

SELF-DIRECTED LEARNING READINESS AND PROBLEM-BASED LEARNING APPROACH AS PERCEIVED BY NURSING STUDENTS

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ABSTRACT

Background: Self-directed learning has proven to be advantageous for the students to conduct lifelong, satisfactory and independent learning while, problem-based learning is a constructive learning approach by enabling students to find solutions for the complex real-world problems. **Aim of the study:** The current study aimed to determine the relation between self-directed learning readiness and problem-based learning approach as perceived by nursing students. **Design:** A descriptive correlational research design was utilized. **Subjects:** All target of nursing students (371) included in the studying in the second semester at all levels in the academic year 2017-2018 was recruited from the faculty of nursing in port-said university. **Tools of data collection:** Self-administered questionnaires \ scales were used to assess self-directed learning readiness and the problem-based learning approach as perceived by nursing students. **Results:** Students had moderate level of self-rating skills of self-directed learning, self-directed learning readiness, and low level of self-regulation responses (57.1%, 60.6%, 56.4% respectively) While, (50.4%) of students obtained low perception of problem-based learning approach. **Conclusion:** There was a positive statistically significant correlation ($P \leq 0.001$) between self-directed learning readiness and problem-based learning approach. **Recommendations:** Educational institutions in various fields must adopt the problem-based learning approach as a learning strategy and develop strategies to overcome obstacles that hinder application.

Keywords: Nursing students, Problem-based learning approach, Self-directed learning readiness.

INTRODUCTION

Learning is the main issue of all kinds of education which indicates that education is meaningful when it comes along with the learning of learners (Prozesky, 2000). Actually, learners live in an era which they have to deal with massive amounts of educational materials and issues. This means that each learner should learn more and should not remain behind others (Schwab, 2017). So, learners need to push their education to a direction with less independence on instructors (Prabjane, & Inthachot, 2013).

In fact, self-directed learning (SDL) makes people follow and learn what they need to learn. Recently, creating and fostering self-directed skills has become one of the goals of adults' education, so that the number of research and studies on SDL has increased worldwide (Henschke, 2016). The most cited definition of self-directed learning was by Knowles in (1975) which was the learning process where learners take the initial responsibility for their learning by diagnosing their own needs, setting goals, identifying learning resources, choosing appropriate strategies, and evaluating learning outcomes (Saks, & Leeijen, 2014).

In order to facilitate students' self-directed learning, it is critical to assess students' readiness (Klunklin, Viseskul, Sripusanapan, and Turale, 2010). So self-directed learning readiness is defined as the degree to which an individual possesses attitudes, abilities, and personality characteristics necessary for self-directed learning (Sahoo, 2016). Moreover, self-direction is the basis of all learning. All individuals are capable of self-directed learning but the degree of development varies due to their individual differences (Cazan, and Stan, 2015). So, self-directed learning skills are congruent with self-rating skills. From this perspective, the self-directed learner is an individual with a high degree of self-rating and intrinsically motivated (Williamson, 2007).

Self-Regulated Learning (SRL) is recognized as an important predictor of student academic motivation and achievement who became a self-directed learner. So, SRL is defined as the process which the individual learner takes responsibility for identifying their own learning needs, establishing learning goals, selecting and implementing appropriate learning strategies, and evaluating learning outcomes (Owens, 2017). Basically, the definitions of SDL and SRL both emphasize that the intrinsic motivations are crucial component. Without this volitional aspect, it is not

likely that learners will be successful in SDL or SRL (Loyens, Maged, & Rikers, 2008).

Recently, education is changing from one of factual based on one of inquiry-based (Friesen and Scott, 2013). Malan, and Ndlovu (2014) confirmed that self-directed learning areas are consider relevant and applicable in a real-life situation where learning is a Problem-Based Learning (PBL) approach rather than subject-based. PBL is generally described as an educational strategy where students encounter disorganized contextual problems and strive to find meaningful solutions (McLean, 2016). Also, Yew, and Goh (2016) defined PBL as the learning which resulted from the process of working towards the understanding or resolution of a problem.

Brundiers, and Wiek (2014) list three main characteristics of PBL: Engages students as stakeholders in a problem situation, organizes curriculum around a given holistic problem and enabling student learning in relevant and connected ways, and creates a learning environment where teachers coach student thinking, guide student inquiry and facilitate deeper levels of understanding. Keshk, Qalawa, and El-Azim (2013) indicated that PBL is self-directed and is based on real-life situations, so students gain self-confidence in being able to resolve problems that they might face in everyday activities.

Significance of the Study:

Student's learning is a complex process that needs to recognize what information is needed. The students need to develop their own abilities to use the knowledge appropriately in order to solve the problems they face and keep pace with the requirements of the labor market. These abilities are usually a core concept of SDL. To apply for the SDL program, there must be an established educational base that depends on student-centered teaching approaches .

PBL approach has been embraced to apply the trend of (SDL) by educational institutions. SDL strategy is being considered the base for (PBL) approach; as a problem serves as a stimulus and motivates students to identify what they need to learn for understanding it. Also, students are motivated to inquire about the broader concepts and principles related to the problem, especially in practical arena .

Therefore, the current study would add to current literatures by investigating the nursing students' readiness for (SDL) and the ability to learn through (PBL) approach. Specifically, using the reflection process in their learning helps them to acquire new information, and devote less effort and time during the learning process, which leads to improving their academic achievement and their abilities to conquer their challenges. Besides the previous, SDL will impact the investment in developing nursing education programs which improves the public image of the nursing profession. Moreover, in the practical field when the student is an active engagement in applying new trends in nursing, they will raise the efficiency of nursing care provided to clients and increase the marketing of the health care setting. So, this study aimed to determine the relation between self-directed learning readiness and problem-based learning approach as perceived by nursing students.

AIM OF THE STUDY

The current study aimed to determine the relation between self-directed learning readiness and problem-based learning approach as perceived by nursing students.

Objectives:

The following objectives were established in order to achieve the current study aim:

1. Measure the level of self-directed learning readiness among nursing students
2. Determine nursing student's perception related problem-based learning approach.
3. Find out the relation between self-directed learning readiness and problem-based learning approach.

SUBJECTS AND METHOD:

Technical Design:

Design: A descriptive correlational research design was used for the current study.

Setting:

The current study was conducted in the Faculty of Nursing – Port Said University which affiliated to the Ministry of Higher Education – Egypt. This faculty was established in 1991 and adopted the (PBL) approach in its curriculums.

Subjects:

All target of nursing students (371) included in the studying in the second semester at all grade levels in the academic year 2017-2018.

Tools of Data Collection:

Data of the current study were collected by using self-administered questionnaires involved in two tools as follows:

Demographic and Personal Characteristics:

This tool was developed by investigator, and it was aimed to collect data about nursing students' personal data as gender, grade levels, pre- educational qualifications, previous grades, pre-enrollment information for faculty's learning system, preliminary awareness for (PBL) and it's benefit in the beginning of the study, and satisfaction with problem solving approach for teaching and learning.

Self-Rating Scale of Self-Directed Learning (SRSSDL):

This tool was developed by Williamson (2007) and used for testing (SRSSDL) in higher education. This part measures the level of self-rating of self-directedness in the learning process, and considers how to use them in practice to enhance the skills necessary to become independent lifelong learners .

SRSSDL comprised of 60 items are categorized under five broad areas of self-directed learning as follows: learning awareness; 12 items relating to learners' understanding of the factors contributing to becoming (SDL), learning strategies; 12 items explaining the various strategies self-directed learners should adopt in order to become self-directed in their learning processes, learning activities; 12 items specifying the requisite learning activities learners should actively engage in order to become self-directed in their learning processes, evaluation; 12 items revealing learners' specific attributes in order to help monitor their learning activities and finally the interpersonal skills; 12 items relating to learners' skills in inter-personal relationships which are pre-requisite to their becoming (SDL).

Scoring system :

Responses for each item were rated in five-point Likert scale ranging from never (1) to always (5). SLD was considered low level when it was given for a total score (60-140), moderate level with a score (141-220) and high level with a score (221-300). The maximum and the minimum possible scores of the (SRSSDL) were 300 and 60 respectively (Williamson, 2007).

Learning Self-Regulation Questionnaire- (LSRQ)

This tool was developed by Schutt (2009) and adapted by the investigator, and used for testing the students' responses for participating in (PBL) nursing classes.

This part comprised of 13 questions including: actively participate in learning classes is represented in four questions, follow instructor's suggestions is represented in five questions, and the reason that student will continue to broaden nursing knowledge is represented four questions.

Scoring system:

Responses for each question were rated in three - point Likert scale ranging from not true (1) to very true (3). Data were classified into to quartiles to classify scores of students to; very low level when it was given for a total score (13-28), low level with a score (29-32), moderate level with a score (33-35), and high level with a score (36-39) (Weinberg & Abramowitz, 2008).

Self-Directed Learning Readiness Scale (SDLRS):

This tool was adopted from El-askary (2013) and used for determining the extent to which students perceived themselves as possessing the skills and attitudes associated with (SLD) throughout 58 items.

Scoring system :

Responses for each item were rated in five-point Likert scale ranging from never (1) to always (5) categorized as the following: (<60) indicated a low level ability to direct one's own learning, (60-214) indicated a moderate level ability to direct one's own learning and (215- 290) indicated a high level ability to direct one's own learning (El-askary, 2013).

PBL approach perception questionnaire:

This tool developed by Othman, and Shalaby (2014) and adapted by investigator, and used for assessing the student's perception of the (PBL) approach as a teaching strategy. Student's perception and opinions includes 38 items are classified under six domains as follows: construction professional knowledge is represented in four items, development problem solving skills is represented in four items, improvement of motivation to learn is represented in four items, promotion of effective group collaboration represented five items, tutor's role throughout (PBL) session is represented in nine items, and finally barriers of (PBL) as a learning strategy is represented in 12 items.

Scoring system:

Students are asked to indicate their agreement on five - point Likert scale where strongly disagree is scored for (1) to strongly agree which scored for (5). Data were classified into to quartiles to classify scores of students to; very low level when it was given for a total score (38-123), low level with a score (124-136), moderate level with a score (137-155), and high level with a score (156-190) (Weinberg & Abramowitz, 2008).

Operational Design

- The data collection tools were translated into Arabic language by investigator; the Arabic version was translated again into English by a bilingual professional person in comparing the three versions.
- The data collection tools were revised by the investigator and got the supervisor's approval. Also, the tools were checked for face validity by five academic professionals in the field of nursing administration, psychiatric mental health nursing, and medical surgical nursing. Additionally, content validity was tested for the data collection tools following the Content Validity Index (CVI) yielded 90% accordingly the needed modification was done.

Tool Reliability:

Reliability of the tools was checked by testing its internal consistency using a Cronbach's Alpha test which yielded the following values:

| | Tools | values |
|---|--|--------|
| 1 | Self-rating scale of self-directed learning | 0.78 |
| 2 | Self-regulation questionnaire | 0.86 |
| 3 | Self-directed learning readiness scale | 0.91 |
| 4 | Problem-based learning approach perception questionnaire | 0.91 |

Pilot study:

The pilot study was carried on (37 nursing students) (i.e. ten percent of the studied sample who were selected randomly to test the clarity and applicability of tools. There weren't modifications done based on analysis of the pilot results and the estimated time needed to complete the questionnaire consumed 30 – 35 minutes.

Field work:

The investigator obtained an official permission from the nursing faculty dean and explained the study's purpose and approach of completing the questionnaires were clearly explained for all participants after taking their permission to participate. The investigator met them in different grade levels according to their schedule and distributed the study tools over them. Consequently, some students filled the tools in the time of distribution and others returned the tools after a while. Overall, the process of data collection started and finished for almost three months (started from the beginning of March 2017).

Administrative Design:

Before conducting the study, an ethical approval letter was obtained from the Dean, Vice Dean for Education and Student Affairs, and academic coordinators of all grade levels to collect the data from all students.

Ethical consideration

Verbal consent was obtained from all participants before data collection. Anonymity was assured and maintained; no burden or risk was imposed on participants and no coercion or pressure was applied. Confidentiality was declared to all students participating in the study and investigator confirmed that information will be used for the research purpose only.

Statistical Design:

The collected data were categorized, scored, tabulated, and analyzed by computer using Statistical Package for Social Science (SPSS), Version 22.0. It was examined drafts of the output against the revised encrypted data for spelling mistakes. Finally, analysis and interpretation of data were conducted using the following statistical measures:

- Descriptive statistics including frequency distribution, mean, minimum and maximum means and standard deviation were used to describe different characteristics.
- Spearman correlation coefficient were used to study the relationship between the variables

RESULTS:

Table (1): displays that slightly less than three quarters (72.5%) of the students were female and more than one-third of them (35.8%) were registered in the fourth level. Moreover, more than three quarters (79.5%) of students have a secondary school level before enrollment to the faculty and 37.5% of them scored excellent in the previous grades. Additionally, the table shows that 70.4 % of the students didn't obtain the pre-enrollment information for faculty's learning system. 66.3 % of students were aware about problem-based learning at the beginning of the study but on other side, more than half (53.4 %) of them didn't get benefit from that awareness. Where, 55.0% of students were unsatisfied with the problem-based learning as an educational system.

In light of Table (2), more than half of the students had a moderate level of self-rating skills and self-directed learning readiness skills (57.1%, 60.6% respectively), with low level of self-regulation responses (56.4%).

Table (3) indicates the total mean \pm sd students' self-rating skills score was (211.74 \pm 37.7). Additionally, revealed the total mean \pm sd students' self-regulation responses score was (33.49 \pm 5.89). Finally illustrated, the total mean \pm sd students' self-directed learning readiness skills score was (204.54 \pm 34.35).

Table (4): half percentage of the students (50.4 %) had low perceptions toward problem-based learning as a teaching strategy followed by 25.9 % of them had moderate perception. Meanwhile, 23.7 % of students had a high perception of problem-based learning as a teaching strategy.

Table (5) reveals that the total mean score of student's perceptions toward problem-based learning approach was (136.79 \pm 25.88). Where, barriers of problem-based learning approach gained the highest mean score from the students' point of view followed by tutor's role throughout problem-based learning session, promotion of effective group collaboration, and development of problems solving skills (38.54 \pm 10.64, 34.20 \pm 8.44, 18.67 \pm 5.86, 15.56 \pm 3.47) respectively. Meanwhile, the improvement of motivation was the lowest students' perception followed by constructing of professional knowledge (14.87 \pm 3.33, 14.94 \pm 4.13).

Table (6) shows a highly statistically significant positive correlation ($P \leq 0.001$) between students' perception toward the problem-based learning approach, self-rating skills, self-regulation responses, and self-directed learning readiness skills.

Table (1): Distribution of demographic and personal characteristics of the study sample (n = 371).

| Personal data | N | % |
|--|-----|------|
| Gender | | |
| Male | 102 | 27.5 |
| Female | 269 | 72.5 |
| Grades level | | |
| First level | 58 | 15.6 |
| Second level | 72 | 19.4 |
| Third level | 108 | 29.1 |
| Forth level | 133 | 35.8 |
| Pre- educational qualifications | | |
| Technical institute | 76 | 20.5 |
| Secondary school | 295 | 79.5 |
| Previous grades | | |
| Excellent | 139 | 37.5 |
| Very good | 129 | 34.8 |
| Good | 36 | 9.7 |
| Accepted | 10 | 2.7 |
| Not Answered | 57 | 15.4 |
| Pre-enrollment information for faculty's learning system | | |
| Obtained | 110 | 29.6 |
| Not obtained | 261 | 70.4 |
| Preliminary awareness for problem-based learning in the beginning of the study | | |
| Had | 246 | 66.3 |
| Not had | 125 | 33.7 |
| If yes; do you get benefit from being aware? | | |
| Yes | 198 | 32.9 |
| No | 51 | 53.4 |
| Don't know | 122 | 13.7 |
| In general, are you satisfied with the problem-based learning as an educational system? | | |
| Yes | 167 | 45.0 |
| No | 204 | 55.0 |

Table (2): Distribution of self-directed learning readiness levels as reported by students (n=371)

| Frequencies of self-directed learning readiness items | N | % |
|---|----------|----------|
| I. Self-rating skills levels of self-directedness in learning process: | | |
| Low | 13 | 3.5 |
| Moderate | 212 | 57.1 |
| High | 146 | 39.4 |
| II. Self-regulation responses levels: | | |
| Low | 209 | 56.4 |
| Moderate | 81 | 21.8 |
| High | 81 | 21.8 |
| III. Self-directed learning readiness skills levels | | |
| Moderate | 225 | 60.6 |
| High | 146 | 39.4 |

Table (3): Distribution of mean scores for; self- rating skills, self-regulation responses and self-directed learning readiness skills as reported by students (n=371))

| Self-directed learning readiness | Mean | Min | Max |
|---|----------------|------------|------------|
| Self- rating skills | 211.74 ± 37.7 | 60 | 276 |
| Self-regulation responses | 33.49 ± 5.89 | 14 | 32 |
| Self-directed learning readiness skills | 204.54 ± 34.35 | 59 | 285 |

Table (4): Frequency of perception levels toward problem-based learning approach as reported by students (n=371)

| Student's perception levels toward problem-based learning approach | N | % |
|---|----------|----------|
| Low | 187 | 50.4 |
| Moderate | 96 | 25.9 |
| High | 88 | 23.7 |

Table (5): Total mean scores of student's perceptions toward problem-based learning approach (n=371)

| Student's perception toward problem-based learning approach | Mean | Min | Max |
|--|----------------|-----|-----|
| Constructing of professional knowledge | 14.94 ± 4.13 | 4 | 19 |
| Development of problems solving skills | 15.56 ± 3.47 | 4 | 18 |
| Improvement of motivation perception | 14.87± 3.33 | 4 | 16 |
| Promotion of effective group collaboration | 18.67 ± 5.86 | 5 | 22 |
| Perception of the tutor's role throughout problem-based learning session | 34.20 ± 8.44 | 10 | 33 |
| Perception of the problem-based learning approach's barriers | 38.54 ± 10.64 | 12 | 58 |
| Total | 136.79 ± 25.88 | 39 | 166 |

Table (6): Correlation between self-rating skills, self-regulation responses, self-directed learning readiness skills and student's perception toward problem-based learning approach

| | Sig | Self-rating skills | Self-directed learning readiness skills | Self-regulation responses | Student's perception toward problem-based learning approach |
|---|----------|--------------------|---|---------------------------|---|
| Self-rating skills | R | - | - | - | - |
| | P | - | - | - | - |
| Self-regulation responses | R | .337 | .351 | - | - |
| | P | <.001** | <.001** | - | - |
| Self-directed learning readiness skills | R | .738 | - | - | - |
| | P | <.001** | - | - | - |
| Student's perception toward problem-based learning approach | R | .639 | .676 | .439 | - |
| | P | <.001** | <.001** | <.001** | - |

DISCUSSION:

The current study was conducted to determine the relation between self-directed learning readiness, and problem-based learning approach perception among nursing students.

Part I: Self-Directed Learning Readiness among Nursing Students:

According to self-rating skills, the findings of the current study revealed that nursing students have a moderate level. This finding might be due to the faculty policy which emphasized the student-centered learning that promotes the students' self-rating skills. This finding was supported by Abd-Elmoghith (2018) who conducted a study in Kafrelsheikh University and confirmed that more than one-third of nursing students have an average level of self-rating skills. On the other hand, these findings were incongruent with Mitrovic, and Martin (2007) who evaluated the effect of open student models on self-assessment in University of Canterbury at New Zealand and concluded that not all students are good at rating themselves .

Aside the previous, the findings of the current study revealed that more than half of nursing students have a low level of self-regulation responses. This may be due to the nature of the study in nursing faculty which composed of a clinical part and theoretical part. In addition to the workload associated with (PBL) that could increase the cognitive demands which affect students' regulation abilities. This finding was supported by Hj Ramli, Alavi, Ahmadi, and Mehrihezah (2018) in Malaysia, who found that most of the students had a low level of academic self-regulation skills. In the same context Ozan, Gundogdu, Bay, and Celkan (2012) at Ataturk University, reported that overall self-regulated skills were found to be low levels on faculties' students .

In contrary case, a study carried out by Lavasani, Mirhosseini, Hejazi, and Davoodi (2011) at Tehran University studying the effect of self-regulation learning strategies training on the academic motivation and self-efficacy mentioned that the students had a high level of self-regulation learning strategy. Moreover, Peng (2012) at Public Foreign Language Jilin Normal University Siping China who studied the self-regulated learning behavior of college students and their academic achievement revealed that college students had a high level of self-regulated skills to achieve certain learning tasks.

Looking at the nursing student's (SDLR) skills, the findings of the current study indicated that highest percent of students reported a moderate level among nursing students. This finding might be due to the fact that the nursing students have a moderate level of self-rating skill as they didn't try to relate what they have learned to their long-term goals which in turn affected their (SDLR) skills level. This finding was supported by Prabjane, and Inthachot (2013) who studied (SDLR) of college students in Thailand and proved that college students having (SDLR) at a moderate level.

This result went in the same line with the study carried out by Yang, and Jiang (2014) with 519 undergraduate nursing students which mentioned that the nursing students had intermediate and higher (SDLR). In contrast, Murad, and et al. (2018) studied the effectiveness of (SDL) in health professions education among 200 nursing students and exhibited that (SDLR) practice.

Part II: Perception about (PBL) approach among nursing students:

The findings of the current study revealed that nursing students had a low perception toward the (PBL) approach, this result was considered as the barriers of (PBL) approach which gained the highest mean score from the students' point of view. These findings were congruent with Maxwell, Bellisimo, and Mergendoller (2010) who declared that students had a negative perception toward (PBL). On the opposite view, Aldayel, and et al. (2019) at Al-Imam Mohammad Ibn Saud Islamic University asserted a high level of students' perception toward the (PBL) sessions. Moreover, AL-Dress, Khalil, Irshad, and Abdulghani (2015) revealed that students had a high level of students' perception toward the (PBL) and highlighted the significant role of (PBL) in a curriculum .

Concerning the perception domains of the (PBL) approach, the findings of the current study showed that most of nursing students have high scores for barriers of the (PBL) approach. This might be related to what students stated as there was lack of motivation and teaching facilities. So, the students' difficulties in higher education affected their abilities to apply basic rules and concepts of (PBL) to solve the definable problems. Further, nursing students perceived the tutor's performance throughout (PBL) session domain, this resulted from what students stated as their tutor allowed them to express their own opinions which led to deeply understand the problems and gained more analytical skills .

Additionally, promotion of effective group collaboration and development of problems solving skills domains had definable role from students' point of view which might because of most of them work effectively in the team and try to encourage themselves to consider alternatives when solving problems which led to increase their enthusiasm during (PBL) sessions. In contrast, the improvement of motivation was the lowest perceived domain followed by construction of professional knowledge domain as students slightly felt frustration from their perceived barriers during apply (PBL) rules and got affected on their learning achievement.

Part III: The correlation between self-rating skills, self-regulation responses, and (SDLR) among nursing students

The result of the current study indicated a statistically significant positive correlation between self-rating skills, self-regulation responses, and (SDLR) skills among nursing students. These findings went in the same line with those of Abd-Elmoghith (2018) who explored the effect of (SDLR) on competence for (SRL) and achievement through students' critical thinking at Kafr-elsheikh University, and claimed a positive correlation among total self-rating, (SRL), and (SDLR) among fourth level students' nurses who enrolled in nursing administration course.

As well, the current study result was in agreement with Brown, and Harris (2014) who studied the future of self-assessment in classroom practice, and concluded that the students' self-rating was an essential use of self-regulation strategies. In addition, Loyens, Maged, and Rikers (2008) who studied the (SDL) in (PBL) and its relationships with (SRL) at Erasmus University Rotterdam, and showed that (SRL) was an umbrella term for various processes such as goal setting, metacognition, and self-rating, all of which influence learning in various ways. In the same context, Kitsantas (2013) asserted in order to be successful in (PBL), students must take responsibility for their learning process (i.e. SDLR) which must include self-regulatory strategies.

Part IV: The correlation between self-rating skills, self-regulation responses, and (SDLR) skills with the perception of (PBL) among nursing students:

The current study revealed a statistically significant positive correlation between nursing student's self-rating skills level and student perception toward the PBL approach; this means that when self-rating skills increases, the (PBL) approach

perception increases. This might be related to the high score of students' evaluation skills which was affected by (PBL) strategies that encouraged evaluation process of students for themselves, colleges, and tutor. This interpretation aligned with Al-Dress, et al (2015) who revealed that most students reported that (PBL) sessions improved their self-rating, collaborative, and decision-making skills.

Concerning the nursing students' self-regulation responses and their perception toward the (PBL) approach, significant positive correlation was found. This might be resulted from learning environments that shapped the frame for development of students' self-regulatory strategies as an explicit learning outcome. Also, when the students followed the tutor's guidance in debriefing session, their abilities to discipline their self-regulation skills increase. This finding was supported by Galand, Raucant, and Frenay (2012) who confirmed that students' adaptive self-regulation skills were more employed in a (PBL) approach

In the same context, Kitsantas (2013) revealed that in order to be successful in (PBL) approach, it must be designed to support students' (SRL). In contrast, the study done by Temel (2013) who studied the effects of (PBL) on (SRL) skills and variables predictive of these skills, revealed that the (PBL) approach doesn't have any significant effects on student's self-regulated learning skills.

Aside the previous findings, the current study revealed a statistically significant positive correlation between (SDLR) skills and perception toward (PBL) among nursing students. This might be due to that (SDLR) process has been considered successful indicator for successfully (PBL) approach as the students used to take an active role in problem solving situation. This finding was aligned with Lestari, and Widajkusumah (2009) who studied students' (SDLR), perception toward student-centered learning and predisposition towards student-centered behavior at Islamic sultan university, indicated that improvement of student-centered behavior as a (PBL) approach was resulted from encourgment of students' (SDLR) .

The previous finding was also matched with Bruce, et al (2018) who studied (PBL): nursing students' attitude, self-reported competence, tutorial performance and (SDLR), claimed that (PBL) group reported higher (SDLR) level than (non-PBL) group. On the opposite side, Leatemia, Susilo, and Van Berkel (2016) at Mulawarman University, confirmed that problem-based curriculum may not fully affect the students' (SDLR) as the curriculum system, teacher's experiences, student's background and

cultural factors might contribute to the difficulties for the students in conducting (SDL).

CONCLUSION:

In the light of the main study findings, a moderate level of self-rating skills and self-directed learning readiness skills was evident among half of nursing students. Contrariwise, more than half of nursing students have a low level of self-regulation responses and problem-based learning approach perception.

Further, there was a statistically significant positive correlation between nursing students' self-rating skills, self-directed learning skills, self-regulation responses and problem-based learning perception by them. In general, there was a statistically significant relation between self-directed learning readiness ss and problem-based learning approach as perceived by nursing students.

RECOMMENDATIONS:

Educational administrators should conduct a training program about (SDLR) to guide teachers and increase awareness for the students. Also, developing the learning environment and extending it with providing requirements needed for implementing the (PBL) approach to empower students to perceive and adapt with (PBL) approach efficiently. Moreover, faculty administrative board should cooperate with the Ministry of Health and develop protocols for effective (PBL) applications in a practical situation.

REFERENCES:

Abd-Elmoghith, N., G., A. (2018): Self-Directed Learning Readiness: It's Effect on Nursing Students Critical Thinking Abilities. *International Journal of Nursing Didactics*, 8(03): 16-20.

Aldayel, A., A., Alali, A., O., Altuwaim, A., A., Alhussain, H., A., Aljasser, K., A., Abdulrahman, K., A., B., and Almutairi, T., A. (2019): Problem-Based Learning: Medical Students' Perception toward Their Educational Environment at Al-imam Mohammad Ibn Saud Islamic University. *Advances in Medical Education and Practice*, 10(1): 95-104.

Al-Dress, A., A., Khalil, M., S., Irshad, M., and Abdulghani, H., M. (2015): Students' perception towards the problem-based learning tutorial session in a system-based hybrid curriculum. *Saudi Medical Journal*, 36(3): 341-348.

Brown, G., and Harris, L., R. (2014): The Future of Self-Assessment in Classroom Practice: Reframing Self-Assessment as a Core Competency. *Frontline Learning Research*, 3(1): 22-30.

Bruce, J., C., Lack, M., Bomvana, N., M., and Qamata-Mtshali, N. (2018): Problem-Based Learning: Nursing Students' Attitude, Self-Reported Competence, Tutorial Performance and Self-Directed Learning Readiness. *Journal of Nursing Education and Practice*, 8(10): 11-19.

Brundiers, K., and Wiek, A. (2013): Do We Teach What We Preach? An International Comparison of Problem- and Project-Based Learning Courses in Sustainability. *Sustainability*, 5(4): 1725-1746.

Cazan, A., M., and Stan, M., M. (2015): Self-Directed Learning and Academic Adjustment at Romanian Students. *Romanian Journal of Experimental Applied Psychology*, 6(1): 10-20.

El-askary, H., E. (2013): *Effect of Problem-Based Learning on Self-Directed Learning Readiness among Students in Nursing Administration*. Published Doctorate dissertation, Mansoura University, Egypt: 52-54

Friesen, S., and Scott, D. (2013): Inquiry-Based Learning: A Review of the Research Literature. *Alberta Ministry of Education*, 32(1): 1-32.

Galand, B., Frenay, M., and Raucent, B. (2012): Effectiveness of Problem-Based Learning in Engineering Education: A Comparative Study on Three Levels of Knowledge Structure. *International Journal of Engineering Education*, 28(4): 939-947.

Henschke, J., A. (2016): Self-directed learning (SDL) and Andragogy: Take on their Contrasting and Complementary Relationship. *IACE Hall of Fame Repository*: 1-18.

Hj Ramli, N., Alavi, M., Mehrinezhad, S., and Ahmadi, A. (2018): Academic Stress and Self-Regulation among University Students in Malaysia: Mediator role of mindfulness. *Behavioral Sciences*, 8(1): 12-21.

Keshk, L., I., Qalawa, S., A., A., and El-Azim, S., A. (2016): Efficiency of Problem-Based Learning Course at College of Nursing in Egypt and KSA: Comparative Study. *American Journal of Educational Research*, 4(6): 450-458.

Kitsantas, A. (2013): Supporting Student Self-Regulated Learning in Problem-and Project-Based Learning. *Interdisciplinary Journal of Problem-Based Learning*, 7(2): 128-150.

Klunklin, A., Viseskul, N., Sripusanapan, A., and Turale, S. (2010): Readiness for Self-Directed Learning among Nursing Students in Thailand. *Nursing & Health Sciences*, 12(2): 177-181.

Lavasani, M., G., Mirhosseini, F., S., Hejazi, E., and Davoodi, M. (2011): The Effect of Self-Regulation Learning Strategies Training on the Academic Motivation and Self-Efficacy. *Procedia-Social and Behavioral Sciences*, 29(1): 627-632.

Leatemia, L., D., Susilo, A., P., and Van Berkel, H. (2016): Self-Directed Learning Readiness of Asian Students: Students' Perspective on a Hybrid Problem-Based Learning Curriculum. *International Journal of Medical Education*, 7(1): 385-392.

Lestari, E., and Widajkusumah, D. (2009): Students' Self-Directed Learning Readiness, Perception toward Student-Centered Learning and Predisposition towards Student-Centered Behavior. *South East Asian Journal of Medical Education*, 3(1): 52-56.

Loyens, S., M., Maged, J., and Rikers, R. M. (2008): Self-Directed Learning in Problem-Based Learning and Its Relationships with Self-Regulated Learning. *Educational Psychology Review*, 20(4): 411-427.

Malan, S. B., and Ndlovu, M. (2014): Introducing Problem-Based Learning (PBL) into a Foundation Program to Develop Self-Directed Learning Skills. *South African Journal of Education*, 34(1): 1-16.

Maxwell, N., L., Bellisimo, J., and Kentfield, C., A. (2010): The Effectiveness of Problem-Based Instruction: A Comparative Study of Instructional Methods and Student Characteristics. *California, USA: Human Investment Research and Education (HIRE) Center*: 107-138.

McLean, S., F. (2016): Case-Based Learning and Its Application in Medical and Health-Care Fields: A Review of Worldwide Literature. *Journal of Medical Education and Curricular Development*, 3(1): 39-49.

Mitrovic, A., and Martin, B. (2007): Evaluating the Effect of Open Student Models on Self-Assessment. *International Journal of Artificial Intelligence in Education*, 17(2): 121-144.

Murad, M., H., Coto, Y., glesias, F., Varkey, P., Prokop, L., J., and Murad, A., L. (2018): The Effectiveness of Self-Directed Learning in Health Professions Education: A systematic review. *Medical Education*, 44(11): 1057-1068.

Othman, S. Y., and Shalaby, S., A. (2014): Students' Perception and Acceptance of Problem-Based Learning Approach in Critical Care Nursing Practice. *In Scientific Cooperation International Workshops on Medical Topics*: 8-10.

Owens, T. L. (2017). Higher education in the sustainable development goals framework. *European Journal of Education*, 52(4), 414-420.

Ozan, C., Gundogdu, K., Bay, E., and Celkan, H., Y. (2012): A study on the University Students' Self-Regulated Learning Strategies Skills and Self-Efficacy Perceptions in Terms of Different Variables. *Procedia-Social and Behavioral Sciences*, 46(1): 1806-1811.

Peng, C. (2012). Self-regulated learning behavior of college students of science and their academic achievement. *Physics procedia*, 33, 1446-1450.

Prabjane, D., and Inthachot, M. (2013): Self-directed learning readiness of college students in Thailand. *Journal of Educational Research and Innovation*, 2(1): 1-11.

Prozesky, D., R. (2000): Communication and Effective Teaching. *Community Eye Health*, 13(35): 44-45.

Sahoo, S. (2016). Finding self-directed learning readiness and fostering self-directed learning through weekly assessment of self-directed learning topics during

undergraduate clinical training in ophthalmology. *International Journal of Applied and Basic Medical Research*, 6(3), 166.

Saks, K., and Leijen, Ä. (2014): Distinguishing Self-Directed and Self-Regulated Learning and Measuring them in the E-Learning Context. *Procedia-Social and Behavioral Sciences*, 112(7): 190-198.

Schutt, M. (2009). *Examination of academic self-regulation variances in nursing students*. Published Doctorte dissertation.

Schwab, K. (2017). The Fourth Industrial Revolution. *Geneva, Switzerland: Currency*: 121-135.

Temel, S. (2013): The Effects of Problem-Based Learning on Self-Regulated Learning Skills and the Variables Predictive of These Skills. *Mediterranean Journal of Social Sciences*, 4(14): 297- 302.

Weinberg, S. L., & Abramowitz, S. K. (2008). *Statistics using SPSS: An integrative approach*. Cambridge University Press

Williamson, S., N. (2007): Development of a Self-Rating Scale of Self-Directed Learning. *Nurse Researcher*, 14(2): 66-83.

Yang, G., F., and Jiang, X., Y. (2014): Self-Directed Learning Readiness and Nursing Competency among Undergraduate Nursing Students in Fujian Province of China. *International Journal of Nursing Sciences*, 1(3): 255-259.

Yew, E., H., and Goh, K. (2016): Problem-Based Learning: An Overview of Its Process and Impact on Learning. *Health Professions Education*, 2(2): 75-79.

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الخلاصة

قد ثبت أن التعلم الذاتي مفيد لضمان التعلم المستمر والمرضي للطلاب مدى الحياة ، في حين أن التعلم القائم على حل المشكلة هو نهج التعلم البناء من خلال تمكين الطلاب من إيجاد حلول لمشاكل العالم الواقعي المعقدة. الهدف من الدراسة: أجريت هذه الدراسة لتحديد العلاقة بين الاستعداد للتعلم الذاتي وإدراك نهج التعلم القائم على المشكلة بين طلاب التمريض. التصميم البحثي: تم استخدام تصميم ارتباطي وصفي في إجراء الدراسة لتحقيق هدف الدراسة. عينة ومكان البحث: تضمنت عينة البحث جميع طلاب التمريض وعددهم (371 طالب/طالبة) المسجلين في كل المستويات التعليمية المختلفة للعام الأكاديمي 2017-2018 بكلية التمريض جامعته بورسعيد. أدوات جمع البيانات: تم استخدام استبيانات لقياس الاستعداد للتعلم الذاتي وقياس إدراك نهج التعلم القائم على المشكلة بين طلاب التمريض. النتائج: لقد أظهرت نتائج الدراسة ان جميع طلاب التمريض لديهم مستوى متوسط من مهارات التعليم الذاتي (57.1%). وهناك ايضا مستوى متوسط من مهارات الاستعداد للتعلم الذاتي بين طلاب التمريض (60.6%). وكشفت النتائج ايضا عن انخفاض مستوى الطلاب لكلا من : استجابات التنظيم الذاتي (56.4%) و مدى ادراكهم لنهج التعلم القائم على حل المشكلة (50.4%). الخلاصة: وجود علاقة قوية ايجابية ($P \leq 0.001$) بين مهارات التقييم الذاتي، مهارات التنظيم الذاتي و، مهارات الاستعداد للتعلم الذاتي لدى طلاب التمريض و مدى ادراكهم لنهج التعلم القائم على المشكلة كأستراتيجية للتدريس. التوصيات: تطوير البيئة التعليمية وتوسيعها مع توفير المتطلبات اللازمة لتنفيذ نهج التعلم القائم المشكله لتمكين الطلاب من إدراكه والتكيف معه.

الكلمات المرشدة : الاستعداد للتعلم الذاتي، نهج التعلم القائم على حل المشكلة، طلاب التمريض