Self-Regulated Learning as a Predictor of Academic Achievement among Students at Nursing Schools

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Abstract:

Background:

Students' academic achievement is influenced by their participation in the learning process. Effective students are self-regulated and have a strong sense of responsibility and set goals. It is generated by the learners themselves to achieve true learning and academic achievement. successful students can reorganize their goals and learning. **Aim of the study:** was to assess self-regulated learning as a predictor of academic achievement among nursing students. **Subjects and Method: Research design:** A descriptive correlation design was utilized. **Setting:** The study was conduct at Health Insurance Nursing Secondary Schools at Al E brahimia and Al Mabara.. **Subjects:** All available students at time of data collection at second and third grade (250). **Tool of data collection**: tools were used for data collection. The Motivated Strategies for Learning Questionnaire and Students' Academic Achievement Scale**. Results:** Revealed that nursing students had moderate level of self-regulated learning and academic achievement **Conclusion:** Self- regulated learning was a predictor to academic achievement among nursing students and there was a significant relationship between self-regulated learning, and academic achievement among nursing students. **Recommendation**: continuous training program about self-regulated learning, and its effects on students' academic achievement.

Key words: Academic achievement, Self- regulated learning, Nursing Students

Introduction:

Technology and knowledge are rapidly improving in today's world. It is important that students acquire knowledge and skills by taking responsibility of self- regulated learning in order to become individuals who learn to learn. They are aware of what and how they have learned, and their deficiency of knowledge and skills while learning to learn, which enables them to self-regulate [(1)].

In the absence of instructor help and supervision, the capacity to control one's learning process is a vital skill for achieving personal learning goals. Unlike in school, where time is usually structured around courses and everyone follows a prescribed schedule, students must choose when and how to engage with course information on their own**.** In addition, nursing students must understand how to practice lifelong learning as nurses because of the quick speed of advancements in nursing science. Self-regulated learning (SRL) is an important method for nursing students to maintain their professional development throughout their lives [(2, 3)].

Self-regulated learning (SRL) is referred to as the degree to which students are met cognitively, motivationally, and behaviorally active participants in the process of monitoring their own learning. SRL learners defined as those who actively construct their own learning process and are able to set their learning goals, while also making an effort to observe, adjust, and control their cognition, motivation, and behavior in achieving those goals [(4).]

Self-regulation is not a mental ability or an academic performance skill; rather it is the self-directive process by which learners transform their mental abilities into academic skills. Learning is viewed as an activity that students do for themselves in a proactive way rather than as a covert event that happens to them in reaction to teaching. Self-regulation refers to self-generated thoughts, feelings, and behaviors that are oriented to attaining goals. As well, self-regulated students focus on how they activate, alter, and sustain specific learning practices in social as well as solitary

contexts. In an era when these essential qualities for lifelong learning are distressingly absent in many students, teaching self-regulated learning processes is especially relevant **(5)**.

In the self-regulation learning environment, learners are able to set and control the resource which consists of cognition and metacognition, thus aiming the goal of learning. Under the strategy, learners take part in their study by handling works consists of plan of goal and activates, evaluation of whether success or not. Then, the items mentioned can be redeveloped and adjusted by learners as necessary Learners can do self-regulation by two ways: full self-exploration and guidance from capable person. By encouraging learners to use their intrinsic motivation, learning becomes a more active process. In other words, under the concept of non-supervising and non-intervention, learners can make use of intrinsic motivation, self-exploration and learning through a small part of stimulation or assistance **(6).**

Self-regulated learning is a process where students acquire self-regulation skills by actively monitoring their own learning to improve their academic performance. the perspective of SRL, which draws from social cognitive theory, was chosen as the theoretical foundation because it is aligned well with the characteristics of learning environments. There are Three-Phase Model, SRL is a cyclical process where the person (self), behavior, and environment are factors which interact with each other. When one of these three factors changes, the change will be monitored and this leads to changes in the other factors (4).

There are multiple SRL models with various components, as well as a model that categorizes phases and areas that are common to all SRL models. The model divides the four phases of SRL into four categories: foresight, planning, and activation, monitoring, control, reaction, and reflection. **the first phase of the model:** Goal setting, planning, and activation of past knowledge about the task, the situation, and the self about the task. **The second phase** entails process monitoring. **The third phase:** Controlling and regulating many aspects of the work, the context, and the self. **The fourth phase**: reflection on the task, the context, and the self. Motivation/affect, cognition, behavior, and context are all areas of SRL Through these cyclical phases, students self-regulate their learning met cognitively, motivationally, and behaviorally (7)**.**

Students who self-regulate their learning process are active in their learning on a metacognitive, behavioral, and motivational level, and they go through three phases: **preparation**, **performance**, and **appraisal**. Students prepare for the learning task at hand in the **preparatory phase** by planning their work and setting goals. Students use cognitive strategies to acquire the content at hand, monitor their learning, manage their learning strategies, and use their resources (e.g., time and aid) in the most efficient way possible throughout the **performance phase.** Finally, students reflect on their learning in the **appraisal phase**, determining which tactics were successful and what they could do differently the next time they study (7)**.**

A barrier to the development of SRL is the belief held by some teachers that they should teach academic content separate from the teaching of learning skills. “they had limited time and space in the curriculum for teaching learning process skills because content specific demands are so high”.in addition some teachers perceive SRL to be something that is taught as a stand-alone subject rather than developing SRL skills alongside the teaching of content. It is clear that there is a misalignment among the academic goals that are set out by school boards and teacher’s goals which can result in barriers to student's needs **(8).**

Limitations in the understanding of the concept of SRL also creates a barrier. The perception that SRL skills need to be taught in isolation may be due to teachers’ limited understanding of the concept of SRL. As well as SRL as a fault in the student and the student’s capabilities whereas teachers in the enhancers’ group attributed a student’s failure to the teacher’s attitude and

instructional practices. Also students did not take the opportunity to sign up to the course which would not only have supported them in the fostering of SRL but also would have provided them with concrete resources to further that support [8].

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Academic achievement is the criterion for measuring educational goals in educational and training organizations. the most essential goal and outcome of the educational system, is to promote learners' academic achievement in society. academic achievement refers to students' success of pre-determined learning goals that were expected to achieve in their learning attempts [9].

In addition, academic achievement is described as a student's level of understanding of project goals as a consequence of a course. Academic achievement in schools refers to grades or test scores that assess students' knowledge and skills about the goals of the course [10].

In addition, academic achievement is critical not only for students but also for organizations and society as a whole. As a result, it's not surprising that educators have spent a lot of time, effort, and money finding out the best ways to ensure that students succeed [11]. furthermore, Students' success is a major concern for educators and policymakers, and it has acquired a lot of attention in recent years since it can lead to a variety of social and personal benefits [12].

There are many factors affect level of academic achievement such as: **First**, the grades, undoubtedly the most well-known academic performance indicators, grades are the student's score for their classes and overall tenure. **Second**, attendance in the classroom would be impossible if the student did not participate. **Third,** extracurricular activities, although voluntary by nature participation in extracurricular activities such as school newspapers establish and show case student initiative and leadership skills. **Fourth**, another measure of academic achievement is the behavioral evaluation of students while at school .As well, academic gain and learning performance of students are influenced by multiple factors including gender, age, teaching students schooling, father guardian, socio economic status, student residential area, school medium, daily study time and accommodation as hostelries or day school Also, student effort, previous schooling, parent education background, family income, student self-motivation, learning preferences, and student entrance qualification are important factors that affect the academic performance of the student in a different setting [13].

Significance of the study:

Self-regulation learning become a critical factor for students who are to take advantage of the benefits of learning environments [14]. Academic measures alone may also not reflect quality learning that lead students to obtain knowledge to be used in real situations. so self-regulation is evidently one of the most vital competencies for the twenty-first century and has been noted as an evident key to success. Acquiring self-regulation skills in digital learning is absolutely a necessity because students are expected to possess self-management skills in pursuing their academic goals independently. In addition, the types of self-regulated learning strategies they use which in turn influences outcomes [15].

In Egypt, there is a study at Suez Canal university on the relationship between different aspects of self-regulated learning, and academic achievement for medical students [16]. There was no previous study at zagazig university on self –regulated learning as a predictor of academic achievement among nursing school students. To deal with this gap, this study sought to assess self-regulated learning and academic achievement among students at Health Insurance Nursing Secondary Schools at Al Ebrahimia and Al Mabara.

Aim of the study:

To assess self- regulated learning as predictor of academic achievement among students at Health Insurance Nursing Secondary Schools at Al E brahimia and Al Mabara.

Research Question:

- Is self- regulated learning a predictor to academic achievement among students in Health Insurance Nursing Secondary School at Al E brahimia and Al Mabara?
- What is the relation between self-regulated learning and academic achievement among students in Health Insurance Nursing Secondary School at Al E brahimia and Al Mabara?

Subjects and methods:

Research design:

A descriptive study design was employed to accomplish the aim of the present study.

Study Setting:

The study was conducted at Nursing Secondary Schools at Al E brahimia and Al Mabara Health Insurance Nursing Secondary Schools at sharkia Government.

Study Subjects:

A Convenience sample technique was used. All available students at time of data collection at second and third grade from Health Insurance Nursing schools at Al E brahimia and Al Mabara was included.

Tools of data collection:

Two tools were used to collect necessary data.

Tool I: It consisted of two parts as follows:

Part one: **Personal characteristics**, which include the data about characteristics of the nursing students such as age, gender and grade.

Part two: The Motivated Strategies for Learning Questionnaire (MSLQ)

Self-regulated learning questionnaire (SRL) was developed by Pintrich et al [17] to measure of self-regulated learning of nursing students. The MSLQ was made up of 81 items and consists of 3 domains. **1**-**The motivation domains** comprised 31 items divided into five categories as following : **students' goal orientation** (8 items) such as getting a good grade in this class is the most satisfying thing for me right now, **task value** (6 items) such as I am very interested in the content area of this course, **self-efficacy** (8 items) such as I believe I will receive an excellent grade in this class., **control of learning beliefs** (4 items) such as If I try hard enough, then I will understand the course material, and **test anxiety** (5 items) such as When I take tests I think of the consequences of failing.

2- **The learning strategy domains** composed of (30) items such as assessing students' use of different cognitive and metacognitive strategies. The cognitive strategies include 5 categories. **rehearsal** (4 items) such as I memorize key words to remind me of important concepts in this class, **elaboration** (6 items) such as I try to relate ideas in this subject to those in other courses whenever possible, **organization** (4 items) such as I make simple charts, diagrams, or tables to help me organize course material., **critical thinking** (5 items) such as I try to play around with ideas of my own related to what I am learning in this course, and **metacognition** (11 item) such as during class time I often miss important points because I'm thinking of other things.

3- **Assessing student management of different resources domains** consisted of (20) items. The resource management scale included four subscales, namely: **time and study environment** (8 items) such as I make good use of my study time for this course, **effort regulation** (4 items) such as I work hard to do well in this class even if I don't like what we are doing, **peer learning** (3 items) **such** as I try to work with other students from this class to complete the course assignments, and **help-seeking** (5 items) such as I try to do the work on my own, without help from anyone. Items are scored based on a 5-point Likert-type scale, from 1 ("not at all true of me") to 5 ("very true of me"). Scale scores are constructed by taking the mean scores of the items that make up each scale.

Scoring system based on Rovers et al [18] **was as follows:**

High SRL ≥75%

Moderate SRL 50%- <75%
Low SRL <50%

Tool 2: Students' Academic Achievement Scale:

Students' Academic achievement scale was developed by ElAzazy [19] to assess students ' academic achievement and assess their confidence in their ability to perform common academic behaviors.

The scale consisted of (45) items of self-reported academic self-efficacy by asking students. It is subdivided into 5 categories (9 items per category) include: **academic performance** such as understand most of the ideas you read in the reference., **extracurricular activities** such as go to the student care office., **interaction between students** such as responding to questions in the big semester, **behavior of students** such as make the professor respects me and **attendance of students** such as attend the class regularly. scoring classified with a 5-point Likert scale ranging from 1 (very much) to 5 (very little)

Scoring system was as follows:

The academic degree was categorized as follows:
0 > 60 =Low academic achievement;
60 > 120 = Moderate academic achievement
120-180 = High academic achievement ELNaggar [13]

Content and face validity& Reliability:

Before the pilot study, Tools were checked through the distribution to 5 experts in the field of Nursing Administration Department at the Faculty of Nursing, Zagazig University. With cover letters and explanation sheet explaining the study, purpose and other related information to ensure adequacy, relevance, clarity and completeness of the tools. Suggested changes were made.

Fieldwork

Field work of this study was executed in two months started in first January, 2022 and was completed by the end of February, 2022. The preparatory phase that was done by meeting with nursing students to clarify the objective of the study and the applied methodology and each individual was given the opportunity to fill-in the questionnaire under guidance and supervision of the researcher which ranged from 15 to 20 minutes. The questionnaire sheets were distributed among the study subjects, they were fill it on their own, and then the questionnaire sheets were collected.

Administrative and ethical considerations:

An official permission for data collection was obtained through an official letter from authorized personnel at Health Insurance Nursing Secondary Schools at AL Ebrahimia and AL Mabara at Al-Sharkia Governorate after explaining the purpose of the study. also an individual oral consent was obtained from each participant in the study after explaining the purpose of the study to get better cooperation during the implementation phase of the research.

Permission from school directors of Health Insurance Nursing Secondary Schools at AL Ebrahimia and AL Mabara and informed written consent was obtained from each student after verbal explanation of the nature and the aim of the study. The subjects were given an opportunity to refuse or to participate in the study. They were reassured that the information collected was used for the scientific research only and was treated with confidentiality. Only code numbers was used to mark sheets and was nameless.

Pilot study:

A pilot study was conducted on 25 nursing students representing approximately 10 percent of the total sample. It was done to test the feasibility and clarity of the tools, and also helped to know the time required to fill in the tools. It was found that it took about 15-20 minutes to complete the tools. Those who participated in the pilot study were later excluded from the main study sample.

Statistical analysis:

All data were collected, tabulated and statistically analyzed using IBM Corp. Released 2015. IBM SPSS Statistics for Windows, Version 23.0. Armonk, NY: IBM Corp. Quantitative data were expressed as the mean ± SD &median (range), and qualitative data were expressed as & (percentage). Pearson' correlation coefficient was calculated to assess relationship between various study variables, (+) sign indicate direct correlation & (-) sign indicate inverse correlation, also values near to 1 indicate strong correlation & values near 0 indicate weak correlation. Multiple linear regression is a predictive analysis. Multiple linear regression is used to describe data and to explain the relationship between one dependent continues variable and one or more independent variables. All tests were two sided. p-value < 0.05 was considered statistically significant, p-value < 0.001 was considered statistically highly significant, p-value ≥ 0.05 was considered statistically insignificant.

Results:

Table 1: Shows that 66.0% of nursing students aged from 16 to17 years old. In addition, 64.0% of them were males, As well, 50.4% of nursing students at third grade.

Table 2: Reports that, highest mean score of self- regulated learning **subdomain** was related to motivation (112 ±14.5), followed by learning strategy (110.1±14.9) and finally recourse management (70.1±9.8).

Figure 1: Indicates that self-regulated learning among nurse 'students, indicates; a (56.4 %) of nursing students had Moderate level of self- regulated learning, while 7.2% of them had the low level.

Table 3: Reports that, highest mean score of academic achievement subdomain was related to academic performance (30.7 ±6.6) followed by student's behavior (29.4±6.3), extracurricular activities (27.9±6.5), student's interaction (27±5.9) and lastly student's attendance (21.2±6.8).

Table 4: Reveals that, (57.2%) of nursing students had a moderate level of academic achievement, while only (9.6%) of them had the high level.

Table 5: Mentions that, 77.2% of nursing students had the highest level of student's attendance followed by (47.6%) student's behavior. while 40.4% for extracurricular activities.

Table 6: Shows that there was a significant positive and direct relation between self- regulated learning score and its dimensions, Academic achievement score and its dimensions (0.0001). there was positive relation between self-regulated learning and academic achievement.

Table 7: Reveals that, there was a statistically significant relation between self-regulated learning level and sex, p=0.002. It obvious males had high self-regulated learning level more than females.

Table 8: Shows that, there was no significant relation between academic achievement level of nursing students and their demographic characters p>0.05.

Table 9: Demonstrates that self-regulated learning score, are significant predictors of academic achievement of nursing students.

Discussion:

Self-regulated learning (SRL) is very important to academic achievement and raise student's academic success by encouraging self-regulated behavior in their student. Students can become an effective learner by taking active participation in their own learning process. oriented goals are important stakeholders in helping students to assume initiatives, responsibilities and manage their learning process. student's practices and academic aspirations have influence on academic achievement certainly throughout their optimistic effect on student's self-motivation and self-evaluation values that are the components of self-regulated learning (SRL) Farooq& Asim [(20)]

Regarding Self- regulated learning strategy level the finding of the present study indicated that the highest percentage of nursing students had a moderate level of self- regulated learning.

These findings might be due to some of students had incompetence, unwarranted fears, excessive self-censure, low perceived self-efficacy, social inhibitors, lack of intrinsic reinforcement, as well as inability to set goals. and motivation can have a pivotal impact on students' academic outcomes. without motivation, SRL is much more difficult to achieve. it was widely accepted that students who are able to successfully regulate their effort initiate learning tasks, set goals, decide on appropriate strategies to achieve their goals, then monitor and evaluate their progress will likely do better than students who do not.

This result goes in the same line with a study by Wong et al [(21)] in United States to provide suggestions for adaptive self-regulated learning support in online learning environments. and found that moderating effects of SRL level and learning performances on students. As well, study by lin [(22)] in southeastern in the United States to investigate the relationship between students' achievement goal orientations and their self-regulated learning strategies during the learning process in their major college courses. and indicated that students' strategies of cognitive and metacognitive self- regulated learning had a medium level of frequency.

Conversely, a study in Wollongong carried by Robson [(23)] aimed to assess self-regulation in childhood as a predictor of future outcomes. and mentioned that higher self-regulation in early school years. Furthermore, a study carried by Sümen & Evgin [(24)] in Turkey that aimed to determine the self-regulated learning skills and readiness of nursing students and their views on distance education. and demonstrated that students had higher self-regulated learning skills.

As regard mean of self-regulated learning the study finding revealed that highest mean percentage of Self- regulated learning was motivation this related to students who are motivated reach certain goal that promotes students self-regulated learning, and motivation consider a key factors in learning effectiveness and enhance education, to take up opportunities, and to show committed to reach certain goal.

These results were in contrast with study in Malaysia by Anthonysamy et al [(15)] that aimed to understand how self-regulated learning strategies (SRLS) can be utilized effectively in digital learning in order to achieve non-academic outcomes in higher education institutions. and showed that many students are not self-regulated learners.as, they are less motivated as they do not have the ability to use learning strategies to assist them in the learning progression.

These results were in congruent with a study carried by Sümen & Evgin [(24)]and revealed that the highest mean score of self-regulating learning sub-dimension was "help- seeking,". Additionally, a study in Britain by Wilby, [(25)] that aimed to investigate the relationship between writing task motivation, self-regulation. and reported that motivation was the lowest mean score of self-regulation sub-dimension.

Regarding the nursing students' academic achievement level, the finding of the current study stated that the highest percentage of nursing students had a moderate academic achievement level. this could be due to there were factors that influence students' academic achievement such as method of classifying and placing undergraduate students to different schools and departments, the lack of study place and conducive environment, the problem and lack of students' time management, inappropriate use and application of continuous assessment , students lack of confidence, students' inadequacy of planning to their academic tasks, and, shortages of fundamental and technological resources in the schools and the lack of using various teaching methods by the instructor.

As well, all students should have to use time effectively and study hard to enhance their academic achievement. Besides,

nursing students should attend all the courses based on the learning schedules and able to arrange enough study time to all the undertaken courses properly.

In congruent with these results of Study by Joseph-Edwards [26] in west India aimed to examine the effects of standardized learning diaries on online graduate students' self-regulated learning, academic achievement, and calibration accuracy and demonstrated that students had moderate level of academic achievement.

Inconsistent with a study carried out by ELNaggar et al [13] in Zagazig University aimed to investigate correlation between face-book addiction, attitudes and academic achievement among nursing secondary school adolescents. and indicated that majority of studied students were high level at academic achievement. As well, **a** study carried out by Jackson [27] in Spain to evaluate support, educational expectancy, and academic achievement of black males. and demonstrate that black students had low academic achievement.

Moroever, a study carried out by Abdulla [28] at Faculty of Nursing Zagazig university to determine the effect of applying concept mapping as an innovative teaching strategy on nursing students' achievement in nursing administration course. and revealed that the highest percentage of nursing students had excellent level of achievement in the exam.

Regarding dimension of academic achievement mean, the findings of this study revealed that highest mean percentage of academic achievement dimensions as reported by the studied nursing students was student's attendance this might be due to a missed school day whether excuse or not is lost opportunity for students to learn.in this era of increased accountability for states, districts, and schools, the connection between student attendance and learning is being studied. As well, students who attend school regularly have been showed to achieve higher level than students who don't have regular attendance

These results matched with AlShenawi et al [29] study at Arabian Gulf University, Bahrain aimed to evaluate the previously unexplored correlation between undergraduate medical students' attendance during their surgical clerkship and their academic performance. And stated that the highest mean of performing students were attendance rates. Also indicated that a clear positive correlation between medical student attendance in general, and the learning outcome achievement and student scoring. Furthermore, a study carried out by Hall (30) united State aimed to assess looping and academic achievement in elementary schools, and found that student attendance had high percentage

This wasn't in the same line with ELNaggar et al [13] demonstrated that Student behavior was the highest mean percentage of academic achievement dimensions.

Concerning the relationship between self- regulated learning and academic achievement the present study findings showed that there was a significant positive and direct relation between self-regulated learning score and its dimensions, academic achievement score and its dimensions. As well, there was a positive relation between self-regulated learning and academic achievement. this might be due to Students' SRL involves the capacity to organize behavior guided by their goals and motivations. student's motivation plays an important role in their adaptive engagement in the phases of SRL strategies, which in turn influences academic outcomes. SRL is a significant factor for academic success in learning environments.

This result was supported by Moghadari- Koosha et al [31] in Iran to determine self- efficacy, self-regulated learning, and motivation as potential factors influencing academic achievement among Paramedical students and reported

that, Self-regulated learning had a direct relationship with academic achievement and was the better predictor of academic achievement. Moreover, SRL was the better predictor of academic achievement than self-efficacy and motivation. In other words, use of SRL strategies improved the students' academic achievement.

Additionally, a study by Uyar et al [32] in Turkey. to explain and predict prospective preschool teachers' academic achievements depending on goal orientations they adopt, their critical thinking dispositions and self -regulation skills. And found that students self-regulated learning was one of the most important predictors of academic achievement.

Regarding the relation between relation between self- regulated learning level of studied nursing students and their demographic characteristic, the present study Showed that, there was a statistically significant relation between student's self-regulated learning level and sex. As well**,** it was obvious males had high self-regulated learning level more than females. The possible explanation is that number of males in the sample is more than females number and male's students had high awareness and metacognition of self- regulated learning abilities to avoid bad academic achievement such as goal setting, self-monitoring, self-instruction, and self-reinforcement. Also male's students seek always to improve SRL skills. In addition, male's students able to make changes if their SRL is low.

This is matched by the study of Lazarides et al [33] in secondary schools in Germany that aimed to examine the interrelations between teacher-reported enthusiasm and self-efficacy, student-perceived mastery goal orientation, and student motivation, and reported that girl's lower mathematics intrinsic and utility value as well as lower mathematics teacher enthusiasm than boys and were less likely than boys to report mathematics-related career plans.

This results were contradicted a study carried out by Wong et al [21] revealed that differences in SRL were related to student's age, gender, and level of giftedness. For example, the results showed that girls were more proficient than boys in setting goals, planning, monitoring, and structuring the learning environment. Also, found that older learners and women were more motivated and better at managing time compared to younger learners and men in their study.

Regarding the relation between academic achievement level of nursing students and their demographic characters, the present study revealed that, there was no significant relation between academic achievement level of nursing students and their demographic characters.

This is supported by the pervious findings of Moghadari**-** Koosha et al [31] in Iran a study that aimed to determine self-efficacy, self-regulated learning, and motivation as potential factors influencing academic achievement among Paramedical students. and mentioned that there was no significant relationship between academic achievement and demographic characteristics. Additionally**,** a study carried by Hall [30] reported that there was no statistically significant relation between student academic achievement and their demographic characteristics.

While disagree with study carried out by ELNaggar et al [13] evident that there was statistically significant relation between studied students' academic achievement level and their sex. As well, students' age with high academic achievement ranged between15-17 years old and majority of studied students were in second academic year.

Conclusion:

In the light of the main study findings, it can be concluded that, there was a statistically significant relationship between nursing students' self-regulated

learning, and their academic achievement at health insurance nursing secondary schools at Al E brahimia and Al Mabara. As well, nursing students' self- regulated learning was significant predictor of their academic achievement. Additionally, the most of nursing students had a moderate level of academic achievement and self-regulated learning. Furthermore, there was no statistically significant relation between nursing students' personal characteristics as regards their academic achievement.

Recommendations:

In view of the main results of the study the following recommendations were derived and suggested:

- Continuous training program about self-regulated learning, and it's effects on students' academic achievement
- The school management should provide a good infrastructure and institution facilities to students to ensure a high level of academic achievement.
- The school management should increase the nursing students' motivation through increasing physical and moral incentives.
- The school teachers should use creative teaching strategies that are most effective in self-regulated learning and goal orientation toward academic achievement.
- Conducting training program about achievement motivation to enhance students' academic performance.
- Gather information about weakness and strength point of views that in turn, help in formulating curricula to motivate students with excellent grades.

Table (1): Frequency Distribution of Personal Characteristics among Nursing Students (n=250).

Personal Characteristics	Nurse students (N = 250)	
	N	%
1) Age per years:		
○ 16-17	165	**66.0**
○ >17	85	34.0
Mean ±SD	17.1±0.25	
2) Sex:		.
○ Males	160	**64.0**
○ Females	90	36.0
3) Education grade:		
○ Second	124	49.6
○ Third	126	**50.4**

Table (2): Mean and Standard Deviation of Goal Orientation Subdomain among Studied Nursing Students

Domains of Self-Regulated Learning	Mean ±SD	Median (Range)
Motivation	112 ±14.5	113(72-144)
Learning strategy	110.1±14.9	111.5(64-143)
Recourse Management	70.1±9.8	70(39-93)

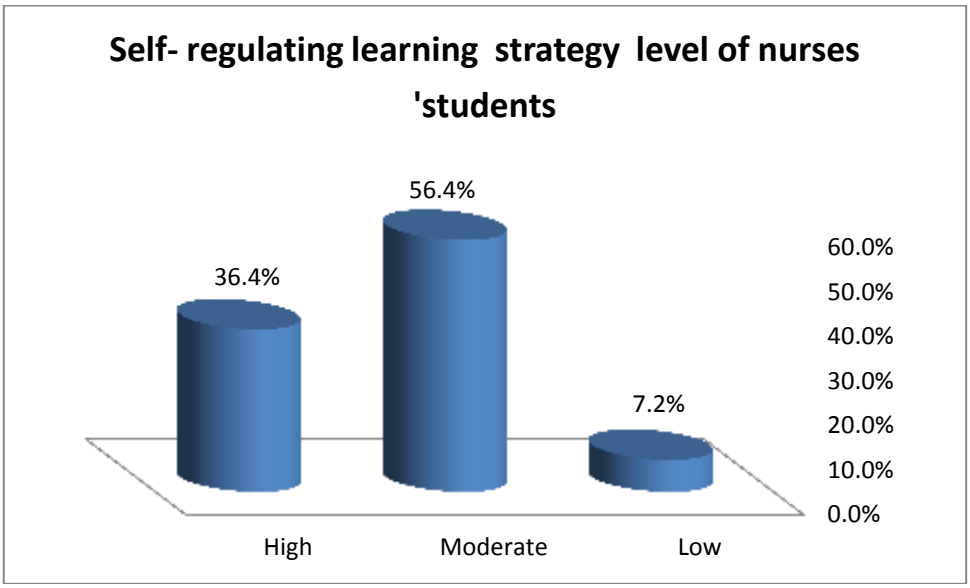

Figure (1): Bar chart of percent of self-regulated learning strategy level of nurse 'students

Table(3): Mean and Standard Deviation of Academic Achievement Subdomain among Studied Nursing Students (n = 250)

Sub dimension	Mean ±SD	Range
Academic Performance	**30.7 ±6.6**	31(14-45)
Extracurricular Activities	**27.9±6.5**	28(9-45)
Students interaction	**27±5.9**	27.5(13-40)
Students Behavior	**29.4±6.3**	30(12-40)
Students Attendance	**21.2±6.8**	21(9-39)
Total	137.1±18.1	135(81-179)

Table (4): Level of Frequency of Academic achievement among nurse 'students (n=250).

Academic achievement level	N.	%	Mean ±SD	Median (Range)
○ High	24	**9.6**	137.1±18.1	135(81-179)
○ Moderate	143	**57.2**		
○ Low	83	33.2		

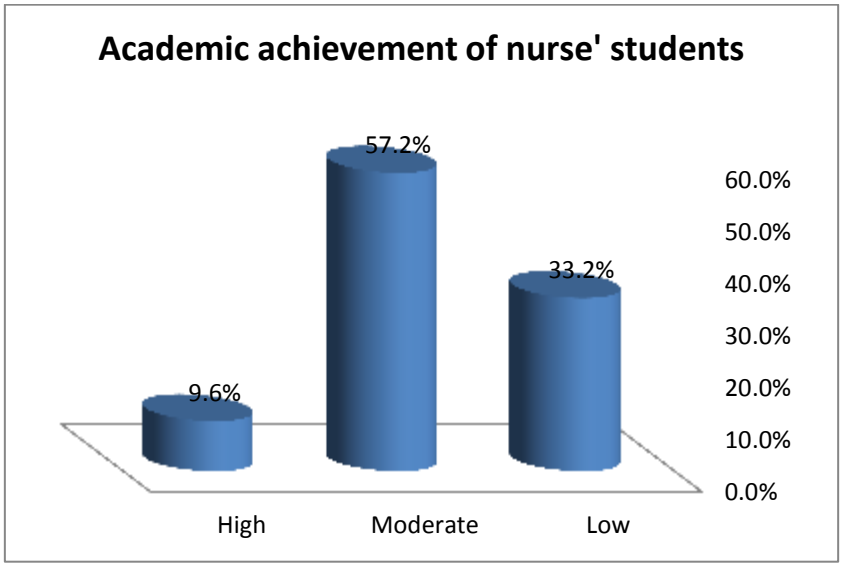

Figure (2): Bar chart of percent of academic achievement of nurse 'students

Table (5): Percentage distribution of Academic Achievement Dimension Levels among Studied Nursing Students (n = 250)

Domains	High		Moderate		Low	
	N.	%	N.	%	N.	%
Academic Performance	77	*30.8*	102	*40.8*	71	*28.4*
Extracurricular Activities	101	**40.4**	110	*44.0*	39	*15.6*
Students interaction	75	*30.0*	96	*38.4*	79	*31.6*
Students Behavior	119	**47.6**	83	*33.2*	84	*19.2*
Students Attendance	193	**77.2**	50	*20.0*	7	*2,8*

Table (6): Correlation matrix between Self-Regulated Learning score and its dimensions, Academic achievement score and its dimensions.

Variables	Self-regulated learning Score		Goal Orientation. score		Academic achievement Score	
	R	**P**	**R**	**p**	**R**	**P**
Self- learning score						
Academic achievement	.498**	0.0001	.302**	0.0001		
Goal orientation			.337**	0.0001	.404**	0.0001
Task value			.256**	0.0001	.315**	0.0001
Self-efficacy			.429**	0.0001	.354**	0.0001
Controlling of learning beliefs			.235**	0.0001	.355**	0.0001
examination anxiety			-.088-	0.165	-.039	0.537
Total Motivation score			.386**	0.0001	.441**	0.0001
Rehearsal			.233**	0.0001	.342**	0.0001
Elaboration			.243**	0.0001	.399**	0.0001
Organization			.206**	0.001	.357**	0.0001
Critical thinking			.252**	0.0001	.354**	0.0001
Metacognition			.303**	0.0001	.375**	0.0001
Total trial Learning strategy score			.328**	0.0001	.477**	0.0001
Time and study environment			.186**	0.003	.300**	0.0001
Effort regulation			0.047	0.459	0.035	0.585
Peer learning			.138*	0.029	.167**	0.008
Help seeking			.288**	0.0001	.229**	0.0001
Total Recourse management strategies			.241**	0.0001	.279**	0.0001
Academic Performance	.458**	0.0001	.186**	0.003		
extracurricular activities	.277**	0.0001	-.074	0.242		
students interaction	.330**	0.0001	.231**	0.0001		
students behavior	.354**	0.0001	.326**	0.0001		
student attendance	-.256 **	0.0001	-.382 **	0.0001		
Student age	0.045	0.478	.188**	0.003	0.11	0.074

Table (7): Relation between Self-Regulated Learning Level of Nursing Student and Their Demographic Characters (n = 250)

Variables			**Self-Regulated learning level**			X^2	**P Value**
			High ≥75 n.91	Moderate 50:<75 n.141	Low <50 n.18		
Age groups	≤17 years	N	60	93	12	.0.004	0.99
		%	36.4%	56.4%	7.3%		
	>17 years	N	31	48	6		
		%	36.5%	56.5%	7.1%		
Sex	Males	N	71	78	11	12.4	**0.002***
		%	44.4%	48.8%	6.9%		
	Females	N	20	63	7		
		%	22.2%	70.0%	7.8%		
Education grade	Second	N	45	69	10	0.28	0.87
		%	36.3%	55.6%	8.1%		
	Third	N	46	72	8		
		%	36.5%	57.1%	6.3%		

Table (8): Relation between academic achievement level of nursing students and their demographic characters (n = 250)

Variables			Academic achievement level			χ^2	P Value
			High ≥75 n.24	Moderate 50:<75 n.143	Low <50 n.83		
Age groups	16-17 years	N	12	96	57	3.1	0.21
		%	7.3%	58.2%	34.5%		
	>17 years	N	12	47	26		
		%	14.1%	55.3%	30.6%		
Sex	Males	N	20	92	48	5.3	0.072
		%	12.5%	57.5%	30.0%		
	Females	N	4	51	35		
		%	4.4%	56.7%	38.9%		
Education grade	Second	N	10	72	42	0.67	0.72
		%	8.1%	58.1%	33.9%		
	Third	N	14	71	41		
		%	11.1%	56.3%	32.5%		

Table (9): Self-regulated learning score, predicting academic achievement of nursing students

Predictors	B	Std. Error	T	Sig.	R	R^2
(Constant)	52.051				0.51	**0.26**
Self-regulated learning score	.251	.033	7.526	.0001		

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