers to the sociological, psychological, and pedagogical conditions of the teaching-learning process and influences students'

attitudes and academic performance. It can be viewed as the climate, tone, and atmosphere of the classroom that affects both student and instructor behavior and supports constructivist teaching-learning processes. The activities in a creative and constructivist learning environment reflect the complexity of the actual world, invite the development of content and context-dependent knowledge, and promote critical thinking. (Lee, & Lee, 2022).

Creative learning promotes improved long-term retention of course material in students. It is also characterized as appreciating ideas, which means that students are strongly supported in realizing their creative potential because they are not only permitted but actively encouraged to take reasonable risks and make mistakes during the learning process (Mahat et al., 2018, Fan & Cai, 2022). Students are also likely to keep expanding their knowledge and skills in a creative learning environment, which greatly encourages the development of their creative responses. Students experience greater involvement, success, and positive self-concept as a result (Valtonen et al., 2020).

According to Nagar and Steinberger, (2017) There are 11 criteria of a creative learning environment in terms of physical design, student cohesiveness, teacher support, involvement, task orientation,

investigation, cooperation, equity, differentiation, computer usage and young adult ethos. The importance of physical space in educational settings has been emphasized in an increasing number of research (**Hwang & Timothy, 2021**). The physical learning design plays an important role in the development of the students' capabilities and preferences and in shaping their personality (**Abu Hussain, 2022**).

The major characteristics included of physical learning environment are flexible space utilization, freedom of mobility within the space, use of different areas inside the classroom, and provision of a large selection of relevant materials, tools, and other resources. Additionally, it influences students' academic achievement, feelings, contentment, and learning behaviors. Poor physical conditions may negatively affect students' emotional states, causing them to feel uncomfortable or less motivated to study. (**Limniou, & Sedghi, 2022**).

The term student cohesiveness relates to the interpersonal aspect of a group that characterises and displays feelings of belonging towards its members as well as how each member interacts with the group as a whole while acting in collaboration and mutual commitment. Teacher support is the extent to which a teacher shows interest in the students, is warm, friendly and helpful. Such teacher-student interactions have an impact on instructional strategies, peer learning, and student participation in the session, which helps to create a supportive and favorable learning environment (**Liu & Lu, 2022**). Student involvement is characterized by being actively engaged in class rather than just listening passively. Students' participation in learning activities provides them autonomy and responsibility in how they manage their education, supports the development of social skills, and enhances the climate in the classroom and at school. Task orientation highlights the student's motivational and emotional characteristics within the classroom. It relates to the student's ability to show interest in the learning task and the willingness to make an ongoing effort to complete it successfully (**Maunulam et al., 2023**).

Investigation is a number of abilities, including questioning and problem-solving. Investigative procedures are good for students' cognitive, motivational, and social development since they allow them to learn while working together, with the teacher primarily providing learning opportunities. Cooperation characteristic describes cooperation between members of a group in the learning process in order to take full advantage of the learning abilities of each member. Additionally, it promotes knowledge acquisition and comprehension as well as social

interactions among students (**Richardson & Mishra, 2018**).

Equity is the fair treatment of students by a teacher, emphasizing equality without bias or discrimination for one student over another. Differentiation refers to the teacher treating each student differently to meet their unique needs. Computer usage is referred to the ability to utilize a computer for research, creation, and communication in order to collaborate and share at work, at home, in the workplace, and within the community. Young adult ethos is the teacher's perception of the student as a responsible young adult and recognize the student's ability to think critically, evaluate alternatives, foresee how their decisions will turn out, and understand the consequences of their choices (**Torbergson, et al., 2023**).

The participation of students in pertinent academic learning activities is one of the key factors influencing student achievement. It has always been difficult for nurse educators to determine the best teaching techniques to sustain and improve the engagement of nursing students in academic and clinical settings. Consequently, a collection of tactics is required to uphold and improve nursing students' academic engagement (**Al-Osaimi & Fawaz, 2022**).

Student engagement is one of the key concepts utilized to understand student behavior towards the teaching-learning process. Engagement is a key element of actions when a teacher wants to foster an atmosphere that encourages better levels of students' learning. Student engagement refers to a meaningful engagement throughout the learning environment (**Bond & Bergdahl, 2022**).

According to **Ghasemi, et al., (2020)** student engagement is the willingness, need, desire, and compulsion of students to participate in and succeed in the learning process. It can also be defined as the degree of interest shown by students, their interactions with other students, and their desire to learn more about the subjects. Student engagement is influenced by a number of emotional elements, including attitude, personality, motivation, effort, and self-assurance (**Bond, Bergdahl, 2022**).

There are three dimensions to a student's engagement: the first is the behavioral engagement, in which the student follows behavioral norms including attendance and participation. Students that exhibit negative or disruptive behavior are frequently absent from class. The second is emotional involvement, which causes students to have affective reactions including enjoyment, interest, and a sense of belonging. Third, the cognitive engagement, in which students would participate in their learning, seek to go beyond the requirements and enjoy challenges (**Dimitriadou et al. 2021, Fredricks, et al., 2018**).

Cognitive engagement is the positive and negative interactions with teachers, students, academics, and the school which establishes links with a place and affects a person's willingness to accomplish a task. Cognitive engagement is based on the idea of involvement and includes consideration and the willingness to put out the work required to understand difficult concepts and learn new abilities (Khaira, 2016).

Academic performance is an important component of education, especially for nursing students. It alludes to the academic grades they have obtained after following different educational instructions in a classroom setting. A good grade depends on how well students manage their studies, how they handle various assignments given by teachers during a program course with a set time, and how well they comprehend how their course will affect their academic success (Mao, et al, 2022 & El-awady, et al., 2022). Moreover, academic performance is a complex student behavior in which they attempt to retain information and communicate newly acquired knowledge orally or in writing. Additionally, academic performance is a product of education and measures how well a student, instructor, or institution has met its educational objectives. (Ma & Wei, 2022).

According to the view of Wijaya, et al., (2023) who stated that the academic performance of students is influenced by a variety of elements, including those relating to their education, personal conditions, their study habits, their homes, and their teachers. These factors have a highly effective on students' performance. Depending on a person's personality and culture, these factors have varying degrees of influence. The school related aspect is included unqualified and inadequately prepared teachers, limited infrastructure, and outdated classrooms (March-Amengual et al, 2022).

Academic self-concept is among the most important factors in the academic environment because of its impact on learning and cognitive function. It significantly influences student expectations, academic performance, and learning processes. (García, et al., 2022). Additionally, it helps in the development of different cognitive and self-control skills, which have an impact on student achievement. Students that have a positive academic self-concept are confident in their abilities, accept challenges, take risks, and attempt new things, as well as develop a variety of cognitive coping mechanisms. Moreover, those students have a greater motivation to achieve challenging academic goals and set higher standards. This is because most students who perform well academically have positive self-perceptions. (DeDonnol & Torres 2018).

A person has a positive academic self-concept when they feel confident, have interesting hobbies, are objective, and are not overly sensitive. These students are able to express their opinions and tolerate other people's criticism. On the other hand, an individual who has negative academic self-concept has a too subjective nature (Abdelhalim, et al., 2022). Academic self-concept has been recognised as a crucial psychological construct that leads to success in educational settings and to meet the expectations of the future healthcare system, nursing schools are under pressure to accept and graduate increasing numbers of students (Postigo, et al.,2022).

Significance of the study

Nursing students will be the future nurses who represent crucial part of the medical team. A poorly graduate nurse could not only reduce the effectiveness of the team but also result in inferiority health care. The learning environment is at the center of nursing education; which helps in preparing students for the kind of work they will be required to conduct as professional nurses, Therefore, it is crucial to support their creative learning environment as it was found that creative learning environment resulted in improving students' capacity to learn and retain new information, which has a good impact on engagement, academic achievement, and self-esteem.

Upon this nurse educators should establish and maintain a creative learning environment by providing diverse settings and activities for creative environment. The reason for conducting this study is that the researchers observed there is a lacking studies done in Egypt about creative learning environment and it's relation with nursing student, engagement, academic performance and self-concept. Consequently, this study was undertaken to provide a unique identification of creative learning environment and it's relation with nursing student, engagement, academic performance and self-concept

Aim of the study:

The study aimed to assess creative learning environment and it's relation with nursing student' engagement, academic performance and self-concept.

Research Questions:

- Q1:** What are the levels of creative learning environment as perceived by nursing students?
- Q2:** What are the levels of nursing students' engagement in their learning environment?
- Q3:** What are the levels of nursing students' academic performance?
- Q4:** What are the levels of nursing students' self-concept?

Q5: Is there a relation between creative learning environment and nursing students' engagement, academic performance and self-concept?

Subjects and Methods

Research Design:

Based on the study's aim, a descriptive correlational research design was used.

Setting:

The study was carried out at the Beni-Suef University's Faculty of Nursing in Egypt. It was affiliated to the higher education ministry. The faculty was established in the academic year 2007–2008 for the enrollment of both male and female students. Also there are 6 academic departments in the faculty.

Subjects

consisted of 982 nursing students chosen through stratified random sampling from the four academic years (2022–2023). Each stratum (academic year) was used to determine the sample size in accordance with the following formula: (Tejda & Punzalan, 2012).

$$n = \frac{N}{1 + N(e)^2}$$

n= the required sample size

N= total number of nursing students in each academic year

e= error tolerance (0.5)

I= A constant value.

Data Collection Tools:

There were four data collection tools utilized:

1st tool Creative Learning Environment Questionnaire: Adapted by the researchers from Nagar, Steinberger, (2017). It consisted of two parts:

Part 1: Personal data of nursing students as age, gender, marital status, and academic year

Part 2: Aimed to assess levels of creative learning environment as perceived by nursing students. . It consists of 39 items categorized as follows; physical design (5 items), student cohesiveness (3 items), teacher support (4 items), involvement (3 items), task orientation (2 items), investigation (7 items), cooperation (4 items), differentiation (4 items), technology usage (5 items), young adult ethos (2 items).

Scoring system

Participants' responses were measured by using three-point Likert scale; (1) disagree, (2) neutral, (3) agree. Total score was ranged from (39-117) and the levels of creative learning environment categorized into three levels as the following:

High-level "if the percent $\geq 75\%$, equal (88-117), moderate level, "from 60% to less than 75% equal (71-87) and Low level "< 60 %" equal (39-70)

2nd tool: Nursing Students' Engagement Questionnaire. It was developed by the researchers after reviewing related literature (Abdelhalim, et al., 2022 & Abdul Sattar, et al., (2018) and aimed to assess the levels of nursing students' engagement in their learning environment. It consisted of (31 items) categorized as follows; academic engagement (10 items), cognitive engagement (12 items), behavioral engagement (9 items).

Scoring system

Students' responses were measured by using three-point Likert scale; (1) disagree, (2) neutral, (3) agree. Total score was ranged from (31-93) and the levels of nursing students' engagement in their learning environment categorized into three levels as the following:

High-level "if the percent $\geq 75\%$, equal (70-93), moderate level, "from 60% to less than 75% equal (56-69) and Low level < 60 % equal (31-55)

3rd tool: Academic Performance Questionnaire. It was developed by the researchers after reviewing related literature (El-awady, et al., 2022 & Ma & Wei, 2022) and aimed to assess the levels of nursing students' academic performance. It consisted of (13 items) categorized as follows; verbal instructions (5 items), instructional supervision (4 items), delegations of authority (4 items).

Scoring system

Participants' responses were measured by using three-point Likert scale; (1) disagree, (2) neutral, (3) agree. Total score was ranged from (13-39) and the levels of nursing students' academic performance categorized into three levels as the following:

Good-level "if the percent $\geq 75\%$, equal (30-39), Average level, from 60% to less than 75% equal (24-29) and Poor level "< 60 % equal (13-23).

4th tool: Academic Self –Concept Questionnaire. It was developed by the researchers after reviewing related literature (DeDonno & Torres 2018, García, et al., 2022). It consisted of (19 items) and aimed to assess the levels of nursing students' self-concept.

Scoring system

Participants' responses were measured by using three-point Likert scale; (1) disagree, (2) neutral, (3) agree. Total score was ranged from (19-57) categorized into three levels as the following:

Positive level "if the percent $\geq 75\%$ which equal (43-57) and Negative level "< 75 %", that equals (19-42) points.

Tools Validity:

Face and content validity of the study tools was tested by five experts in nursing administration for clarity, applicability, and adequacy of the tools. These

included two professors from Ain Shams University, two assistant professors from Benha University and one assistant professor from Beni-Suef University. Minor modifications were done based on their opinions.

Tools reliability:

Tools was tested in the current study using Cronbach's alpha coefficient which was 0.88 for creative learning environment questionnaire and 0.92 for nursing students' engagement questionnaire and 0.89 for academic performance questionnaire and 0.80 for academic self-concept questionnaire which were good score for reliability.

Pilot Study

Pilot study was conducted in January 2023 and 98 nursing students (10% of the sample size) from faculty of nursing Beni - Suef University participated in a pilot study. The pilot study's objectives were to evaluate the translation tools' clarity, detect potential obstacles and issues during data collection, and determine how long it would take respondents to complete each questionnaire. No modifications were done so subjects involved in the pilot were included in the study

Field work:

The nursing faculty dean of Beni-Suef University granted official permission for the conduct of this study. The researchers met with the potential participants. To make data collecting easier, a description of the study's nature and goal was made after that. Oral consent recipients received the data collection form and filling instructions. Data was collected by using electronic form of data collection tools which developed by the researchers and because of the huge number of students the data collection

process lasted three months, from the beginning of February 2023 to the end of May 2023.

Administrative design:

An official letter requesting permission to conduct the study was submitted from the Dean of Faculty of Nursing, Beni-suef University. It included the aim of the study and a photocopy of data collection tools in order to get the permission and cooperation for study implementation and data collection.

Ethical considerations:

Beni-Suef University faculty of medicine's research ethics committee (FMBSUREC04012023) gave its approval to the study protocol. Each participant was given a written and oral consent form after being informed of the study's objectives and methods. They received assurances on the confidentiality of any acquired information as well as their rights to refuse or withdraw at any moment. There couldn't be any negative effects on participants from the study's procedures.

Statistical Analysis

The collected data were analyzed using statistical package for social sciences (SPSS 25.0) for descriptive statistics in the form of frequencies and percentages for categorical variables. Means and standard deviations were used for continuous variables. Pearson correlation coefficient was used for measuring the correlation between study variables. Chi square tests were used for correlating categorical variables, ($p < 0.001$).

Results

Table (1): Distribution of the studied nursing students regarding their personal data (n=982)

Personal data		N.	%
Age (years)	18: <20	460	46.8
	20: <23	504	51.4
	≥ 23	18	1.8
	M±SD	20.69±1.46	
Gender	Female	624	63.5
	Male	358	36.5
Marital status	Married	52	5.3
	Unmarried	930	94.7
Residence	Rural	768	78.2
	Urban	214	21.8
Academic year	1 ST	246	25.1
	2 ND	259	26.4
	3 RD	264	26.8
	4 TH	213	21.7

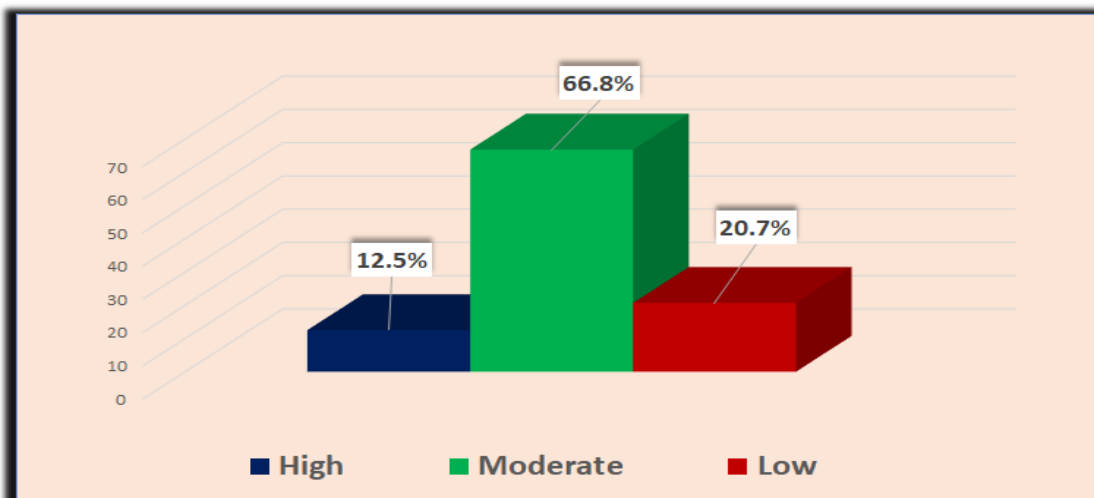


Figure (1): Distribution of Creative Learning Environment levels as perceived by nursing students.

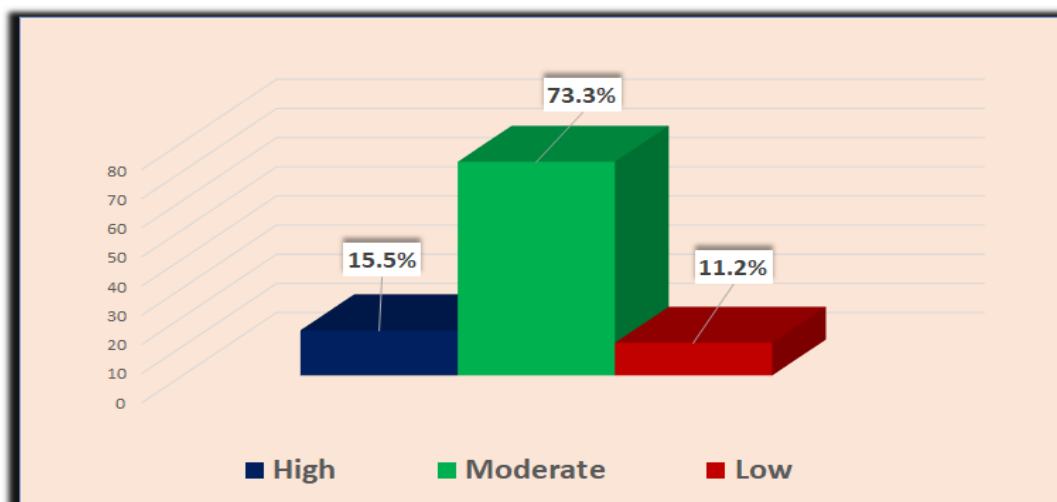


Figure (2): Total levels of studied nursing students' engagement

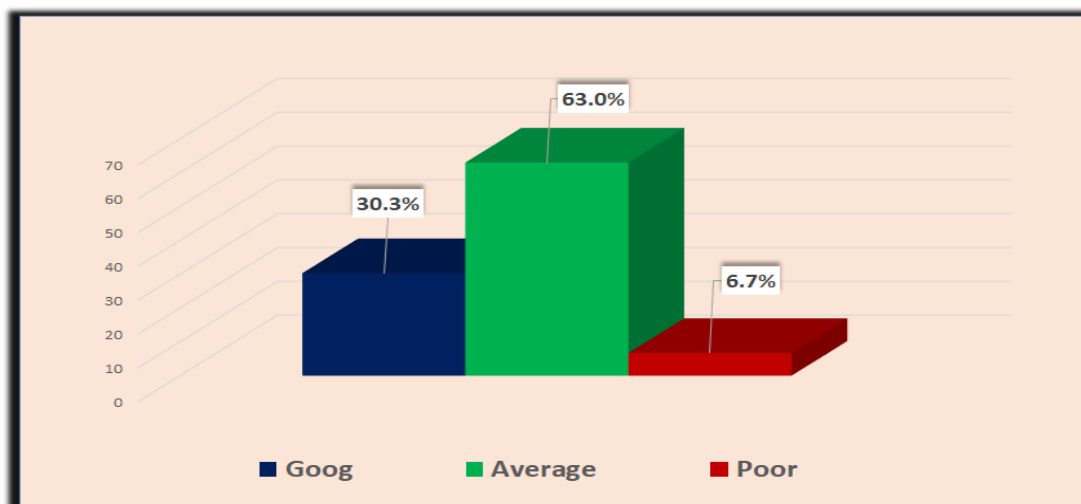


Figure (3): Total levels of studied nursing students' academic performance

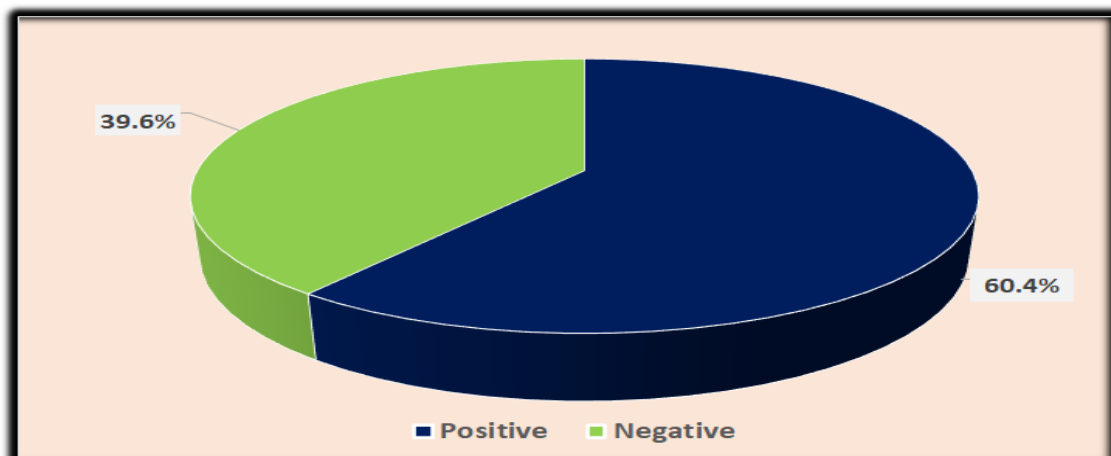


Figure (4): Total levels of self-concept as reported by the studied nursing students

Table (2): Mean scores of creative learning environment, student academic performance, engagement, and self-concept as perceived by the studied nursing students (n=982)

Variables	Maximum Score	Mean±SD	Mean%
Physical design	15	8.59±2.58	57.3
Student cohesiveness	15	10.15±2.44	67.7
Teacher Support	15	11.86±2.38	79.1
Involvement	12	8.25±2.19	68.7
Task orientation	6	3.89±0.87	64.8
Investigation	15	8.65±3.08	57.7
Cooperation	12	7.72±2.77	64.3
Differentiation	12	7.86±2.31	65.5
Technology usage	18	11.83±2.73	65.7
Young adult ethos	6	3.56±0.60	59.3
Total creative learning environment	126	82.36±10.21	
Verbal directions	15	10.24±1.47	68.3
Instructional Supervision	12	8.07±2.01	67.2
Delegation of authority	12	7.32±1.66	61.0
Total student academic performance	39	25.63±3.55	
Academic engagement	21	15.14±3.82	72.1
Cognitive engagement	24	17.71±3.23	73.8
Behavioral engagement	18	11.25±2.73	62.5
Total student engagement	63	44.10±6.16	
Total self-concept	57	46.35±6.98	

Table (3): Correlation among Total Nursing Students 'Creative Learning Environment, Academic performance, Engagement and Self-Concept (n=982)

Variables		Total creative learning environment	Total student academic performance	Total student engagement	Total self-concept
Total creative learning environment	r	--	0.424	0.818	0.363
	P	--	0.000**	0.000**	0.000**
Total student academic performance	r	0.424	--	0.660	0.773
	P	0.000**	--	0.000**	0.000**
Total student engagement	r	0.818	0.660	--	0.969
	P	0.000**	0.000**	--	0.000**
Total self-concept	r	0.363	0.773	0.969	--
	P	0.000**	0.000**	0.000**	--

** Highly statistical significance ($p < 0.001$)

Table (4): Relation between Nursing Students' Personal Data and their Creative Learning Environment, Academic Performance, Engagement and Self-Concept (n=982).

Personal data	Creative learning environment	Student academic performance	Student academic engagement	Self-concept
	Mean±SD	Mean±SD	Mean±SD	Mean±SD
Age (years)				
17: <20	17.63±4.85	17.30±6.51	16.39±4.79	16.50±2.12
20: <23	14.54±4.78	16.10±4.83	14.00±9.89	17.36±2.25
≥ 23	16.01±1.73	16.18±3.70	16.15±0.00	15.17±2.01
F /p-value	1.292 / 0.283	1.236 / 0.278	1.986 / 0.327	1.001 / 0.374
Gender				
Female	31.17±1.52	29.50±2.33	27.58±2.66	30.50±0.70
Male	27.66±2.33	31.04±2.52	31.36±1.14	29.01±2.69
t test/p-value	2.587 / 0.113	1.229 / 0.224	1.046 / 0.300	2.239 / 0.123
Marital Status				
Married	103.81±7.69	102.68±6.73	103.79±7.94	102.00±0.00
Un-married	96.00±8.48	105.42±9.85	101.54±8.99	103.60±8.00
t test/p-value	0.940 / 0.293	0.762 / 0.386	0.958 / 0.332	0.805 / 0.312
Residence				
Rural	44.66±3.02	43.80±3.16	46.23±3.16	45.33±2.08
Urban	44.49±3.25	44.11±1.96	45.36±3.54	44.83±3.68
t test/p-value	0.809 / 0.370	1.078 / 0.282	1.176 / 0.278	1.051 / 0.213
Academic years of education				
1 st	37.54±3.29	38.61±3.82	38.80±4.28	37.11±3.91
2 nd	39.40±4.65	40.84±4.63	40.38±4.77	41.33±2.57
3 rd	38.58±5.30	39.55±3.30	38.16±5.49	38.93±3.96
4 th	37.56±4.11	37.57±3.05	37.03±4.32	37.85±3.44
F /p-value	2.275 / 0.081	0.937 / 0.138	0.709 / 0.548	1.003 / 0.393

F: ANOVA

t: Paired t tes

Table (1): Illustrates that more than half (51.4) of nursing students had age ranged between 20 < 23 years old with Mean ±SD (20.69±1.46) years. As far as their gender, more than three fifths (63.5%) of them were females. In relation to their marital status, the majority (94.7%) of them were unmarried. Regarding to their residence, more than three quarters (78.2%) of them were living in rural areas. As far as their academic year slightly more than one quarter (25.1 %, 26.4 % & 26.8%) in first, second and third academic year respectively and slightly more than one fifth of them (21.7 %) in the fourth academic year Figure (1): Displays that about two thirds (66.8%) of nursing student reported that creative learning environment was moderate, while, and (20.7%) of them reported that creative learning environment was low.

Figure (2): Clarifies that majority (73.3 %) of nursing student had moderate level of engagement, whenever, the minority of them (11.2 %) had low level of engagement

Figure (3): Demonstrates that the slightly less than two thirds (63.0%) of studied nursing students had

average academic performance level, while, the minority (6.7%) of them had poor academic performance level.

Figure (4): Clarifies that more than three fifths (60.4%) of studied nursing student had positive self-concept, while, slightly less than two fifths (39.6%) of them had negative self-concept.

Table (3): Shows that there was highly statistically significant correlation among total creative learning environment and total nursing student academic performance, engagement, with self-concept

Table (4): Demonstrates that there was no statistical significant relation between total nursing students' personal data and their creative learning environment, academic performance, engagement and their self-concept.

Discussion

Education is an ongoing priority because it is one of the crucial elements that includes the knowledge, skills, and talents that are necessary for everyone's entire growth, development, and progress as well as that of their communities and countries. Nursing

students need a balance of classroom knowledge and theories, clinical application and transfer of these ideas, and coping with real-world circumstances when receiving their education (**Abdelhalim, et al., 2021**). So, it is important to enhance creative learning environment which could positively influence on students engagement, academic performance and their self-concept to improve their knowledge and clinical performance which improve students' capacity to achieve their desired goals and effectively engage in the well being of their communities. The present study aimed to assess creative learning environment and it's relation with nursing student engagement, academic performance and self-concept.

Concerning total level of creative learning environment as perceived by nursing students, the results of the present study revealed that about two thirds of nursing student reported that creative learning environment was moderate level, while, slightly more than one fifth of them reported that creative learning environment was low level. From researcher point of view, creative learning environment is one of the important determinants of students' success. Based on this nursing educator need to use different strategies and teaching methods that provide students with a challenging and creative learning environment that make students actively involved in the learning process.

This result was in agreement with **Zhang et al., (2022)** showed that majority of the nursing students' reported that favorable and creative learning environment was moderate level. Also, this result was consistent with **Fan & Cai (2022)**, who reported that creative learning environment was moderate level as perceived by students. In addition, this result was matched with **Barroso & Dias , (2023)**, reported that most of students founded that creative learning environment in the classroom was average level. However, this finding was in contradiction with **Cachia et al., (2010)** reported that the majority of students stated that creative learning environment was high level and agreed that creative learning environment plays important role in the learning process.

Regarding to total levels of studied nursing students' engagement the current study reported that majority of nursing student had moderate level of engagement, whenever, the minority of them had low level of engagement. This might be due to students' engagement link with some standards such as student participation in class discussion and lectures, students' feedback about learning material, their interest and attendance to class room and using student information to apply skills learned to solve any problem faced.

According to the researchers' views, this might be because nursing students regularly received feedback from faculty staff, presented in class, collaborated with other students on assignments or projects, and other factors that contribute to improving and maintaining students' engagement with their college.

This finding was in accordance with **Dimitriadou et al., (2021)** reported that students had moderate level of engagement in Greek university. Also **Körner et al., 2021 & Teuber et al., (2021)** founded a moderate level of student engagement among university students in Germany. In addition, **Wissing et al., (2022)** who conducted a survey of undergraduate students and indicated that the study subject had moderate level of engagement. On the same line, **Khaira, (2016)** repoted that students scored higher mean in all domain of student engagement, and student were engaged in all domain of engagement positively

Saleh et al. (2021) declared that more than half of nursing students had a high engagement level, disagreed with the study's findings. Also **Melissa et al., (2020)** who stated that, students had high level of engagement. Furthermore this findings disagreed with **Mohammed et al., (2020)** revealed that nursing students had high engagement level. Additionally this result was inconsistent with **Kathleen et al., (2019)** and illustrated that, nursing students reported low level of engagement that affected on student average of grades and achievements.

Also, this result was inconsistent with **Hampton, et al., (2020)** reported that nursing students had the high level of engagement. While, this result was inconsistent with with **Bond et al., (2020)** and reported that majority of participant their behavioral engagement is the highest score, while the cognitive dimension is the lowest score.

Regarding total levels of studied nursing students' academic performance the present study's finding demonstrated that the slightly less than two thirds of studied nursing students had average academic performance level, while the minority of them had poor academic performance level. The study findings were in accordance with **Rady et al., (2016)** who showed that the majority of students had average performance level.

This result dissimilar to **Baidoo-Anu (2018)**, who reported that majority of students, had poor academic performance. Also, **Asamoah et al. (2020)** who concluded that majority of students had poor academic performance was caused by teachers and teaching environment factors and inadequate continuous teacher professional development programs. In the same line **Kimaro, (2020)** who reported that academic performance remained very

low for a very long time as compared to other educational schools.

Regarding total levels of self-concept as reported by the studied nursing students, the study finding concluded that more than three fifths of studied nursing students had positive self-concept, while, slightly less than two fifths of them had negative self-concept. This might due to the students were more admired, supportive, respected from teacher, positive teacher and students relationship inside and outside the classroom lead to improve student's self-concept and facilitate learning processes.

This study finding was matched with **Goldan et al., (2021)** reported that all students showed high score related academic self-concept. Also this result was in the same line with **Kodib, (2019)** who reported that the majority of nursing student had positive self-concept. Also **Rady et al., (2016)** reported that the participants had good academic self-concept. On the other hand, this results were dissimilar to **Gemeay et al., (2013)** illustrated that more than half of the students had low level of self-concept.

The current study's results showed that, there was a highly statistical significant difference in relation to the mean scores of perception toward creative learning environment. The highest mean & standard deviation was related to perception of technology usage, physical design and student cohesiveness. While the lowest mean & standard deviation was related to perception of young adult ethos.

On the other hand, there was a highly statistical significant difference in relation to the mean scores academic performance as perceived by nursing student. The highest mean & standard deviation was related to perception of verbal directions. While the lowest mean & standard deviation was related to perception of delegation of authority.

In addition to there was a highly statistical significant difference in relation to the mean scores engagement as perceived by nursing student. The highest mean & standard deviation was related to perception of cognitive engagement. While the lowest mean & standard deviation was related to perception of behavioral engagement.

The reason for this may be attributed to the fact that students after exposure to the learning environment tend to acquire knowledge, critical thinking skills, and academic accomplishment as a result. Additionally, it was discovered that students who were more mastery- and challenge-oriented employed more cognitive strategies and cognitive activities than students who were less intrinsically motivated and involved in extracurricular activities.

This result was agreed with **Karaduman et al., (2022)** who indicated that the students had the highest means score in all dimensions of learning

environment. Moreover **Saleh et al., (2021)** reported highly statistical significant difference related to all dimensions of student engagement and the highest mean was related to cognitive engagement while the lowest mean was related to behavioral engagement.

The current study findings illustrated that there was highly statistically significant correlation among total creative learning environment and total nursing student academic performance, engagement, and with self-concept.

This result could be related to creative learning environment considered as educational setting's overall atmosphere where academic activities occur as the physical, social, psychological, and academic conditions that facilitate learning and helps students to acquire educational experiences and significantly affect student performance, engagement, and self-concept. Additionally, creative learning environment is essential factor of students' academic performance and plays a vital role in students' cognitive, emotional, and behavioral growth necessary for academic performance and support learning engagement.

The present study findings were consistent with **Rady et al., (2016)** who indicated that there was a statistical significant relationship between academic self-concept and students' performance. Also **Abdelhalim et al., (2021)** who displayed in their study that a statistically significant correlation between classroom engagement and academic self-concept of nursing students. Moreover the study findings were in accordance with **Ma & Wei, (2022)** who reported that creative classroom climate was positively associated with student engagement and academic performance. And **Fuqua et al. (2019)** argued that a more engaging creative classroom climate for students leads to better academic performance results. Additionally, these findings was agreement with **Lone (2021)** who illustrated that a statistically significant correlation among school learning environment, engagement and academic achievement. Also this result was supported by **Abdelhalim, et al., (2021)** who founded that statistically significant correlation between classroom engagement and academic self-concept. In addition to these findings was agreed with **Ramezani, et al., (2016)** who illustrated that there was statistically significant correlation between self-concept and academic performance. On the other hand, this findings were in discrepancy with **Danica dimić, (2020)** who reported that there no statistically significant correlation between the classroom environment and academic performance.

The current study showed that there was no statistical significant relation between total nursing students' personal data and their creative learning environment, academic performance, engagement and their self-concept. The study findings disagreed with **Mohammed, et al., (2020)** illustrated that there was highly statistically significant relation between total students engagement levels and their personal data. Also this finding disagreed with **Ghasemi, et al., (2020)** who showed that there was statistically significant relation between total students engagement levels and their age.

Conclusion

Depending on the findings of the study, it was concluded that two thirds of nursing student reported that creative learning environment was moderate, majority of nursing student had moderate level of engagement, whenever, two thirds of studied nursing students had average academic performance level, more than three fifths of studied nursing student had positive self-concept. Additionally there was highly statistically significant correlation among total creative learning environment and total nursing student academic performance, engagement, with self-concept.

Recommendations

Based on the study's results the following recommendations were suggested:

Recommendations to faculty administration:

- Provide more cohesive learning environments that give students the chance to engage in both academic activities and peer interaction.
- Classrooms and skill labels should have adequate ventilation, enough lighting, and a steady power supply.
- Buildings need to be designed so that different technologies can be applied successfully.
- Teaching rooms should be adequately stocked with nursing skills equipment and more modern audio-visual aids.
- Faculty administration assumes advisory roles by engaging with students, enhancing accountability, consulting with students, and giving them the freedom to voice their concerns and become a part of the community.

Recommendations to nursing educators:

- Use of technology both inside and outside of the classroom that promoted more engaging teaching methods and increased student participation.
- The emphasis is placed on developing students' skills rather than just imparting factual knowledge with the use of active learning strategies like small group discussions.

- Allowing students to make decisions during class will foster a great and creative learning environment.
- Include a variety of teaching methods in the curriculum to engage different types of learners and maintain their engagement.

Recommendations to further researches:

- The study should be replicated in different colleges and regions.

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