

Evaluation of Students' Self-Directed Learning Laboratory Practices Related to Administration of Medication in Southern of Iraq Nursing Colleges

تقويم التعلم الموجة الذاتي للممارسات المختبرية المتعلقة بإعطاء الدواء لطلبة كليات التمريض في جنوب العراق

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الخلاصة:

الهدف: الهدف من الدراسة لتقويم التعلم الموجة الذاتي للممارسات المختبرية المتعلقة بإعطاء الدواء (الزرق العضلي، الزرق الوريدي، العلاج الفموي) لطلبة كليات التمريض في المحافظات الجنوبية ومقارنة مستوى التعلم الموجة الذاتي بين طلبة كليات التمريض (كلية التمريض/ جامعة ميسان ، كلية التمريض/جامعة ذي قار/كلية التمريض جامعة البصرة) .

المنهجية: أجريت دارسه ذات تصميم مستعرضة (مقطعية) على طلبة كليات التمريض في المحافظات الجنوبية إذ تم جمع عينة الدراسة للفترة من ٢٨-تشرين الأول ٢٠١٥ إلى ١٥-أيار ٢٠١٥ لتقويم التعلم الذاتي للممارسات المختبرية لطلبة كليات التمريض ، حيث أقيمت الدراسة في كليات التمريض في المحافظات الجنوبية (كلية تمريض/ جامعة ميسان ، كلية تمريض/ جامعة البصرة وكلية تمريض/ جامعة ذي قار) حيث تم اختيار عينة غرضيه تكونت من ٩٠ طالبا في التمريض ٤٥ منهم ذكور و٤٥ إناث حيث شملت العينة ٣٠ طالبا من المرحلة الأولى من كل كلية من الكليات التي شملتها الدراسة. تكون الاستبيان من جزئين الجزء الأول المعلومات الديموغرافية وتضمنت (٣) فقرات والجزء الثاني استمارة رصد تطبيق الممارسات تتكون من ٧٣ فقرة وتتألف من ثلاثة محاور بإعطاء الدواء والتي تشمل الزرق العضلي ٢٥ فقرة والزرق الوريدي ٢٨ فقرة والإعطاء عن طريق الفم ٢٠ فقرة والتي تخص تقويم التعلم الذاتي للممارسات المختبرية للطلبة وكل إجراء يتم تطبيقه بثلاث خطوات متعاقبة ومتناسقة لإعطاء الطريقة العلاجية المناسبة والتي هي (التحضير، المعدات والإجراء). حيث طبقت هذه الإجراءات على الدمى في مختبرات الكليات. اعتمد الباحث لتقويم فقرات التعلم الموجة الذاتي للممارسات المختبرية للطلبة على مقياس لا يكرت (مقتنع، يحتاج إلى ممارسة، غير مقتنع). تم تحديد مصداقية الأداة من خلال استخدام اختبار ألفا كرومباخ وتم تحديد صلاحية الأداة من خلال عرضها على (١٥) خبير وموافقهم عليها تم تحليل بيانات الدراسة من خلال تطبيق أسلوبين إحصائيين الأول أسلوب الإحصاء الوصفي الذي يشمل (تكرار، النسبة المئوية والمتوسط الحسابي والانحراف المعياري) والثاني الأسلوب الإحصائي الاستدلالي الذي يشمل انوفا واختبار تي .

النتائج: أشارت نتائج الدراسة إلى أن غالبية طلبة التمريض لديهم ارتفاع في مستوى التعلم الموجة الذاتي للممارسات المختبرية بنسبة ٩٣.٣ للزرق العضلي، وبنسبة ٧٩.٦ للزرق الوريدي وبنسبة ٩٨.٨ للعلاج الفموي كما وأوضحت الدراسة بأنه لا توجد هنالك علاقة بين التعلم الموجة الذاتي والمعلومات الديموغرافية.

الاستنتاج: استنتجت الدراسة بان هناك تأثير ايجابي للتعلم الموجة الذاتي المطبق على طلبة كليات التمريض في المحافظات الجنوبية من العراق. **التوصيات:** أوصت الدراسة بان لابد من تقديم سياسات وخطط ساندة للتعلم الذاتي في كليات التمريض لتساعد وتشجع الطلبة على لتطبيق التعلم الذاتي في نطاق واسع كطريقة للتعلم وتطوير المهنة وتطوير النفس وتطوير الوسائل المرئية وإعداد عصري شامل لمصادر التعلم كمثال المكتبة، خدمة الانترنت وغرفة تكنولوجيا التعليم من اجل تسهيل الراحة للعاملين في البحث عن المعلومات التي يحتاجون إليها للتعلم والتطوير الذاتي.

Abstract:

Objective: The aim of the study to evaluated the students' self-directed learning laboratory practices related to Administration of medications procedures (Intramuscular injection, Intravenous injection and oral medication).

Methodology : A cross-sectional design was carried out at colleges of nursing in southern of Iraq has been used in the present study from 28th October 2014 to 15th May , 2015 . To evaluation of students' self –directed learning laboratory practices. The present study was conducted in southern of Iraq at 3 nursing colleges which included (Missan nursing college , Thi-Qar nursing college and Basra nursing college). purposive sample was selected which consist of (90) nursing students(45) male and (45) female and the sample were contain (30) students of first class from every nursing college .The check-list competency evaluation consist of two parts the first one is general information data (3 items) and the second part is observation check list included (73) items include three administration of medication procedure which involve the intramuscular injection (25)items, intravenous injection (28) items and oral medications (20) items that concerned with students self-learning laboratory practices technique and each procedure has three steps of strategy technique (preparation, equipments and procedure) which considered important steps that must be performed by students .The items concerning students self-directed learning laboratory practices were rated on three levels likert scale; (satisfy , need more practice and unsatisfied). Reliability of instrument was determined through the use check-list is based on Cronbach's practices, the instrument validity was determined through a panel of experts. The data of present study were analyzed through the application of two statistical approaches. A descriptive statistical approach that includes (frequency,

percentage, Mean of score (M.S.) and standard deviation. (SD) and an Inferential statistical approach that includes (ANOVA and t- test).

Results: The result of the study indicated that the majority of nursing students have high level of the self-directed learning in laboratory practices, (96.7%) intravenous, (93.3%) intramuscular and (88.9%) oral medications and also the study show non significant relationship between self-learning and their demographic data.

Conclusion: The study concluded that the SDL program regarding students' practice concerning the administration of medication is a positive and significance . also the study show there is non significant between self-directed learning and demographic information for nursing students

Recommendation: Introduce a policy and supportive plans to assist and encourage personnel of every nursing students in the colleges to extensively apply self-directed learning as a method of learning for their professional and self-development and develop visual aids for learning and set up comprehensive, up-to-date sources of learning i.e., a library, the internet service, communications room and/or educational technology room – in order to facilitate convenience for nursing students in searching for information they need for learning and self-development.

Keywords: student; self-directed learning; laboratory; practice; administration of medications

INTROUDUCTION :

There are many methods and techniques for effective teaching. These different methods and techniques should be used skillfully in the class by the teachers in order to teach his students effectively. The skilful and competent teacher uses as many methods and techniques as possible because, there is no single method which is regarded as the best for every teaching situation. In a single lesson therefore, the teacher can employ as many methods as possible. The success of every method depends on the calibre of the teacher and his professional experience in the field of teaching ^{1} (Fidelia,2012) .Self-directed learning (SDL) has been identified as an approach to learning that received increasing attention in recent years, particularly in the context of higher education ^{2} . Self-directed learning is of great importance to the professional development of nursing students, and which enables them to expand the knowledge and enhance the quality of their practice. Nursing students must keep abreast of new information, current and emerging trends, medical technology and related scientific and professional publications to be able to function effectively in a constantly changing workplace^{3} . In the past, much of the theory and research about self-directed learning was involved with adult education. However self-directed learning is now becoming an approach to learning generally accepted by learners both in and out of the school system. Learners show an eagerness to learn and try to learn things that are of interest to them. Learners who are self-directed are able to learn better than those who learn by external direction^{4}.

OBJECTIVE OF THE STUDY:

was to evaluated of self-directed learning laboratory practices in southern of Iraq nursing colleges

METHODOLOGY :

Study Design

A cross-sectional design is carried out in order to achieve the objectives of the study by using (evaluation of students self –directed learning laboratory practices) has been used in the present study. Data was collected 28th October 2014 to 15th May , 2015 .

Participants

A purposive sample of (90) nursing students was selected from first year of nursing colleges in southern of Iraq (Missan ,Basra , Thi-Qar) and were (45 male , 45 female) .

Instruments

An evaluation tool was adopted and developed by the researcher to measure the self-directed learning laboratory practices related to administration of medications , a draft of check-list competency evaluation was reviewed by (15) expert and presented with (10) nursing students . the final study instrument

Consist of two part :

The first part of the competency check list include (3) item relative to the Demographic data of the students who study in the nursing colleges (Missan ,Thi-Qar and Basra) which include; age, gender and accepted in the college due to certificate.

The second part of the competency check list included (73) items include three administration of medications procedures (intramuscular injection, intravenous injection and administering oral medications) that concerned with students self-directed learning laboratory practices technique and each section has three steps of procedure technique (preparation , equipments and procedure) which considered important steps that must be performed by students which as the following . The first technique This section includes (25) items, which present students self-directed learning laboratory practices related to Intra muscular injection (I.M) it consist of three parts : Part- one: preparation consist of (3) items. Part -two: equipments consist of (4) items. Part-three procedure consist of (18) items. The second technique :this procedure includes (28) items, which present students self-directed learning laboratory practices related to Intra venous injection (I.V) it consist of three parts: Part- one: preparation consist of (4) items . Part -two: equipments consist of (7) items . Part-three procedure consist of (17) items .The third technique : this procedure includes (20) items, which present students self-directed learning laboratory practices related to Administering oral medications it consist of three parts : Part- one: preparation consist of (3) items . Part -two: equipments consist of (3) items . Part-three procedure consist of (14) items. The items concerning students self-directed learning laboratory practices were rated on three levels likert scale; (satisfy , need more practice and unsatisfied) (and scored as 3, 2, and 1) respectively. The overall number of the items included in the students self-directed learning laboratory practices tool were (76) items. The procedures are applied on dolls in laboratories of nursing colleges .

Data collection

The data were collected through the utilization of a developed a constructed check-list which concern for students self-directed learning laboratory practices, data were collected through the applications of procedures technique by observation check-list when they working in the laboratory procedure in southern of the nursing colleges . Each interview took approximately (15-20) minute . The data collection process started in February 23th 2015 to the 25th of March 2015.

Data Analysis

In order to achieve the early stated objectives, the data of the study were analyzed through the use of Statistical Package of social sciences (SPSS) version 20 through statistical approach that includes (frequency, percentage, Mean of score (M.S.) and standard deviation. (SD) and an Inferential statistical approach that includes (ANOVA and t-test).

RESULT :

Table (1): Distribution of the students by their demographic characteristics

| No. | Variables | (n=90) | Missan | | Thi-Qar | | Basra | |
|-----|------------|--------|--------|------|---------|------|-------|------|
| | | | F | % | F | % | F | % |
| 1- | Age (year) | 18-21 | 26 | 86.7 | 27 | 90.0 | 28 | 93.3 |
| | | 22-25 | 2 | 6.7 | 2 | 6.7 | 1 | 3.3 |

| | | | | | | | | |
|----|-------------------------|-----------------------------|----|-------|----|-------|----|-------|
| | | 30-33 | 2 | 6.7 | 1 | 3.3 | 1 | 3.3 |
| 2- | Gender | Male | 15 | 50.0 | 15 | 50.0 | 15 | 50.0 |
| | | Female | 15 | 50.0 | 15 | 50.0 | 15 | 50.0 |
| 3- | Accepted in the college | Secondary school graduates | 26 | 86.7 | 26 | 86.7 | 26 | 86.7 |
| | | school of nursing graduates | 2 | 6.7 | 3 | 10.0 | 2 | 6.7 |
| | | Nursing institute graduate | 2 | 6.7 | 1 | 3.3 | 2 | 6.7 |
| | | Total | 30 | 100.0 | 30 | 100.0 | 30 | 100.0 |

Table (1) shows that study sample at (18 to 21years) represent (90%) .The above table also shows that gender were equally between male and female (50 %). also in regarding to the levels of education the results show that the majority of the study sample was secondary school graduates (86.6%). In addition, students of nursing colleges are distributed equally between three governorates (33.3%) for each college.

Table (2) Distribution of the participant level of students self-directed learning lab practices competency through the mean scores concerning observation of check list I.M

| Level of evaluation competency | Frequency | Percent |
|--------------------------------|-----------|--------------|
| Moderate | 6 | 6.7 |
| High | 84 | 93.3 |
| Total | 90 | 100.0 |

Cut-off-point interval : 1-1.67 = Low; 1.68-2.33 = Moderate 2.34-3.00 = High

Table (2) reveals that the majority of participants have high level for self-directed learning lab practices through the mean score concerning observation of check list Intramuscular injection(93.3%).

Table (3):Distribution of the participant level of students self-directed learning lab practices competency through the mean scores concerning observation of check list Intravenous Injection

| Level of self-directed learning | Frequency | Percent |
|---------------------------------|-----------|--------------|
| Moderate | 3 | 3.3 |
| High | 87 | 96.7 |
| Total | 90 | 100.0 |

Cut-off-point interval : 1-1.67 = Low; 1.68-2.33 = Moderate 2.34-3.00 = High

Table (3) reveals that the majority of participants have a high level for self-directed learning lab practices competency through the mean scores concerning observation of check list Intravenous injection attain 87(96.7%).

Table (4): Distribution of the participant level of students self-directed learning lab practices competency through the mean scores concerning observation of check list oral medications

| Level of evaluation competency | Frequency | Percent |
|--------------------------------|-----------|---------|
| Moderate | 10 | 11.1 |

| | | |
|--------------|----|-------|
| High | 80 | 88.9 |
| Total | 90 | 100.0 |

Cut-off-point interval : 1-1.67 = Low; 1.68-2.33 = Moderate 2.34-3.00 = High

Table (4) reveals that the majority of participants have a high level for self-directed learning lab practices through the mean scores concerning observation of check list oral medications route attain 80(88.95).

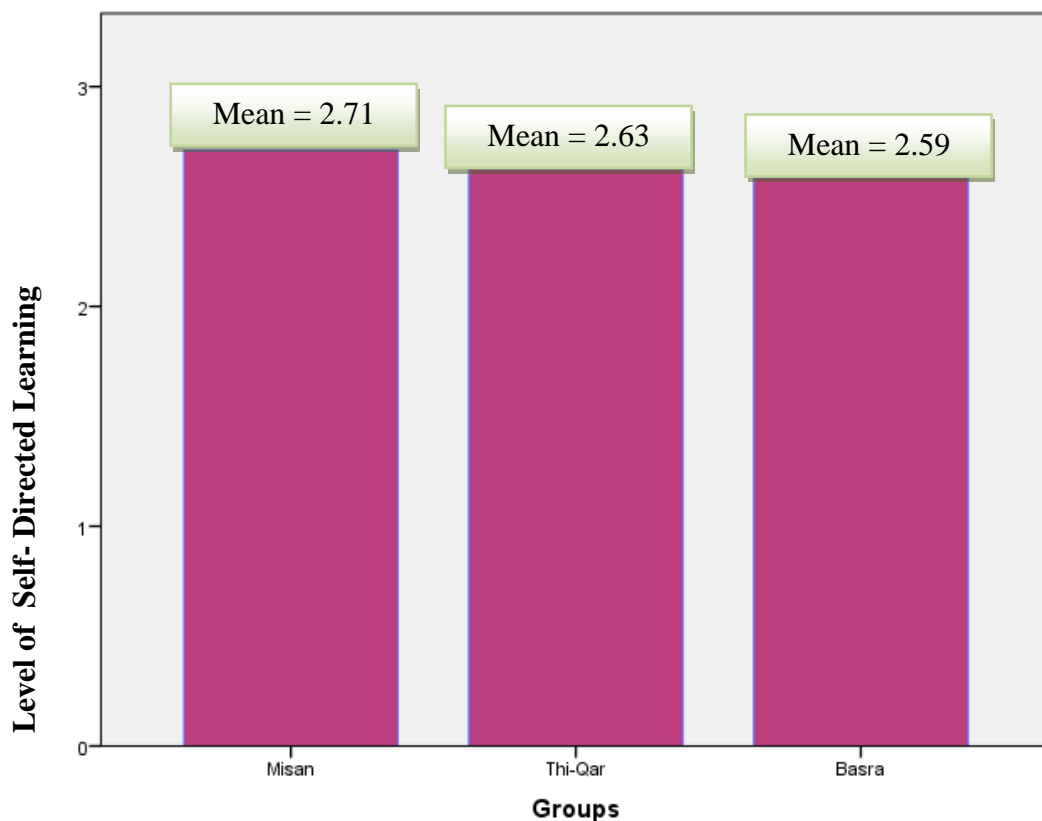
Table (5): checklist items concerning three practices of students (Intramuscular, Intravenous and oral medication)

| No. | Overall methods of medication administration | Characteristics | Mean | SD | Ass. |
|-----|--|-----------------|------|-------|----------|
| 1- | Intramuscular method | Preparation | 2.46 | 0.794 | High |
| | | Equipment | 3.00 | 0.000 | High |
| | | Procedure | 2.75 | 0.165 | High |
| 2- | Intravenous method | Preparation | 2.25 | 0.525 | Moderate |
| | | Equipment | 3.00 | 0.000 | High |
| | | Procedure | 2.61 | 0.221 | High |
| 3- | Oral medication | Preparation | 2.19 | 0.547 | Moderate |
| | | Equipment | 2.99 | 0.070 | High |
| | | Procedure | 2.51 | 0.187 | High |

Cut-off-point interval : 1-1.67 = Low; 1.68-2.33 = Moderate 2.34-3.00 = High

Table(5) demonstrate The evaluation of students practices about the IM, IV, and oral medication which as high level for domain of equipment and procedure for three procedure and there were moderate level for preparing for IV and oral medication in the student's self-directed learning lab practices .

Figure (1) comparison study among Missan, Basra and Thi-Qar nursing college in self-directed learning through mean of score



Figure(1) show that the difference among the mean of scores concerning self-directed learning laboratory practices related to administration of medications in Missan, Thi-Qar and Basra nursing colleges were (2.71, 2.63, 2.59) respectively.

DISCUSSION:

Throughout the data analysis, the finding of the study indicated that the majority of the students were 81 (90.0%) at (18-21) years old .

These findings were supported by (Wong et al, 2007) the study was adopted and the first bachelor science in nursing students were recruited during the second semester include 47 students with 4 male and 43 female, they were at ages of 17-20 year were in this study. The study results show that the students' gender, was equally between males and females (50.0%)^{5}.

The finding of this study agree with study done by (Ryan , 2009) A Critical Reappraisal of Self-Learning in Health Professions Education: Directed Self-Guided Learning using Simulation Modalities involved Participants were 48 medical students (24 male, 24 female; 1st year = 28, 2nd year = 20) from the University of Toronto. Experimental groups were balanced for gender, year of training and previous experience with the skill of interest. Participants provided informed consent, which was approved by local ethics boards This dissertation adds support to the hypothesis that self-guided students benefit due to their autonomy in controlling practice conditions to meet their own learning needs^{6} .

The student nursing college Was distributed equally among Missan, Basra and Thi-Qar nursing college (33.33%) this selection to came to choose based on the desire of the researcher is also the title search for the southern regions of Iraq. Also in regarding to the

subjects levels of education the results show that the majority of the study sample was Secondary school graduates (86.6%).

These finding were supported by (Carroll et al., 2005) conducted a study of 23 neuroscience nurses employing a quasi-experimental methodology in order to research the effectiveness of using a self-directed learning manual. The results indicated that nurses' self-efficacy increased considerably ($p < 0.01$) upon completion of the manual demonstrating the effectiveness of self-directed learning in clinical practice. The findings demonstrate show assessment of overall domain characteristics in route of medication are high level all domain except domain of preparation in I.V. & oral medication. represented moderate in the student's self-directed learning lab practices ^{7}.

The finding of this study agree with study done by (Yusra, 2014) self-directed learning (SDL) has been found to facilitate the acquisition of skills, knowledge and problem solving skills effectively. Also, nursing students were overall satisfied with this approach of learning as was highlighted in the majority of the studies. Although most of the studies reached the conclusion that SDL is effective, but not more than the traditional method of teaching, this finding also indicates that it is still considered a successful and a satisfying approach, which can replace pedagogy curricula in nursing education ^{8}.

This results of study supported by (Emine, et al 2014) the findings suggest that the success of SDL programmers is associated with the availability of the resources required for SDL and should include library, laboratory facilities and educators who must be ready to play the correct role in SDL program ^{9}.

The study confirmed that the level of self-directed learning laboratory practices related to administration of medications in Missan nursing colleges came in the first level in mean 2.71 , Thi-Qar nursing colleges in second level in mean 2.63 and in the last third level is Basra nursing colleges in mean 2.59 . and this difference in results due to the reliability of the private central acceptance rates faculties of nursing there is somewhat higher and a minimum rate of admission in each college, according to the scientific sobriety prestigious university, since each college is one of the medical groups, so the acceptance of students rates where high reflecting higher learning and self wave among the nursing students . (Figure1)

CONCLUSION

The study concluded that the SDL program regarding students' practice concerning the administration of medication is a positive and significance .

RECOMMENDATION:

1. Introduce a policy and supportive plans to assist and encourage personnel of every nursing students in the colleges to extensively apply self-directed learning as a method of learning for their professional and self-development
2. Provide set guidelines for creating an atmosphere and environment conducive to the development of self-directed learning for personnel, arranging an environment in which learners have a chance to think, analyze, experiment, and evaluate their learning results and work practices.
3. Develop visual aids for learning and set up comprehensive, up-to-date sources of learning – for example, a library, the internet service, communications room and/or educational technology room – in order to facilitate convenience for personnel in searching for information they need for learning and self-development.

REFERENCES:

1. Fidelia I. Vin-Mbah : **Learning and Teaching Methodology** Department of Office Technology and Management, Ramat Polytechnic, Maiduguri, Borno State, Nigeria . Vol. 2 (4) January 2012.
2. Smedly, A.: **The self-directed learning readiness of first year bachelor of nursing students.** J Res Nurs. 2007, 12:373.
3. Marker, J. and Nelson, A.: **Teaching Model in Education of the Gifted**, Texas: Pro-ed. 1995.
4. Tracy L Levett-Jones : **Self-directed learning: implications and limitations for undergraduate nursing education** . Nurse Educ Today 2005 Jul;25(5):363-8
5. Wong Oi Lin, Lei Sut Perg , Au leng , Lan Gar Bo: **The effect of students self-learning of videotape on administering of intramuscular injection.** Macau Journal of Nursing 2007 Vol . 6 No.1 P.4-8 .
6. Ryan Nathan Brydges: **A Critical Reappraisal of Self-Learning in Health Professions Education: Directed Self-Guided Learning using Simulation Modalities.** A thesis of Doctor of Philosophy; Institute of Medical Science; University of Toronto; 2009. P. 142.
7. Carroll Iwasiw, Dolly Goldenberg, Mary-Anne Andrusyszyn: **Curriculum development in nursing Curriculum Development in Nursing Education** , School of Nursing Western University Ontario Ontario Canada, 2005 .
8. Yusra Al-Nasseri: **The Effectiveness Of Self-Directed Learning On The Professional Development Of Pre-Registration Nursing Students. A Systematic Review Of The Literature.** Journal of Kufa for Nursing Science Vol. (4) No.(1) 2014
9. Emine Erdem, Sinem Dincol Ozgur, Zeki Bayram, Ozge Ozyalçın Oskay, Senol Sen: **Self-Regulated Learning in Constructivist Approach Based Science Laboratory Practices and Opinions on Constructivist Approach.** Hacettepe University, Ankara, Turkey, Problems of education in the 21st century Vol. (59). No. (25), 2014.