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Relationship between Academic Achievement and Competency Skills, in Performing One of Nursing Procedures among Nursing Students in a Private Nursing College in Kuala Lumpur

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KEYWORDS

Academic Achievement, Competency Skills, Nursing Procedure, Nursing Students.

ABSTRACT:

The relationship between academic achievements and competency skills in nursing is a significant area of study, as it impacts producing high quality graduates who are the pillars of the healthcare industry. Many studies have shown that there is often a positive correlation between academic achievement and clinical competency skills. Consequently, this study is to identify the relationship between Sijil Pelajaran Malaysia (SPM) academic achievement, and competency skills among nursing students. A descriptive design was used, consisting of 100 students who were in semester four. Data were collected through closed ended questionnaires and OSCE checklist on one nursing procedure was used to evaluate students' performances which were on specific components of tasks that demonstrated various clinical behaviors especially Cognitive, Psychomotor and Affective Domains. The results illustrate that there is no significant difference in performing a nursing procedure competently between students who have obtained five (5) credits or more than five (5) credits in SPM examination. Nursing academic excellence typically reflects a student's understanding of theoretical knowledge, patient care, and ethical considerations. This knowledge is essential for developing critical thinking and decision-making skills, which are crucial in clinical settings.

Introduction.

Nursing programs are conducted to a high evaluation standard due to its legal and ethical commitments towards safe care. In addition to state and national level reviews, all nursing colleges and universities constantly monitor the nursing programs for quality of instructions, students' satisfaction, graduation rates and employment of graduates. Nursing students are required to learn, practice, and be evaluated on clinical skills at a School of Nursing. To maintain high quality standard of nursing, nurse educators or clinical instructors need to conduct proper techniques of student's assessment and evaluation. According to Heidgerken (2000) educational evaluation is a complex, a continuous process and an integral part of teaching and learning. Therefore, the assessment and evaluation of clinical performance contribute to great challenges for nurse educators and clinical instructors. Due to those reasons, the importance of awareness, developing and implementing competency skills (cognitive, psychomotor and affective domains) among nursing students should be priority of all nursing colleges and universities to ensure their graduates are marketable and competence at workplace. Therefore, the evaluation of student's performance plays major roles in the process of nursing education. It helps nurse educators and clinical instructors to improve student's learning by observing and collecting information as evidence of student's performance and progress in their studies in clinical practice.

Meanwhile, the students should possess specific characteristics especially in competency skills. Academic achievement is often used to measure the competency skills of a student's knowledge, skills and understanding of the subject matter being taught (Artino, 2009). It is typically evaluated through a variety of assessments, such as quizzes, essays and projects (Artino, 2009). Academic achievement can be influenced by a variety of factors such as the student's level of

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motivation, engagement in the learning process and the quality of instructions (Artino, 2009). In addition, academic achievement for nursing students can encompass a wide range of experiences and accomplishments that foster growth, development, and self-confidence. In this study, the researcher used OSCE to evaluate the student's competency skills.

OSCE is a valid tool to evaluate students' competency skills. Bartfray et al., (2004), states that since OSCE was developed in the 1970s, it has gained acceptance as a benchmark for clinical skills assessment. Fan et al., (2015) suggested that nursing students should play an important role in developing the competency skills (i.e: cognitive, psychomotor and affective domains) of new routines in quality improvement for patients. In addition, they also must have good grades in academic achievement (SPM Results) as entry requirement to enter tertiary education. The minimum requirement in Nursing is Sijil Pelajaran Malaysia (SPM) certificate with 5 credits in Bahasa Melayu, Science, Mathematics, two other subjects and passed in English subject. The nursing Board of Malaysia is the body that controls and regulates the rules and regulations of nursing profession and has set criteria for all candidates of nursing. Therefore, in this study, the researcher would like to examine the performance in OSCE and competency skills of students who obtained 5 credits or more than 5 credits SPM.

Objective of the study

This paper aims to provide significant difference between students' academic achievement in SPM results and competency skills among nursing students based in a nursing college in Kuala Lumpur.

Significant of study

The findings of the study are to become useful feedback and tools to the nursing colleges, hospitals and students in continuous improvement of patient care by looking at the significance in the education system. In addition, it will prepare nursing students for the demand of healthcare industries, encourage them to acquire educational experiences and develop awareness about the importance of competency skills (cognitive, psychomotor and affective domains) so that the students will be effectively functional in a clinical through appropriate knowledge, judgement and skills performance.

Methods of this study

This study was carried out at the School of Nursing among the semester four undergraduate nursing students. A convenient sample of 100 students was involved in this study. The developed Checklist was validated by panel experts who looked critically at the feasibility and logically of the scenario and checklist for content validity. The panel experts consisted of one of Head of Nursing Program, one Unit Manager, two Senior Nurses and one Clinical Instructor who were experts in the clinical area pertaining to Orthopedic ward. Besides that, the developed scenario and were also given to the healthcare professionals from different backgrounds to look at the created scenario and checklist, learning outcomes as well as the instructions for the face validity. They gave feedback regarding the developed scenario and checklist. The questionnaires used in this study consists of two main parts:

Part 1: students were asked on their demographic data which consist of age, gender, ethnicity and academic achievement (in SPM results). The questions were answered by responding 'to fill in the appropriate box and 'tick' the appropriate box. This Questionnaires was given to students one day after OSCE was completed. The respondents were given 15 minutes to respond to the questionnaires

Part 2: OSCE checklist was used to evaluate the student's competency skills based on cognitive, psychomotor and affective domains). The OSCE checklist on stump bandaging consists of 12 items procedure: two items in relation to cognitive, seven items in relation to psychomotor domain and three items in relation to affective domain.

Review and changes were made by five nursing experts; Head of Nursing Program, Unit Manager, Senior Nurse and Clinical Instructor as well as other Healthcare Professional consist of a Physiotherapist and an Orthopedic Specialist. The chosen station is 'Stump Bandaging'. The criteria or reasons to choose this station are:

i. this is non sterile procedure; students can demonstrate this procedure start from beginning till the procedure complete without worry about violation of the techniques (psychomotor domain).

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ii. researcher wants to assess whether the students strictly apply and implement the principles of bandaging correctly (cognitive domain).
iii. the communication skills are also assessed to see the students' approach and whether they could provide appropriate health education to patient (affective domain).

Below are the process of checking and marking the OSCE checklist:

- based on the scenario, the students are required to perform stump bandaging procedure.
- this station requires 5 minutes to demonstrate the procedure.
- assessment of the students based on standards performance from validated OSCE checklist by five nursing experts and two healthcare professionals.
- students were assessed on three domains: knowledge, psychomotor and affective domains.
- the marks allocated were based on students' performance checklist (Total marks for this station is 20. 'Not performed' or 'Wrongly performed 'is '0 mark', 'Performed fairly well' is '1 mark' and 'Performed well is '2 marks.'.
- Passing marks is '10 marks'.
- marking criteria for this station is marked by 'Done' for Competent (for student who score 'more than 10 marks').
- and 'Not Done' (for student who score 'less than 10 marks') for not competent students.
- the value of Cronbach's Alpha is 0.765.

An ethical approval was obtained, and all students were informed that their participation was voluntary, and that not taking part in this study would not affect them in any way and written consent was obtained from students.

Data Analysis

Data was analyzed using Statistical Package for Social Science (SPSS version 20.0). Statistical tables and percentage were used for demographic data (age, gender, ethnicity and SPM results). Level of significance was set at $p = 0.05$.*t*-test was computed to examine the difference between academic achievement (SPM results: who obtained 5 credits and more than 5 credits) and competency skills.

Table 1: Socio demographic data of the respondents (n = 100)

Socio demographic data	Number	%
Age (years)		
18-22	61	61.0
23- 27	24	24.0
28- 32	15	15.0
Gender		
Female	96	96.0
Male	4	4.0
Ethnics		
Malay	63	63.0
Chinese	9	9.0
Indian	21	21.0
Others	7	7.0
SPM Result		
Five (5) credits	85	85.0
More than five (5) credits	15	15.0

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Table 1 above illustrates a significantly higher ratio of students from female (95%), Malay ethnic (63%) and obtained five (5) credits in SPM results (85%).

Table 2: t-*test* Analysis of Cognitive Domain and SPM Results

SPM Results	*N*	*M*	*SD*	*t-value*	Sig.(2-tailed)
5 Credits	85	3.45	.608	1.881	*0.063
>5Credits	15	3.13	.516		

* Not significant at alpha=0.05 level

The results of *t – test* on cognitive domain between SPM results. Equal variances were assumed for cognitive domain. There was no significant difference in the cognitive domain for who obtained 5 credits *(M=3.45, SD =.608*) to respondents who obtained more than 5 credits in SPM results *(M=3.13, SD .516), t = 1.881, p>0.005*(two tailed).

Table 3: *t*-test Analysis of Psychomotor Domain and SPM Results

SPM Results	*N*	*M*	*SD*	*t-value*	Sig.(2-tailed)
5 Credits	85	11.73	.894	1.128	.262*
>5 Credits	15	11.46	.074		

* Not significant at alpha = 0.05 level

Table 3 shows, that there is no significant difference in psychomotor domain for respondents who obtained 5 credits *(M=11.73, SD =.894)* to more than 5 credits in SPM results *(M=11.46, SD=0.74), t=1.128,* p> 0.05(two-tailed).

Table 4: *t-test Analysis of Affective Domain and SPM Results*

SPM Results	*N*	*M*	*SD*	*t-value*	Sig. (2-tailed)
5 Credits	85	.82	1.283	0.67	.946*
>5 Credits	15	.80	1.014		

Table 4 shows the results of the t-test on the affective domain between SPM results. Equal variances were assumed for the affective domain. There is no significant difference in the affective domain for respondents who have obtained 5 credits *(M=.82, SD=1.283)* to more than 5 credits in SPM results *(M=.80, SD=1.014) t*=0.67, *p*>0.005(two-tailed).

Discussion

The results of the *t*-test between SPM results and competency skills shows, there is no significant difference to students who have obtained five (5) credits or more than 5 credits in SPM examination. Based on the results, it is likely for the Nursing Board of Malaysian to maintain their entry requirement as stipulated for Diploma in Nursing program. To produce a good quality of nurses and able to demonstrate competency skills at high standard. Students must have high motivation to be in nursing fields. Supported by Bandura (1997), Eccles et al., (1998) Pintrich and Schunk (2002), Students who believe they are able to do well are much more likely to be motivated in terms of effort, persistence and behavior that students who believe less able and do not expect to succeed. There is also good evidence to suggest that these confident students will also be more cognitively engaged in learning and thinking than students who doubt their capabilities do well (Pintrich,1999; Pintrich & Scrauben ,1992; Schuck,1991). Due to that Nurse educator or Clinical instructor should encourage students to practice more. Frequent practice gives advantages to students to master nursing skills just as the proverb says, 'Practice makes perfect'. As suggested by Maureen Crowley (2005) simulated learning environments help students perfect their skills without risk themselves or patients.

Conclusion

The study has disclosed that there is no significant difference between academic achievement in competency skills to students who have obtained less than five (5) credits or more than five (5) credits in SPM examination. The most important is roles of Nurse educators or Clinical instructors must constantly motivate, be creative, use methods and devises work best

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with students' capabilities to performed well in OSCE. In addition, it can be suggested that OSCE has the potential to make a very effective and meaningful examination, so that the students will value the competency skills in their clinical practices. Finally, it is recommended to conduct studies with a larger number of respondents and a greater number of nursing procedures or further investigate factors affecting students' academic performance and their achievements to detect the facilities that enhance the quality of learning.

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