The effect of educational program about internship portfolio on intern's knowledge and satisfaction

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Abstract

Background: Portfolio is a measurement tool that can document student learning, performance, and achievement of the key objectives. **Aim:** to assess the effect of educational program about internship portfolio on intern's knowledge and satisfaction. **Subjects and methods**: Pre-experimental one group pretest posttest design was used to conduct the present study. **Setting:** This study was conducted at Suez Canal University hospitals and private hospitals such as (International Medical Center, Ganzouri Hospital and 57357 Hospital) **Sample:** Academic nursing experts (N= 10) and all available nursing intern's during data collection period (N= 100). **Tools of data collection:** Data was collected using four tools through the study phases. The designed portfolio; Opinionnaire regarding validation of the designed portfolio; Nursing interns' knowledge questionnaire about portfolio and nursing interns' satisfaction questionnaire. **Results**: There was a statistically significant difference of nursing interns' knowledge regarding portfolio between before and after training program. There was a statistically significant difference of total mean score of nursing interns' satisfaction regarding portfolio before and after portfolio implementation. **Conclusion**: There is an improvement in nursing interns' knowledge regarding developed portfolio after training program. The nursing interns have high satisfaction levels about developed portfolio. It **Recommended to:** Adopting the developed portfolio for the nursing interns at Faculty of Nursing – Suez Canal University was recommended beside to conducting regular training program for nursing interns on portfolio and how to use it.

Key words: portfolio, internship, nursing interns' knowledge and experts' opinions

1. Introduction

The portfolio is emerging as an efficient and effective method for evaluating program outcomes and professional development in nursing education (Oloke et al, 2021). Also, it is one of the new teaching methods that increase academic achievements of students so; Portfolio has been used as alternative measure and assessment tool besides to a teaching material and method (Bruneau & Bie, 2017).

The portfolio is a collection of papers and

other forms of evidence that learning has taken place. It implies that it is possible to follow, remediate and assess the students through the different stages in their growth towards becoming a professional (Juhana et al., 2018). The portfolio is often used to assess professional development, mostly by including personal reflection tasks. Overall, it remains crucial that the content of the portfolio is related to the purposes and roles of the portfolio within the educational program (Michos et al., 2022). Clinical internships are an essential phase of health professions education during which students develop their competencies in authentic clinical environments (Oloke et al., 2021). Internship provides an opportunity for students to turn theoretical knowledge into the required mental, psychological and motor skills. The wide scope of internship and the contact with highly specialized patients create obstacles for some learners in achieving the educational goals of internship (Amiresmaili et al., 2013).

Significance of the study:

Nowadays, due to the practical orientation of the nursing profession and the increased information and techniques of nursing care, educational considerations in this domain have high importance requiring

an effective tool to manage the nursing internship. Introducing portfolio gives another opportunity to train and educate the students during their clinical training and at the same time this could be evaluated. A lot of literature about the use of portfolios in undergraduate nursing programs, fewer reports exist about their use in graduate nursing education. For the above reasons, this study is aiming at assessing the knowledge and satisfaction of nursing interns regarding portfolio

The aim of the study: The current study aims to assess the effect of educational program about internship portfolio on intern's knowledge and satisfaction

2. Subjects and Methods

Study design: Pre-experimental one group pretest posttest research design was adopted to conduct this study.

The sample of the study: Academic nursing experts (N= 10) and nursing intents (N= 100) who were distributed to (62) interns at Suez Canal University hospitals, (10) interns at the International Medical Center, (18) interns at the Ganzouri Hospital and (10) interns at 57357 Hospital. **Study setting:** they are Suez Canal University hospitals and private hospitals such as (International

Medical Center, Ganzouri Hospital and 57357 Hospital).

Tools of data collection:

Tool 1: Designed portfolio

It was developed based on El-Araby et al. (2012) besides to the internship guide of nursing sector committee for all faculties of nursing in Egypt and literature review. It contains records review of the training goals, objectives for nursing interns/ Intended Learning Outcomes (ILOs) at faculty of nursing in Suez Canal University, evidences regard personal growth, self-directed learning, reflective ability, self-assessment of personal growth, lifelong learning and those related to the professional development of the students .

Tool 2: Opinionnaire regarding validation of the designed portfolio

It is a questionnaire developed by El-Araby et al. (2012) to collect experts' opinions regarding the developed portfolio. It includes two parts:

Part A: The socio-demographic data of experts' which include (name, scientific degree and Faculty of Nursing /University.

Part B: It includes 11 items; (1) item to examine face validity and (10) items to examine content validity. The experts

responses were along 3 points (No, To some extent and Yes) where No scored (0), To some extent scored (1) and Yes scored (2).

Tool 3: Nursing interns' knowledge about portfolio questionnaire

It is divided into two parts: Part A: The socio-demographic data of nursing interns which includes name, age, sex, and attending workshops about portfolio.

Part B: The nursing interns' knowledge test about portfolio that had been developed by the researcher after reviewing relevant literature and preparing the training program. It includes (32) question divided into three parts. The first one is about basics of portfolio which contains (16) questions about introduction, portfolio definition, portfolio purpose, portfolio diversity, portfolio types, advantages and disadvantages of portfolio. Second part is about structure and principles of portfolio which contains (8) questions about portfolio structure& content and portfolio principles. Third part is about system of filling developed portfolio which contains (8) questions about patient care needs and major accomplishment assessment. For the knowledge, a correct response scored (1) and the incorrect scored (0). The scoring system is divided into two levels satisfactory (50%-100%) and unsatisfactory (> 50%).

Tool 4: Interns' satisfaction questionnaire

This tool was adopted from El-Araby et al. (2012) associated with the needed modification by the researcher. This questionnaire asking about the nursing interns' satisfaction of the developed portfolio regarding the engagement with the portfolio (5 items), the educational value of the portfolio (8 items) and collaboration with the tutor (5 items). The nursing interns' satisfaction regarding the developed portfolio was measured on a 5 points likert scale ranging from strongly disagree (1) to strongly agree (5). This scale was converted into three levels: low satisfaction (1-2), moderate satisfaction (3) and high satisfaction (4-5).

Validity:

The tools had been checked for their validity especially the Nursing Interns' Portfolio (NIP). It was tested for its face and contents validity. It was done by a panel of 10 experts who revised (NIP) and data collection tools for clarity, relevance, comprehensiveness, understanding and ease for implementation and according to their opinion minor modifications were applied. Experts from different nursing specialties who were 4 experts from faculty of nursing Zagazig University, 4 experts from faculty of nursing Ain-shams University, 1 expert from

faculty of nursing Mansoura University and 1 expert from faculty of nursing Suez Canal University.

Reliability of the instrument:

Cronbach's Coefficient Alpha was calculated to assess the reliability of the tools that used throughout the study. It was ranged: from 65-79% with total score 79% for nursing interns' satisfaction questionnaire tool.

Field work:

The field work was implemented along with 4 phases:

Phase 1 :

It is the preparatory phase which is geared to prepare training program after reviewing of literature, different studies and theoretical knowledge of various aspects of the research problems using books, articles, internet, periodicals and magazines. The purpose of this phase is regard to designing portfolio and prepares the training sessions on NIP. It takes (twelve month) from September 2017 to September 2018.

Phase 2 :

It includes taking measures regarding testing the validity of NIP by ten experts. All of the experts were given the same instructions; the researcher met personally each of them. Before distributing the questionnaire, the

purpose of the study and the components of the tool were explained to them. The experts' opinions is distributed to the experts in their university and left with them for a few days. The phase started from September 2018 to December 2018 .

Phase 3:

After conducting the pilot study, the data were collected from nursing interns regarding their knowledge on NIP as a pretest questionnaire. It takes 25 minutes to fulfill it. This is followed by implementing training program on NIP and how to apply it. Orientation training sessions were conducted for the students.

The total hours for implementing the training program are 5 hours. Each session takes 45 minutes for accomplishing it and each session followed by a break for 15 minutes and 1.30 hours for student question. The training session was repeated for nine times (2 times) to all nursing interns in Suez Canal University hospitals, (2 times) to nursing interns in the International Medical Center, (2 times) to nursing interns in the 57357 Hospital and (3 times) to nursing interns in the Ganzouri Hospital .

The training program was divided into five sessions (2 theoretical sessions and 3 practical sessions). The first session is named as general basic knowledge about portfolio

which includes introduction, portfolio definition, portfolio purpose, portfolio diversity, portfolio types, advantages and disadvantages of portfolio. The second session is named as specific knowledge about portfolio which includes structure and principles of portfolio. The third session is named as the system of filling developed portfolio part one which includes the components of the portfolio, the patient care needs, nursing care plan provided to patients and their relatives, health education provided to patient and training about patient needs , nursing care plan and health education .

The fourth session is named as the system of filling developed portfolio part two which includes development and modernization of professional performance appropriate with the possibilities and needs of the community, self-evaluation and self- development. The fifth session is named as the system of filling developed portfolio part three which includes nursing administration sheets you fill it or apply it in the training, presentation or case study that performed in the training, nursing activities performed in the training and steps for assessing major accomplishments .

Phase 4:

  The posttest knowledge questionnaire was collected after training sessions from the

nursing interns. This is associated with collecting data on their satisfaction before NIP implementation using interns' satisfaction questionnaire. The interns' satisfaction was measured again after NIP implementation. It takes 25 minutes for fulfillment.

NB: All of the interns were given the same instructions. The researcher met personally each of them. Before distributing the questionnaire sheets, the purpose of the study and the components of the tools were explained to the participants. The data were collected through meeting the nursing interns in their work setting. The researcher checked each questionnaire sheet after the participant completed it to ensure the absence of any missing information. The phases (3 and 4) taking five months (from beginning of June 2019 to the end of October 2019).

Administrative design:

Official permission it was obtained from the Dean of the faculty and Vice Dean for Community Service and Environmental Affairs for data collection from nursing interns of faculty of nursing/ Suez Canal University. Also official permission was obtained from the training mangers at the hospitals where nursing interns spending their internship after explaining nature and aim of the study.

Ethical considerations:

Agreement of all participants was obtained after explanation about the nature of the study and its aim.

Any individual included in the study was informed that he/she has the right to refuse to participate in the study or withdraw from the study at any time with no negative consequences to them. Also, the confidentiality of the data and results was maintained.

Statistical design:

Data were coded and analyzed using SPSS package version 20. Kolmogorov – Smirnov test was used to examine the normality of data distribution and the data was nonparametric data. Descriptive statistics including frequency, distribution, mean and standard deviation were used to describe different characteristics and variables of the study.

McNemar test and Friedman test were used to test the significant differences among the studied variables for qualitative data. Wilcoxon test was used to test the significant differences among the studied variables for quantitative data .

The level of significant of the results was set at the 0.05.

2. Results

Table (1) show description of professional characteristics of the academic nursing experts. It was found that more than half (60%) of the experts were assistant professors of nursing and 40% of the experts were professors of nursing. More than third (40%) of the experts were from Ain shams university and (40%) from Zagazig university.

Tables (2) illustrate description of socio-demographic characteristics of the studied nursing interns. It was found that more than half (53 %) the studied nursing interns were in age about 21-23 years and only 2 % were in age about 27-29 years. Regarding the gender of the studied nursing interns, more than half (60 %) were females while males were 40 % of the total sample. All of the studied nursing interns didn't attending workshops about portfolio.

Table (3) show academic nursing experts' opinions regarding the designed portfolio. It was found that all of the academic nursing experts (100%) agreed on the portfolio structure and agreed that the portfolio was relevant to the educational level of the

students and included enough entries in each area of it. Besides, portfolio showed the integration between instruction and assessment. The most of the academic nursing experts (90%) agreed that the purpose of the portfolio clearly stated, the portfolio provided evidence for various types of student learning, the portfolio included enough entries in each area to make valid judgment, the portfolio included students' self-evaluation and reflection, the portfolio enabled one to determine learning progress, the portfolio shows the ability of the students for setting goals, the portfolio provided guidelines for the students and the entries well organized. These opinions indicated that the portfolio is valid.

Table (4) reveal mean score and median of total nursing interns' knowledge regarding portfolio before and after training program. It was found that there was a statistically significant difference of total mean score of nursing interns' knowledge regarding portfolio between before and after training program regarding portfolio (P< 0.001).

Table (5) show levels of total nursing intern' satisfaction regarding portfolio before and after portfolio implementation. It was found that there was no a statistically significant differences in levels of total nursing intern'

satisfaction regarding developed portfolio before and after portfolio implementation except in collaboration with the tutor.

Table (6) illustrate mean score and median of total nursing interns' satisfaction regarding portfolio before and after portfolio implementation. It was found that there was a statistically significant difference of total mean score of nursing interns' satisfaction regarding portfolio before and after portfolio implementation (P< 0.05) except in the educational value of the portfolio.

5. Discussion

Regarding professional characteristics of the academic nursing experts that assess the portfolio, the current study showed that more than half of the academic nursing experts were assistant professors of nursing and more than one third of the experts were professors of nursing, were from Ain Shams University and from Zagazig University .

This result was in agreement with (Mollahadi et al., 2018) who studied the portfolio as a tool for mentoring in nursing students, and found that more than half of experts were assistant professors of nursing. Whereas (Hoveyzian et al., 2021) found that half of experts were professors in nursing in addition the current study results assured that the

developed portfolio was judged on its content validity by academic experts from different faculties of nursing indicating to the possibility of using it in these faculties .

Concerning nursing interns' age, the current study illustrated that more than half of the studied nursing interns were in age about 21-23 years. This result was supported by (Juhana et al., 2018) who studied the portfolio web-based for students' internship program activities, and found that nearly two thirds of internship nursing students had ages ranged from 21:25 years .

In regarding to students gender, the current study illustrated that more than half of them was females. This result may be due to the females desire to join faculty of nursing more than male. This result was in agreement with (Dolatshahi et al., 2019) who studied the effect of portfolio on nursing students' learning and satisfaction from clinical evaluation, and found that more than half of nursing students were female .

Regarding nursing intern's attendance workshops, the current study illustrated that all of the studied nursing interns didn't attending any workshops about portfolio. This result was in accordance with (Mollahadi et al., 2018) who studied the

portfolio as a tool for mentoring in nursing students, and found that majority of nursing students hadn't attended training courses about portfolio.

In regarding to academic nursing experts' opinions about designed portfolio, the current study showed that all of the academic nursing experts agreed on the portfolio structure and agreed that the portfolio was relevant to the educational level of the students and included enough entries in each area of it, besides to portfolio showed the integration between instruction and assessment. This result may be due to the importance of portfolio in increasing experiences of nursing interns and improve the clinical practice for them. This assured on the validity and hence the goodness of using portfolio as an evaluative and follow up achievement tool for nursing interns to improve their learning. In this regard, (Bose & Lowenthal, 2018) who studied the portfolios, course design and student learning, and found that there was a statistically significant relation between portfolios and student learning.

The current study result was in agreement with (El-Araby et al., 2012) who studied the designing and evaluation of a portfolio as an assessment tool for undergraduate pre-

clinical phase students, and found that most of the experts agreed that the portfolio was relevant to the educational level of the students, provided evidence for various types of student learning, included enough entries in each area to make valid judgment, included students' self-evaluation and reflection, enabled one to determine learning progress, showed the ability of the students for setting goals, showed the integration between instruction and assessment, and provided guidelines for the students .

Totally concerning the mean score of nursing interns' knowledge and levels of their knowledge about portfolio before and after training program, it was found that there was a statistically significant difference of nursing interns' knowledge regarding portfolio before and after training program. This result could indicate to the importance of training program about portfolio for nursing interns to increase their knowledge's and enhance their awareness about portfolio. This improves the results of post training program rather than pre training program.

The current study result was supported by (Ebil et al., 2020) who studied the use of portfolio for self-reflection to promote learning, and found that majority of nursing

students had improvement of portfolio after implementation of training program. Also, it is supported by (Shanaa et al., 2020) who studied the using portfolio to augment students' learning, and found that there was a highly statistical relation with educational portfolios. Also it was in agreement with (Koraneekij & Khlaisang, 2019) who studied the students' beliefs regarding the use of portfolio to enhance cognitive skills in learning environment, and found that there was a good relation of interns' knowledge regarding portfolio after training program.

Regarding the levels of nursing interns' satisfaction before and after portfolio implementation, it was found that there is no a statistically significant differences in levels of nursing interns' satisfaction. However, the result of mean score of nursing interns' satisfaction clarified that there is statistically significant differences before and after portfolio implantation with higher mean score after than before portfolio implementation. That indicates to improvement in nursing interns' satisfaction after portfolio implementation.

There are many studied analyzed interns' satisfaction on portfolio, some of them showing improvement in satisfaction such as

(Chang et al., 2017) who studied the clinical nurse preceptors' perception of portfolio use for undergraduate students, and found that majority of students had high level of satisfaction about portfolio after implementation training program. Other studies indicate to none improvement of interns' satisfaction such as (Embo, 2017) who studied the competency-based midwifery e-workplace learning portfolio: concept, theory and pedagogy, and found that most of students had unsatisfactory level about portfolio after implementation training program. Also, (Rahman & Mohamed, 2017) found that no relation between nursing students' satisfaction about developed portfolio after implementation of portfolio. This is in addition to (Roberts, 2018), (Pennbrant et al., 2019) and (Schneider, 2020) found that majority of students had low level of satisfaction about portfolio after implementation training program.

6. Conclusion

Based on the finding of the current study, it was concluded that the nursing interns' portfolio is agreed upon its structure and content by academic nursing experts as a valid portfolio.

There is an improvement in nursing interns'

knowledge regarding portfolio after training session. Also, their satisfaction regarding use nursing interns' portfolio was improved after its implementation.

6. Recommendations

In the light of the study findings, can be recommended with adopting the developed portfolio for nursing interns at Faculty of Nursing- Suez Canal University

Conducting regular training program for the nursing interns about portfolio (uses, the self-development and reflection)..

Each nursing intern should receive guidelines about how to use portfolio and for fill all portfolio requirements.

Establishing a system for analyzing and using the data obtained from the reviewing nursing interns' portfolios for improving the nursing interns' achievement.

Table (1): Description of professional characteristics of the academic nursing experts (N=10)

Items		No.	%
Degree	Assistant prof.	6	60
	Prof.	4	40
Faculty of nursing (University)	Suez Canal	1	10
	Mansoura	1	10
	Ain Shams	4	40
	Zagazig	4	40
Total		10	100

Table (2): Description of socio-demographic characteristics of the studied nursing interns (N=100)

The socio-demographic data		Sample size (n=100)	
		No.	%
Age groups	21-23 Y	53	53.00
	24-26 Y	45	45.00
	27-29 Y	2	2.00
	Mean ±SD	23.55±1.07	
Gender	Male	40	40.00
	Female	60	60.00

Attending workshops about portfolio	Yes	0	00.00
	No	100	100.00

Table (3): Academic nursing experts' opinions regarding the designed portfolio (N=10)

Items	Yes		To some extent		No	
	No.	%	No.	%	No.	%
Are you agree on this portfolio from the structural point of view	10	100	0	0	0	0
Is the portfolio relevant to the educational level of the students?	10	100	0	0	0	0
Has the purpose of the portfolio been clearly stated?	9	90	1	10	0	0
Does the portfolio provide evidence for various types of student learning?	9	90	1	10	0	0
Does the portfolio include enough entries in each area to make valid judgment?	10	100	0	0	0	0
Does the portfolio include students' self-evaluation and reflection?	9	90	1	10	0	0
Does the portfolio enable one to determine learning progress?	9	90	1	10	0	0
Does the portfolio show the ability of the students for setting goals?	9	90	0	0	1	10
Does the portfolio show the integration between instruction and assessment?	10	100	0	0	0	0
Does the portfolio provide guidelines for the students?	9	90	0	0	1	10
Are the entries well organized?	9	90	1	10	0	0

Table (4): Mean score and median of total nursing interns' knowledge regarding portfolio before and after training program (N=100)

Item	Pre phase of training program (n=100)			Post phase of training program (n=100)			P-value #
	Mean	SD	Median	Mean	SD	Median	
Knowledge before and after training program (Score)	14.26	3.64	14	25.32	4.60	26	0.000 *

* Statistically significant p-value less than the 0.05 level, # Wilcoxon test

Table (5): Levels of total nursing intern' satisfaction regarding portfolio before and after portfolio implementation (N=100)

Items	Pre implementation of portfolio (n=100)						Post implementation of portfolio (n=100)						P-value#
	Low satisfaction		Moderate satisfaction		High satisfaction		Low satisfaction		Moderate satisfaction		High satisfaction		
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Engagement with portfolio	38	38	10	10	52	52	30	30	15	15	55	55	0.5
The educational value of the portfolio	17	17	13	13	70	70	6	6	12	12	82	82	0.16
Collaboration with the tutor	9	9	12	12	79	79	1	1	2	2	97	97	0.022*
Average	21	21	12	12	67	67	12	12	10	10	78	78	0.22

* Statistically significant p-value less than the 0.05 level, # Friedman test.

Table (6): Mean score and median of total nursing interns' satisfaction regarding portfolio before and after portfolio implementation (N=100)

Students' Satisfaction of developed portfolio	Pre implementation of portfolio (n=100)			Post implementation of portfolio (n=100)			P-value#
	Mean	SD	Median	Mean	SD	Median	
Engagement with portfolio	3.74	0.82	4	4.09	0.574	4	0.002*
The educational value of the portfolio	3.89	0.75	4	4.018	0.355	4	0.300
Collaboration with the tutor	3.96	0.74	4	4.47	0.47	5	0.000*
Total Score	11.59	2.31	12	12.578	1.39	13	0.001*

* Statistically significant p-value less than the 0.05 level, # Wilcoxon test.

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