Paper-based Portfolio as an Educational Tool: Nursing Students' Perspective

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Abstract

Paper-based portfolio is considered one of the interventions that have gained popularity. It can be used as a learning and assessment tool. It is Very important tool not only for the students, but also for the teachers as it provides the teachers with clear view of their students' development and growth in multiple dimensions not commonly seen in the traditional methods of evaluation. It helps them to determine to what extent their students are benefiting from the learning instructions in order to modify their teaching strategies. Despite these benefits, there are many challenges that may face the student if portfolio is not implemented effectively. So, the guidance provided by the clinical instructor in all phases of portfolio development application is very important. **Purpose:** this study aimed to determine the nursing students' perspective toward the use of paper-based portfolio as an educational tool. **Design:** A descriptive research design was followed in the present study. **Setting**: The study was carried out at the Faculty of Nursing, Alexandria University in seven academic departments that use portfolio in their clinical areas. **Subject:** The study subjects consisted of 320 nursing students. **Tools:** one tool was used in the present study to collect the necessary data; Nursing students' personal and academic data questionnaire, Tool 2: Nursing students' perspective toward using portfolio as an educational tool questionnaire. **Results:** this study revealed that nearly more than three quarters of the students have a negative perspective toward the use of paper- based portfolio. **Conclusion:** Based on the present study results, it can be concluded that, the nursing students reported lower support and endorsement to the benefits of paper-based portfolio. While the students perceive greater challenges of using portfolio, they also perceive minimum instructions and guidance received from the clinical instructors during all phases of portfolio development application. **Recommendation:** Training workshops should be conducted by nursing education department staff for all nursing educators to enhance their abilities and competencies in the use of Portfolio. Additionally, the connection between the different departments through the student portfolio from the first year until graduation should be assured and standardized criteria and rubric must be provided to and followed by all clinical instructors and students about the evaluation of paper-based portfolio.

Keywords: Paper-based portfolio, nursing students 'perspectives, challenges of portfolio.

Introduction

The profession of nursing worldwide is undergoing rapid and dramatic changes (Baron, 2017). Accordingly, nursing education has progressed and expanded at a great pace to match these changes by focusing on preparing self-directed, active, lifelong, independent, and reflective learners. So, they be able to work successfully as professional nurses in the recent decade (Ghallab, 2008). All of this can be accomplished, at least Partially, through the use of portfolio That is based on the four assumptions of the adult learning theory. These assumptions are; the student is self-directed ,the student's past experiences is a rich source of learning , and willingness to learn develops from life tasks and problems d) the student shows curiosity and is self-motivated for growth and achievement (Priscah, Ronald & Tecla, 2016).

Portfolio can be defined by Paulson and Mayer (1991) as purposeful collections of students' work that show students' efforts, progress and achievements in one or more fields. The collection should include; students' participation in selecting contents; criteria for selection; criteria for judging merit; and the evidence of students' self-reflection (Birgin & Baki, 2007). There are different types of portfolio classified according to four dimensions which include; the author or creator of the portfolio, the

template of the portfolio, the areas of development and the purpose of portfolio. (Ghallab, 2008). The teacher and students should follow five stages of portfolio development which include: planning, collection, selection, reflection and projection (ling, 2016). Reflection is the heart and soul of the portfolio. Without it, the portfolio is considered just a collection of papers. The reflection is an intellectual and affective activities that lead to exploring experiences, in order to develop understanding and appreciation (Yanzhu, 2016).

Paper based portfolio provides an opportunity for the students to monitor their own progress and to be fully engaged in their learning process to increase their motivation. The students will be more active learners since they produce their own work and follow the activities which are necessary for keeping a portfolio (Buranz, 2011). The students learn to take responsibility as a part of their developmental process because portfolio requires self-discipline with deadlines for submitting assignments (Buranz, 2011). Moreover, the teachers gain more detailed feedback about their teaching methods, techniques, and classroom management (Aksit, 2016). Through portfolio, teachers can observe students in a more realistic and detailed way and make more accurate decisions about them (Quansah, 2018). Although paper-based portfolio is beneficial, there are multiple challenges the students can face if it is not implemented effectively. These challenges may are psychosocial, physical and others. If these challenges cannot be managed, the students' complaints about portfolio will increase.

The term "students' perspectives" refers to ideas and opinions related to what is right and what is wrong or in other words, it is what they think about the educational tools used in the current era (Gandhi, Thirumoorthy & Mythili, 2015). Listening to students and sharing their perspectives are considered the first steps in the success of innovative strategies as the use of paper based portfolio. Additionally, identifying the students' own perspectives directly affects their learning outcomes (Konings, Merrienboer & Seidel, 2014). Multiple problems such as; lack of motivation to learn, poor grades, misconduct, mental health issues and negative

consequences on the student achievement; may result from neglecting students' perspective. Students' interpretations are not easily predictable for teachers; it is of great importance to explicitly determine students' perspectives (Konings, 2007).

In order to ensure successful implementation of paper-based portfolio, it should be purposeful, cumulative, ongoing, systematic, and meaningful. Without these criteria and without addressing the students' perspectives, the portfolio will be considered as a folder that contains papers and did not achieve its planned goals (Dung & Dieuha, 2019; Tokan & Imakulata, 2019). Therefore, the researcher conducted this study to determine the nursing students' perspectives towards the use of paper-based portfolio as an educational tool.

Aim of the study

The present study aims to determine the nursing students' perspectives towards the use of paper-based portfolio as an educational tool.

Research question

What are the nursing students' perspectives towards the use of paper based portfolio as an educational tool?

Material and Methods

Research design:

A descriptive research design was followed in the present study

Setting & subjects

The study was carried out at the Faculty of Nursing, Alexandria University in seven academic departments that use portfolio in their clinical areas except two departments which are Psychiatric Nursing and Mental Health Department and Nursing Education Department. The study subjects consisted of 320 nursing students who were selected randomly using the stratified sample technique to represent nursing students who enrolled in three academic levels which are second, third and fourth level within the academic year 2019-2020.

Study tool

One tool was used in the present study to collect the necessary data as follows;

Tool: Nursing students' perspective toward using portfolio as an educational tool questionnaire:

This questionnaire was developed by the researchers after reviewing the related literature to assess the nursing students' perspectives towards using paper-based portfolio as an educational tool in their clinical education as follows;

1) Beneficialness: (25 items) which Is concerned with the issues relating to nursing students' perspectives toward benefits and gains from using portfolio. It includes 3 subdomains; knowledge and understanding (8 items), skills (13 items) and attitude/behavior (4 items).

2) Challenges: (12 items) which indicates nursing students' perspectives toward difficulties facing students during their use of portfolio psychosocial challenges (5 items) ,physical challenges (3 items), and others (4 items).

3) Guidance: (18 items) that includes students' perspectives towards the received guidance from the teacher about effective use of portfolio through all phases of portfolio development which include planning phase (6 items), collection phase (2 items), selection phase (3 items), Reflection phase (2 items), teacher evaluation and projection phase (5 items).

In addition to , the personal and academic data of the study subjects such as age, sex, academic semester, past experience of using portfolio in their previous educational levels, and their academic achievement.

Method:

Permission to conduct the study was obtained from the Research Ethics Committee at the Faculty of Nursing, Alexandria University. Permission to conduct the study was obtained from the Dean, Vice Dean of student affairs and the heads of selected academic departments at Faculty of Nursing, Alexandria University. They were informed

about the purpose of the study, the date and time of data collection. Tool was tested for its content validity by seven experts in the related fields (Nursing Education and Gerontological Nursing) in order to put the tool in its final form. The tool was tested for its reliability using Chronbach's Alpha test, r = 0.969. A pilot study was carried out on 10% of the sample size(32 nursing students) from study setting to test the clarity, feasibility and applicability of the study tools. These students were excluded from the study sample. Data was collected at the end of the first academic semester 2019-2020. Each study subject needed about 15-20 minutes to complete the study tools.

Ethical considerations:

An informed consent was obtained from all participants after explanation of the study aim. Participants' confidentiality of the collected data was ensured. The right to refuse the participation in the study.

Statistical analysis:

Data were fed to the computer and analyzed using IBM SPSS software package version 20.0. Qualitative data were described using number and percent. Quantitative data were described using mean, standard deviation.

Results

Table 1 shows the distribution of the nursing students according to their personal and academic data. It can be observed that, the mean age of nursing students was 21.23 ± 1.78. In relation to sex, it can be noticed that 64.4% of the subjects are females, while 35.6% are males. Regarding the academic level and academic department, it can be found that 27.8% of the study nursing students are located in the second academic level which represents the nursing students at Medical Surgical Nursing department. The third academic level is reported by 32.8% of the subjects who represent the nursing students at the Obstetric and Gynecological Nursing department 25% and Pediatric Nursing department 7.8%. Study subjects who enrolled in the fourth academic level account 39.4% of the study subjects who represent the nursing students at the Nursing Administration department 20%, Community health Nursing department 15.3% and

Gerontological Nursing department 4.1%. In relation to last GPA, it can be noticed that nearly half (47.8%) of nursing students were (very good), while more than one third (34%) of them were (good). In relation to the past experience of using the paper based portfolio, the table shows that 77.8% of the students do not have past experience of using portfolio in the previous educational levels and 22.2% of them have past experience of using it either at primary, preparatory, and secondary school.

Table 2 shows the distribution of the nursing students according to their perspectives towards the benefits of using paper based portfolio. It is obvious that almost half (41.6%) of the students have a very negative perspective toward benefits of using paper based portfolio followed by more than one third of them (37.8) reported negative perspective.

In relation to the knowledge and understanding subdomains, the nursing students reported little value of using portfolio on their level of knowledge and understanding. Moreover, the nursing students showed little support to the value of using portfolio in improving students' different skill. Concerning attitude/behavior, it can be observed that the subjects perceived the use of portfolio on their attitude/behavior negatively.

Table 3 shows the distribution of the nursing students according to their perspectives toward the challenges of using paper based portfolio. It is obvious that the nursing students show greater endorsement and support to the presence of multiple challenges facing them while using the portfolio in general. These challenges are psychosocial challenges, physical challenges and others.

As for psychosocial challenges perceived by the nursing students, more than half of them reported their worry that may result from lack of consistency in evaluation among different instructors, boredom of using it, fear of forgetting or losing it ,and irritability during organization to reach its best image(60.3%, 59.4%, 57.5, 56.3)respectively.

Concerning other challenges, they reported negative perspective regarding unsuitable storage, expenses, time consumption (55.9%, 53.1% and 55.3%)respectively.

Table 4 shows the distribution of the nursing students according to their perspectives towards clinical instructors' guidance about application of paper based portfolio. The nursing students reported low mean percent score 32.47 ± 22.81 of the total guidance domain. This indicates that the students generally view the clinical instructors' guidance negatively during all phases of portfolio development application. They showed either very negative or negative perspective of the teacher guidance during the planning, collection ,selection, evaluation phase (30.9%, 33.1%) (33.48 ± 28.46), (28.46 ± 25.87), (30.42 ± 26.97) respectively

Table 5 shows Relation between nursing students' perspective toward paper based portfolio and their Personal and academic characteristics. The table shows that females show more negative perspective than male study subjects 16.46 ± 16.82, 21.18 ± 18.0 respectively. The difference is statistically significant T= 2.348, P= 0.019. Also, nursing students who located in early academic level (2nd level) reported higher mean percent scores of positive perspective about portfolio such as benefits (34.25 ± 20.06), guidance (37.72 ± 20.66), preferences (29.74 ± 21.51) in comparison to the study subjects in advanced academic levels and the differences are statistically significant P ≤ 0.05.

Table 1: Distribution of the study nursing students according to their personal and academic data.

Personal and academic characteristics	No (320)	%
Age (years)		
<20	47	14.7
≥20	273	85.3
Mean ± SD. 21.23 ± 1.78		
Sex		
Female	206	64.4
Male	114	35.6
Academic level		
Second level (third semester).	89	27.8
Third level (fifth semester).	105	32.8
Fourth level (seventh semester).	126	39.4
Academic departments		
Medical surgical nursing department.	89	27.8
Obstetric and gynecological nursing department.	80	25.0
Nursing administration department.	64	20.0
Community health nursing depar1tment.	49	15.3
Pediatric nursing department.	25	7.8
Gerontological Nursing Department	13	4.1
Total GPA		
Excellent (A, A-, B+)	41	12.9
Very good (B, B-)	153	47.8
Good (C+, C)	109	34
Acceptable/ fair (C-)	15	4.7
Failed (D+, D, F)	2	0.6
Past experience of using paper based portfolio #		
No	249	77.8
Yes	71	22.2
	n=71	
Primary	26	36.6
Preparatory	27	38
Secondary	39	54.9

 # More than one answer was given.

Table (2): Distribution of the nursing students according to their perspectives toward benefits of using paper based portfolio.

Benefits of using paper based portfolio	Nursing students (n=320)									
	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
	No	%	No	%	No	%	No	%	No	%
Knowledge and understanding, Paper based portfolio helps to:										
1. Identify student strengths and weaknesses.	157	49.1	73	22.8	55	17.2	31	9.7	4	1.3
2. Identify creative talents.	146	45.6	84	26.3	46	14.4	34	10.6	10	3.1
3. Identify new vocabulary.	151	47.2	82	25.6	43	13.4	35	10.9	9	2.8
4. Determine the appropriate learning style.	162	50.6	79	24.7	39	12.2	28	8.8	12	3.8
5. Define learning needs.	154	48.1	82	25.6	39	12.2	35	10.9	10	3.1
6. Recall of previous information.	139	43.4	77	24.1	55	17.2	37	11.6	12	3.8
7. Achieve the required course objectives.	131	40.9	68	21.3	60	18.8	51	15.9	10	3.1
8. Integrate theory and practice.	141	44.1	90	28.1	46	14.4	32	10.0	11	3.4
Mean %± SD 25.02 ± 23.20, **very negative** 165(51.6%), **negative** 96(30 %), **positive** 48(15%), **very positive** 11 (3.4%)										
Skills: improve the following skills										
1. Self-awareness.	139	43.4	92	28.8	47	14.7	34	10.6	8	2.5
2. Self-Reflection.	132	41.3	96	30.0	41	12.8	37	11.6	14	4.4
3. Critical thinking.	136	42.5	99	30.9	38	11.9	38	11.9	9	2.8
4. Decision-making	138	43.1	106	33.1	30	9.4	36	11.3	10	3.1
5. Problem solving.	146	45.6	95	29.7	43	13.4	31	9.7	5	1.6
6. Communication skills with friends.	132	41.3	76	23.8	55	17.2	46	14.4	11	3.4

Benefits of using paper based portfolio	Nursing students (n=320)									
	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
	No	%	No	%	No	%	No	%	No	%
7. Communication skills with teachers.	133	41.6	71	22.2	53	16.6	51	15.9	12	3.8
8. Ability to learn individually.	139	43.4	92	28.8	48	15.0	34	10.6	7	2.2
9. Ability to learn independently.	113	35.3	65	20.3	64	20.0	58	18.1	20	6.3
10. Organizational skills.	102	31.9	72	22.5	47	14.7	78	24.4	21	6.6
11. Writing skills.	115	35.9	66	20.6	64	20.0	59	18.4	16	5.0
12. Practical skills.	130	40.6	89	27.8	43	13.4	46	14.4	12	3.8
13. Develop action plan for educational level improving	134	41.9	101	31.6	40	12.5	30	9.4	15	4.7
Mean% ± SD 27.75 ± 12.14, **very negative** 133 (41.6%), **negative** 121 (37.8 %), **positive**58 (18.1%), **very positive**8 (2.5%)										

Table (2): Distribution of the nursing students according to their perspectives toward benefits of using paper-based portfolio. "Continue "

Benefits of using paper based portfolio	Nursing students (n=320)									
	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
	No	%	No	%	No	%	No	%	No	%
Attitude/behavior Paper based portfolio can										
1. Encourage Learning in motivated and enthusiastic way.	154	48.1	101	31.6	37	11.6	22	6.9	6	1.9
2. Increase the desire to participate in the educational process.	154	48.1	86	26.9	39	12.2	34	10.6	7	2.2
3. Build self-confidence.	137	42.8	81	25.3	52	16.3	41	12.8	9	2.8
4. Enhance feeling of responsibility for reviewing academic development.	132	41.3	67	20.9	50	15.6	56	17.5	15	4.7
Mean% ± SD 25.35 ± 25.38, **very negative** 148 (46.3%), **negative** 109 (34.1%), **positive** 40 (12.5%), **very positive**23 (7.2%)										
Total perspective of benefits Mean %± SD 26.81 ± 21.89, **very negative perspective** 133 (41.6%), **negative** 121 (37.8 %), **positive**58 (18.1%), **very positive**8 (2.5%)										

Mean% ± SD: - mean percent score

Table (3): Distribution of nursing students according their perspectives toward challenges of using the paper based portfolio as an educational tool.

Challenges of using paper based portfolio	Nursing students (n=320)									
	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
	No	%	No	%	No	%	No	%	No	%
Psychosocial challenges										
1. Fear of forgetting or losing it.	18	5.6	7	2.2	18	5.6	93	29.1	184	57.5
2. Irritability during organization to reach its best image.	13	4.1	8	2.5	22	6.9	97	30.3	180	56.3
3.Worry may result from lack of consistency in evaluation among different instructors	19	5.9	11	3.4	12	3.8	85	26.6	193	60.3
4. Unfair competition among colleagues for the highest score	43	13.4	50	15.6	36	11.3	65	20.3	126	39.4
5. Boredom of using it.	20	6.3	11	3.4	22	6.9	77	24.1	190	59.4

Challenges of using paper based portfolio	Nursing students (n=320)									
	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
	No	%	No	%	No	%	No	%	No	%
Mean% ± SD78.9 ± 23.7, **very negative** 233 (72.8%), **negative** 58 (18.1%), **positive**12 (3.8%), **very positive**17 (5.3%)										
Other challenges										
1. Expenses (costs a lot).	14	4.4	12	3.8	32	10.0	92	28.8	170	53.1
2. Paper of portfolio can be damaged.	33	10.3	50	15.6	37	11.6	70	21.9	130	40.6
3. Time consumption (take a lot of time to complete)	13	4.1	10	3.1	35	10.9	85	26.6	177	55.3
4. Unsuitable storage	21	6.6	19	5.9	36	11.3	65	20.3	179	55.9
Mean%± SD 76.8 ± 24.5, **very negative** 219 (68.4%), **negative** 62 (19.4%), **positive**26 (8.1%), **very positive**13 (4.1%)										

Table (3): Distribution of study nursing students according their perspectives toward challenges of using the paper based portfolio as an educational tool. "Continue "

Challenges of using paper based portfolio	Nursing students (n=320)									
	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
	No	%	No	%	No	%	No	%	No	%
Physical hazards										
1.Heavy weight that causes back and shoulder pain	32	10.0	21	6.6	38	11.9	79	24.7	150	46.9
2. a burden to transmit from one place to another	21	6.6	11	3.4	23	7.2	94	29.4	171	53.4
3. Causes tension in the nerves and hand muscles.	33	10.3	24	7.5	43	13.4	67	20.9	153	47.8
Mean% ± SD 75.0± 27.9, **very negative** 213 (66.6%), **negative** 57 (17.8%), **positive**33 (10.3%), **very positive**17 (5.3%)										
Total perspective of challenges Mean% ± SD 77.2 ± 22.2, **very negative** 209 (65.3%), **negative** 80 (25.0%), **positive** 19 (5.9%), **very positive** 12 (3.8%)										

Mean% ± SD: - mean percent score

Table (4): Distribution of nursing students according their perspectives toward received clinical instructor guidance through all phases of portfolio development.

Guidance received through all phases of portfolio development. The received guidance help in :	Nursing students (n=320)									
	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
	No	%	No	%	No	%	No	%	No	%
Planning phase										
1. Determining the goal of using the paper based portfolio at the beginning of the clinical rotation.	111	34.7	68	21.3	66	20.6	51	15.9	24	7.5
2. Allowing participation in setting the educational goals required to be achieved during the clinical rotation.	115	35.9	80	25.0	62	19.4	44	13.8	19	5.9
3. Explanation of paper based portfolio application steps.	80	25.0	44	13.8	74	23.1	98	30.6	24	7.5
4. Determining the evidences required to be accomplished and put them in the paper based portfolio to prepare them at the beginning of the clinical rotation.	82	25.6	58	18.1	66	20.6	87	27.2	27	8.4
5. Offering previous student's portfolio samples to give a better idea about portfolio planning, meaning and importance.	124	38.8	79	24.7	52	16.3	46	14.4	19	5.9
6. Explanation of how to use the evaluation criteria to evaluate their paper based portfolio.	115	35.9	66	20.6	67	20.9	51	15.9	21	6.6
Mean% ± SD36.93 ± 25.87, **very negative** 99 (30.9%), **negative** 106 (33.1%), **positive**83 (25.9%), **very positive**32 (10%)										

Table (4): Distribution of nursing students according their perspectives toward received clinical instructor guidance through all phases of portfolio development. "Continue "

Guidance received through all phases of portfolio development. The received guidance help in :	Nursing students (n=320)									
	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
	No	%	No	%	No	%	No	%	No	%
Collection phase										
1. Collection of all assignments and evidences done in the clinical rotation	106	33.1	74	23.1	69	21.6	60	18.8	11	3.4
2. Organization of these evidences.	114	35.6	71	22.2	66	20.6	58	18.1	11	3.4
Mean% ± SD 33.48 ± 28.46, **very negative** 105 (32.8%), **negative** 87 (27.2%), **positive** 74 (23.1%), **very positive** 54 (16.9%)										
Selection phase										
1. Choosing the most relevant items which best represent the effort.	125	39.1	83	25.9	67	20.9	33	10.3	12	3.8
2. Selection of relevant evidences done by student only without the help of a teacher or a colleague	122	38.1	89	27.8	56	17.5	43	13.4	10	3.1
3. Giving more than one opportunity to complete assignments.	146	45.6	61	19.1	58	18.1	38	11.9	17	5.3
Mean %± SD 28.46 ± 25.87, **very negative** 136(42.5%), **negative** 98 (30.6%), **positive** 65 (20.3%), **very positive** 21 (6.6%).										
Reflection phase										
1. Explanation of how to implement self-reflection through self-evaluation by the student for each element contained within the paper based portfolio to know the extent of progress towards achieving the desired goal.	143	44.7	62	19.4	55	17.2	40	12.5	20	6.3
2. Explanation of how to implement self-reflection through the student's self-evaluation of the paper based portfolio in general based on clear criteria that have been set.	136	42.5	68	21.3	58	18.1	40	12.5	18	5.6
Mean %± SD 29.22 ± 29.94, **very negative** 137(42.8%), **negative** 76(23.8%), **positive** 61 (19.1%), **very positive** 46 (14.4%)										

Table (4): Distribution of nursing students according their perspectives toward received clinical instructor guidance through all phases of portfolio development. "Continue"

Guidance received through all phases of portfolio development. The received guidance help in :	Nursing students (n=320)									
	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
	No	%	No	%	No	%	No	%	No	%
Teacher evaluation and projection phase										
1. Giving feedback about the portfolio evidences.	132	41.3	57	17.8	62	19.4	52	16.3	17	5.3
2. Evaluating the paper based portfolio by the clinical instructor, based on clear criteria previously established	112	35.0	62	19.4	60	18.8	60	18.8	26	8.1
3. Revising the established goals.	126	39.4	60	18.8	62	19.4	55	17.2	17	5.3
4. Explanation of how to think of previous reactions that can be better reflected when dealing with similar situations.	144	45.0	70	21.9	58	18.1	36	11.3	12	3.8
5.Setting new goals for the future	162	50.6	65	20.3	42	13.1	36	11.3	15	4.7
Mean %± SD 30.42 ± 26.97, **very negative** 134(41.9%), **negative** 93 (29.1%), **positive** 66 (20.6%), **very positive** 27 (8.4%)										
Total perspective toward received clinical instructor guidance Mean% ± SD 32.47 ± 22.81 **Very negative** 123(38.4%), **negative** 116 (36.3%), **positive** 67 (20.9%), **very positive** 14 (4.4%)										

Mean% ± SD: - mean percent score

Table (5): Relation between nursing students' perspective toward paper based portfolio and their Personal and academic characteristics (n = 320)

Personal and academic characteristics	General nursing students' perspective about portfolio				Personal experience of portfolio
	Benefits	**Challenges**	**Guidance**	**Preferences**	
	Mean ± SD.	Mean ± SD.	Mean ± SD.	Mean ± SD.	Mean ± SD.
Gender					
Male	25.32 ± 22.18	77.49 ± 22.19	31.34 ± 22.35	22.54 ± 24.08	21.18 ± 18.0
Female	27.64 ± 21.74	77.07 ± 22.30	33.10 ± 23.09	22.91 ± 23.25	16.46 ± 16.82
t(p)	0.910(0.364)	0.159(0.874)	0.661(0.509)	0.135 (0.893)	2.348*(0.019*)
Academic level					
Second level	34.25 ± 20.06	71.98 ± 20.28	37.72 ± 20.66	29.74 ± 21.51	24.04 ± 18.40
Third level	22.43 ± 22.82	83.39 ± 18.43	29.29 ± 21.07	16.85 ± 20.36	15.95 ± 15.53
Fourth level	25.21 ± 21.17	75.78 ± 25.20	31.42 ± 25.07	22.80 ± 26.0	15.79 ± 17.22
F(p)	7.901*(<0.001*)	7.045*(0.001*)	3.571* (0.029*)	7.538* (0.001*)	7.413*(0.001*)
Total GPA					
Excellent	27.88± 21.95	83.49± 19.66	30.32± 21.14	19.24± 22.19	14.51± 16.46
Very good	27.12± 22.81	75.68± 22.01	32.62± 23.37	23.28± 23.09	19.62± 18.40
Good	27.01± 21.17	77.18± 22.32	35.09± 22.82	24.72± 25.06	17.68± 17.68
Acceptable/ fair	19.33 ± 17.31	73.61 ± 29.05	18.98± 18.53	14.63± 19.51	16.33± 17.83
Failed	27.0 ± 31.11	95.83 ± 0.00	23.61± 13.75	12.50± 17.68	17.50± 3.54
F(p)	0.468 (0.759)	1.456 (0.215)	1.859 (0.117)	0.981 (0.418)	0.784 (0.536)
Past experience					
Primary	32.92 ± 27.67	78.69 ± 23.71	34.62 ± 20.18	26.71 ± 20.83	22.60 ± 17.64
Preparatory	36.26 ± 28.09	75.85 ± 22.79	34.83 ± 22.33	25.00 ± 25.32	21.85 ± 19.27
Secondary	43.64 ± 26.39	75.37 ± 22.08	40.56 ± 24.59	26.92 ± 24.62	27.82 ± 21.04
F(p)	7.234*(<0.001*)	0.152(0.928)	1.516 (0.210)	0.569(0.636)	3.843*(0.010*)

t: Student t-test   F: F for ANOVA test

*: Statistically significant at p ≤ 0.05

Mean ± SD: - mean± standard deviation.

Discussion

The use of portfolio for learning and assessment has recently increased based on innovations that occurred in the field of nursing education and practice (Kamel & Attia, 2010). Education has experienced paradigm shift from being a traditional teacher-centered approach to one that is student-centered which considers the students as the core element where their needs cannot be neglected nor their opinions, and perspective toward any intervention. The teacher cannot teach better unless they are able to see what they are doing from their students' point of view (Priscah et al., 2016 ; Vaessen et al, 2016). Students must be oriented with the purpose and application process of the portfolio because if the portfolio is not perceived by the students as a relevant and useful tool, they will not be committed to using portfolios to their full potential (Kamel & Attia, 2010). So, this study aims to identify nursing students' perspectives toward the use of paper based portfolio as an educational tool.

The present study results reveal that the majority of the nursing students have a very negative perspective towards the benefits of using paper based portfolio either in improving the students' knowledge, understanding, skills, or attitude/ behavior (table 3). This finding may be due to lack of received teachers' instructions and information regarding the purpose and requirements of paper based portfolio at the beginning of the clinical rotation. This may make them unaware of the portfolio benefits or lack the motivation to compile their portfolio. Furthermore, poor feedback provided to the students to improve their work or to monitor their progress through the use of portfolio makes them to consider the portfolio just like a folder which carries their paper. Moreover, preparing it on the last day of the clinical rotation and not step by step application process, putting all evidences and using ready paper and ready based structure questions to answer regardless of the purpose of the portfolio, decreases their ability to reflect on each item in the portfolio. They almost report the same answers for the same questions used in different clinical rotations.

The present study results are in the same line with what was reported by Corcoran and Nicholson (2004) . They reported that the majority of students reveal that the use of portfolio did not improve their delivery of care, did not motivate them and in general was not associated with autonomy in selection of content. Also, many students felt that the portfolio was only for the present course not for continuous professional development. Moreover, Narin et al., 2006 reported that their students generally did not consider the portfolio as a valuable tool for developing their communication skills. Additionally, Bukley et al., 2009 stated that the students reported that the portfolio does not sufficiently address the assessment of their clinical skills or able to integrate theory with practice.

On the contrary to the present study result, Bukley et al., 2009 concluded that the main benefits of portfolio that were reported by the students are improvement in their knowledge and understanding, providing direct measurements of changes in their skills and attitudes, allowing better self-awareness, and encouraging independent learning. Kamel and Attia (2010) and Sambandam, Jutti &Lee (2005) also found that the majority of the students agreed that the application of the portfolio helped them to understand and apply concepts as communication and problem solving. In addition, Buranz (2011) stated that the students perceived themselves more autonomous after using the portfolio. Moreover, Ghallab (2008) concluded that the portfolio enabled integration of theory and practice and led to improvements in knowledge and practice of the students.

Putting the spotlight on the perspectives of the nursing students towards the challenges of using paper based portfolio, the results of the present study show that the majority of the nursing students have greater endorsement and support to the presence of multiple challenges of using portfolio (table 4). The majority of students perceive greater psychosocial challenges of using portfolio. This can be justified by the fact that they may perceive it Only as a part of their evaluation and not as a learning tool.. Also, they leave their work to the end of each clinical rotation which may cause irritability and anxiety during its organization. Indeed, some clinical instructors do not provide several opportunities for their students to revise their work. Also, lack of suitable place to store the portfolio in the faculty may cause fear of forgetting or losing it. This finding was supported by Emden, Hutt & Bruce (2003) who reported that trainees felt frustration, stress, and even anxiety during fulfilling the portfolio requirements. Moreover, McMullan (2006) stated that students reported that portfolios causing a great anxiety due to the time-consuming nature of portfolio.

Lack of reliability between different instructors in using portfolio may cause the students to be worried and creates unfair competition between them. This result comes in line with Brennan and Lennie (2010) who suggested that the majority of the students reported anxiety because there were inconsistencies by different supervisors in the portfolio assessment.

Concerning the nursing students' perspectives towards the financial challenges of using portfolio, the present study result reveals that more than half of the students reported that the application of portfolio is costly (table 4). This may be related to much required paper, and the need to buy ready and expensive materials. Also, unavailable place to store portfolio may cause its loss, so the student may be forced to remake another one. This result comes in accordance with Al-Madani (2019) who illustrated that, the students reported that the portfolio consumes money, effort and time. Furthermore, Hrisos, Illing & Burford (2008) pointed out that the most significant issue that has emerged is the perceived burden of the portfolio resulting from the feeling of chasing and completing excessive paperwork. Also, there is a need for colleagues and senior staff to oversee routine basic procedures or complete time-consuming evaluation forms.

Focusing on the nursing students' perspective towards physical challenges of using paper based portfolio, the results of the present study show that the majority of the nursing students perceive it in a very negative way (table 4). This may be related to the collection of all papers related to the clinical rotation without selection of the most appropriate one, and fear from losing it enforces them to carry it the whole clinical day

causing back and shoulder pain. Also, delaying the work at the end of clinical rotation forces them to write a lot of paper at once which causes pain in hands muscles. In this regard, Abozeid and Abdel Nasser (2018) found that both staff and students agreed that portfolio need an excessive workload due to unclear purpose and requirements. Furthermore, McMullan (2008) pointed out that portfolios are huge, bulky, and contain a lot of paperwork.

The majority of the study subjects perceive it as a very time consuming activity according to the present study's results (table 4). This may be due To the fact that they accumulate their work at one time and become overwhelmed with different requirements that must be done at a specific time. These results are consistent with what was proposed by Alonso (2014) that the assembling of the portfolio requires more effort and takes a lot of time. So, it requires hard work and it is sometimes difficult to keep up team work. On the contrary, Dolan, Fairbairn & Harris (2004) concluded that the majority of the students felt that not much time was spent on the portfolio application than other aspects of the course.

With reference to the nursing students' perspective towards the received clinical instructor guidance through all phases of portfolio development, it is found that the nursing students view the clinical instructor guidance negatively in general during all phases of portfolio development application according to the present study's results (table 5). From the researcher's perspective, these results may be due to that a lot of clinical instructors need to be continuously reoriented to the importance and purpose of using portfolio and its' process of application. Also, there is a need to increase the number of workshops or training on innovative learning and teaching methods on a continuous base. Furthermore, highly authoritarian educational culture that keeps the teacher the only responsible of the learning process and the resistance to change from a number of educators may decrease the teachers' interest in using portfolio. Moreover, extra work in lectures, clinical areas, researches done by the clinical instructors may limit available time to seek more training.

In this respect, Timmins and Dunne (2009) suggested that while students see great values in using a portfolio, there are several areas of dissatisfaction including lack of clear guidance regarding the planning and management of their portfolio. Furthermore, Smith and Tilema (2003) stated that the main problems for portfolio users are related to the degree of confusion or lack of understanding the requirments, the amount of guidance and support which is provided during the application process and the difficulties encountered during the collection and selection of the evidences as time consuming tasks.

Kamel and Attia (2010) reported that some students mentioned that they need more guidance about the use of the portfolio because they have writing difficulties and are not sure what to include. They added that there is inability to fulfill the students' need for support and guidance on portfolio building. Sambandam, Jutti& Lee (2005) reported that 81% of the study subjects stated that they did not have enough guidance in writing the portfolio from their teachers.

Abozeid and Abdel Nasser (2018) reported that most of the students agreed that they received clear instructions about the portfolio organizational process which included clear purpose, clear rules, and the evidences from the beginning of the process. Most of the students agreed that their teachers motivated them to create portfolio and a strong relation between the teachers' motivation and the students' satisfaction of the final product was observed. Moreover, Ghallab (2008) illustrated that students strongly agreed that they received guidance and support concerning portfolios' meaning, purpose, selection and number of evidences that must be included in the portfolio, how to write reflection for each evidence, how to organize their portfolio and the methods of its' evaluation.

According to the present study results, there is a statistically significant relation between the gender and nursing student's perspective toward their personal experience of using paper based portfolio, pointed out that females show more negative perspective toward their personal experience of using paper based portfolio than males (table 5). This may

be due to the majority of study subjects are females and the majority have negative perspective toward the use of the portfolio. Conversely, Šliogerienė (2012) concluded that females, 61.9 %, were more positive than males, they expressed a higher degree of willingness to write pages of reflection in the portfolio. Males were dissatisfied with the overload caused by portfolio filling, while females are more diligent and find it more beneficial. Also, Farrah (2018) concluded that there is no statistically significant relation between students' attitudes toward portfolio and their gender. Additionally, Orhon (2016) reported that there was no significant relation between the perceptions of the learners towards the portfolio-keeping and their gender. It was revealed that all of the students of both gender believed that the use of portfolio contributed to their own learning.

It is observed from the present study results that having past experience of using portfolio in the previous educational levels is significantly associated with better perspective toward portfolio such as perceiving greater benefits, guidance, preferences, and also better perspective toward personal experience of using portfolio in comparison to other students (table 5). These findings may be due to that those students who used to use the paper based portfolio, learned how to manage challenges by experience, become more familiar with the application of portfolio and its importance more than those who use it at the university for the first time.

Conclusion and Recommendations

Based on the present study results, it can be concluded that the nursing students showed lower support and endorsement to the benefits of paper-based portfolio. While, the students perceived greater challenges of using portfolio, they also perceived minimum instructions and guidance received from the clinical instructors during all phases of portfolio development application. Based on the findings of the present study, it can be recommended that Training workshops should be conducted by nursing education department staff for all nursing educators to enhance their abilities and competencies in the use of portfolio. Additionally, the connection between the different departments through the student portfolio from the first year until graduation should be assured and standardized criteria and rubric must be provided to and followed by all clinical instructors and students about the evaluation of paper based portfolio.

References

Abouzeid, E., & Abdel Nasser, A. (2018), Evaluation of the portfolio's implementation in clinical clerkship: students' and staff's perception in Egypt. Journal of Medical Education, 17(4), 205-214.

Afrianto, A. (2017). Challenges of using portfolio assessment as an alternative assessment method for teaching English in Indonesian schools. International Journal of Educational Best Practices, 1(2), 106-114.

Aksit, F. (2016). Implementing portfolios in teacher training: why we use them and why we should use them. Eurasian Journal of Educational Research, 62, 97-114.

Al-Madani, M. (2019). Exploring undergraduate nursing students' perceptions about using portfolios in nursing education. International Journal of Nursing and Health Care Research, 5(4), 1-14.

Alonso, A. (2014). Students' beliefs on portfolio assessment, Alicante Journal of English Studies. 26(16), 225-238.

Baron, K. (2017). Changing to concept-based curricula: the process for nurse educators. The Open Nursing Journal, 11 (4), 277-287.

Birgin, O., & Baki, A. (2007). The use of portfolio to assess student's performance. Journal of Turkish Science Education, 4(2), 75-90.

Brennan, K., & Lennie, S. (2010). Students' experiences and perceptions of the use of portfolios in UK preregistration dietetic placements: a questionnaire-based study. Journal of Human Nutrition and Dietetics, 23(2), 133–143.

Buckly, S., Coleman, J., Davison, L., Khan, K., Zamora, A., Malik, S., Morely, D., Pollard, D., & Sayers,J. (2009). The educational effects of portfolios on undergraduate student learning: Best Evidence Medical Education (BEME), Journal of Medical Teacher, 31(4), 282-298.

Buranz, Y. (2011). Perceptions of EFL learners toward portfolios as a method of alternative assessment (Published Master Thesis). The graduate school of social sciences, Turkish university, 15-21.

Cayne, J. V. (1995). Portfolios: a developmental influence. Journal of Advanced Nursing. 21(2), 395-405.

Corcoran, J., Nicholson, C. (2004). Learning portfolios – evidence of learning: an examination of students' perspectives, Nursing in Critical Care, 9(5), 230-237.

Dolan, G., Fairbairn, G., & Harris, S. (2004). Is our student portfolio valued?. Nurse Education Today, 24(1), 4-13.

Dung, L., & Dieuha, N. (2019). Portfolio - an alternative form of assessment in EFL context. International Journal of Scientific and Research Publications. 9 (1), 439-444.

Emden, C., Hutt, D., & Bruce, M. (2003). Portfolio learning/assessment in nursing and midwifery: an innovation in progress. Journal of Contemporary Nurse, 16(1-2), 124- 132.

Faculty of nursing. (2008) .self-study. Alexandria University.

Farrah, M. (2018). Portfolio in the EFL writing classroom: students' perspectives. Journal of Human and Social Sciences, 45(3), 236-245.

Gandhi, S., Mythili, D., & Thirumoorthy, A. (2015). Nursing student's perceptions about traditional and innovative teaching strategies– a pilot study. Journal of Krishna Institute of Medical Sciences University, 4 (1), 124-129.

Ghallab, Z. E. (2008). The effect of using portfolio on the achievement of students in critical care nursing (Unpublished Master Thesis). Faculty of Nursing, Alexandria University. p. 7-11.

Hrisos, S., Illing, J., & Burford, B. (2008). Portfolio learning for foundation doctors: early feedback on its use in the clinical workplace, Journal of Medical Education, 42(2), 214–223.

Johnson, R., Cox, J., & Nichols, A. (2010). Developing portfolios in education: a guide to reflection, inquiry, and assessment (1st ed). Thousand Oaks: SAGE Publications. 4-8.

Kamel, S., & Attia, N (2010). Perception of student nurses towards the use of portfolio in a faculty of nursing. Journal of American Science, 6(12), 1436-1446.

Knowles, M. (1975). Self-directed learning: a guide for learners and teachers. Chicago. Follett Publishing Company.

Konings, K. (2007). Student perspectives on education: implications for instructional redesign (Unpublished Doctoral Dissertation). Open University of the Netherlands, 79-107.

Konings, k., Merrienboer, M., & Seidel,T. (2014). Participatory design of learning environments: Integrating perspectives of students, teachers, and designers. Journal of Instructional Science, 42(1), 1-7.

Ling, M. (2016). The use of academic portfolio in the learning and assessment of physics students from Singapore private college. International Journal of Assessment Tools in Education, 3(2), 151-160.

McMullan, M. (2006). Students' perceptions on the use of portfolios in pre-registration nursing education: a questionnaire survey. International Journal of Nursing studies, 43(3), 333-343.

McMullan, M. (2008). Using portfolios for clinical practice learning and assessment: The pre-registration nursing student's perception. Nurse Education today. 28(7), 873-879.

Nairn, S., O'Brien, E., Traynor, V., Williams, G., Chapple, M., & Johnson, S. (2006). Student nurses' knowledge, skills and attitudes towards the use of portfolios in a

school of nursing. Journal of Clinical Nursing, 15(12), 1509-1520.

Orhon, Y. (2016). Investigating the impact of blogging and portfolio-keeping on English as a foreign language learners' level of autonomy, self-assessment and language achievement (Published Master Thesis). The institute of educational science, Pamukkale University. 169-172.

Priscah, M., Ronald, O.,& Tecla,S. (2016). Portfolio development as a method of learning, assessment and evaluation in clinical nursing education in Kenya. International journal of scientific research and innovative technology, 3(6), 2313-3759.

Quansah, F. (2018). Traditional or performance assessment: what is the right way in assessing leaners. Journal of Research on Humanities and Social Sciences, 8(1), 21-24.

Sambandam, E., Jutti, R., & Lee, L. (2005). Portfolio as a learning tool: students' perspective. Annals of the Academy of Medicine, Singapore, 34 (8), 511-514.

Šliogerienė, J. (2012). Students' reflection analysis in portfolio based learning. Santalka: Filologija. Edukologija Journal, 20(1), 98-105.

Smith, K., & Tilema, H. (2003). Clarifying different types of portfolio use. Journal of Assessment & Evaluation in Higher Education, 28(6), 625-648.

Timmins, F., & Dunne, P (2009). An exploration of the current use and benefit of nursing student portfolios. Nurse Education Today 29(3), 330–341.

Vaessen, B., Beemt, A., Watering, G., Meeuwen, L., & Brok, B. (2017). Students' perception of frequent assessments and its relation to motivation and grades in a statistics course: a pilot study. Journal of Assessment & Evaluation in Higher Education, 42(6), 872–886.

Yanzhu, W. (2016). An example of utilizing students' reflections in e-Portfolios for program evaluation: a qualitative content analysis (Published Doctoral Dissertation). Faculty of the Virginia, Polytechnic Institute and State University. 27-36.