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Students' expectations and satisfaction on the vocational training learning environment: The case of the University of Health and Allied Sciences

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Abstract

This study was intended to find out the level of expectation and satisfaction in health and allied sciences regular undergraduate and sandwich students with their vocational training learning environment. A descriptive cross-sectional research design was carried out among 870 undergraduate students who were studying for a Bachelor's degree from the University of Health and Allied Sciences, Ho. Non-probability enumerative sampling was used to select the sample. Modified standard tool Clinical Learning Environment, Supervision, and Preceptor evaluation scale was used to assess the level of expectation and satisfaction in vocational training environment among students. Data were analyzed by using descriptive and inferential statistics. The findings of the study revealed that most of the students were satisfied beyond their level of expectation with their vocational training environment. However, few students both regular and sandwich recorded a level of satisfaction lower than their level of expectation on some of the factors. Further, a statistically significant association was found between both regular and sandwich students' expectations and satisfaction with the vocational training environment factors. The findings imply that there is a need for the University of Health and Allied Sciences to organise regular capacity-building training for preceptors and health facility managers to improve students' level of satisfaction regarding facility/ward/unit atmosphere, the leadership style of a preceptor, leadership of preceptor to nursing care/clients, preceptorship/supervisory relationship, preceptor as enabling the integration of theory and practice, cooperation between placement staff and preceptor, the relationship among student, preceptor, and ability to achieve vocational training objectives could be improved.

Keywords: Vocational Training Environment, Students' Expectations, Students' Satisfaction

Introduction

The satisfaction of health and allied sciences students with vocational training is an essential criterion used for the evaluation of vocational training practice in health and allied sciences education. Notably, there is a need for deliberation regarding how to create vocational training contexts, where students learn to integrate theoretical knowledge with practice and students are assisted in staying abreast with healthcare knowledge (Henderson, Briggs, Schoonbeck & Paterson, 2011). The researchers became aware of the discontent of vocational training students with the vocational training environment when students verbalised their dissatisfaction with informal

interaction during vocational training monitoring and supervision visitation. Their apparent dissatisfaction appeared to relate to limited participation in patient care, and inadequate support from staff of health facilities. Similarly, the findings of a study conducted by Emvula (2016) at the State Training Hospital in Windhoek, Namibia showed that undergraduate nursing students on vocational training received very little support, guidance, and supervision from the preceptors at the vocational training placement. Several studies have been conducted in different countries such as Cyprus, Finland, Malaysia, Norway, South Africa and Malawi to report on the experience and satisfaction of undergraduate health and allied sciences students within the vocational training placement setting (Papastavrou, Lambrinou, Tsangari, Saarokoski & Leino-Kilpi, 2010; Skaalvik, Normann & Henriksen, 2011; Kaphagawani & Useh, 2013). However, the expectation and satisfaction of students in vocational training environments during undergraduate training in the context of the University of Health and Allied Sciences (UHAS) was unknown. The researchers could find no research evidence of investigations conducted at UHAS to report on health and allied sciences students' expectation level of satisfaction to identify the performance gap with vocational training practice at UHAS. This inspired the researchers to explore the levels of expectation and satisfaction of undergraduate regular and sandwich health and allied sciences students regarding their vocational training practice environments.

Objectives of the Study

The study sought to:

1. Assess and compare regular undergraduate and sandwich students' levels of expectation and satisfaction on the following aspects of the vocational training environment: facility/ward/unit atmosphere, the leadership style of a preceptor, leadership of preceptor to nursing care/clients, preceptorship/supervisory relationship, preceptor as enabling the integration of theory and practice, cooperation between placement staff and preceptor, the relationship among student, preceptor, and achievement of vocational training objectives.
2. Find out whether performance gaps exist or otherwise about the above aspects of the vocational training environment.
3. Find out the correlation between the importance and satisfaction of vocational training environment factors among regular and sandwich students
4. Find out whether student type influences levels of their expectation and satisfaction of various aspects of vocational training environment factors.

Hypothesis

The researchers proposed the following hypothesis:

Ho: There is no statistically significant difference between regular undergraduate and sandwich students' levels of expectation and satisfaction with vocational training environment factors.

Ha: There is a statistically significant difference between regular undergraduate and sandwich students' levels of expectation and satisfaction with vocational training environment factors.

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Review of Related Literature

Vocational training practice and background

Health and allied sciences vocational training is described as the integration of knowledge and skills that contribute to the character and development of such practice (Kaphagawani, 2015). Health and allied sciences students engage in vocational training for learning purposes. Learning during vocational training depends on psychological and pedagogical aspects such as preceptor-student relationships and learning opportunities (Traynor & Mehigan, 2014). The importance of vocational training to health and allied sciences professionals cannot be overemphasised; as it provides students with the opportunity to become trained, competent, skilled, and confident practitioners (Msiska, Smith & Fawcett, 2014). Vocational training practice is performed in various accredited health facilities.

Health and allied sciences students' satisfaction with vocational training environment

Satisfaction refers to the fulfillment or gratification of one's wishes, expectations, or needs (The American Heritage Dictionary of the English Language, 2016). The satisfaction of nursing students is an essential indicator in assessing the quality of practical training. The quality of practical training relates to the work environment at the hospitals and clinics, structured and coordinated clinical experiences, competence demonstration by the students, standards of assessment, and the interrelationships of ward staff (Dragusheva, Tornyova, Semerdjieva & Novakova, 2017). Importantly, studying student satisfaction plays a significant role in improving educational institutions teaching strategies to meet students' needs and expectations, regarding their clinical practice experiences (Higazze, Rayan, Ades & Alrawashdeh, 2017, El-Mokadem & Ibraheem, 2017).

Health and Allied Sciences students' exposure to vocational training may be either satisfying or unsatisfying, and various factors contribute to these attributes. The results of a descriptive study completed in the Kingdom of Saudi Arabia by Abouelfettoh et al. (2015), revealed that students were satisfied with the vocational training environment concerning their general context, favourable health facility's atmosphere, good leadership style of preceptor, leadership of supervisory relationship, preceptor as enabling the integration of theory and practice, cooperation between placement staff and preceptor, relationship among students and their ability achieve the vocational training objectives. These findings are similar to the results of a study by Papastavrou, Dimitriadou, Tsangari, and Andreou (2016) conducted in Cyprus. Papastravrou et al. (2016) found that students tend to be satisfied when guided on patient care and the documentation of ethical issues on the ward level. Students also expressed satisfaction with vocational training when they experienced a sense of achievement, were allowed to make decisions, and treated individually according to their professional needs (El-Mokadem et al., 2017).

The satisfaction of students is also linked to vocational training supervision. Students who had frequent supervision sessions with preceptors showed more appreciation than those who did not have meetings or fewer meetings with their respective supervisors (Papastavrou, Lambrinou, Tsangari, Saarikoski and Leino-Kilpi, 2010; Sundler, Bjork, Bisholt, Ohlsson, Engström & Gustafsson, 2014; Papastavrou et al., 2016). The training institution and the lecturers are responsible for the planning of the vocation placement of students. Therefore, regular visits enhance students' vocational training experience and ensure that the educational goals of students are achieved timeously (Papastavrou et al., 2016). Furthermore, the preceptor serves as a liaison between the university and the vocational training settings where students are placed (Dimitriadou, Papastavrou, Efstathiou & Theodorou, 2015; Sundler et al., 2014).

Quality interactions between vocational training facility staff and students are of the utmost importance in student development and learning in the vocational training environment. This relationship is characterised by mutual respect, both individually as well as professionally. Students reported that the preceptor-supervisor relationship plays a role in the student's confidence to seek advice and get help (Courtney-Pratt, Fitzgerald, Ford, Marsden & Marlow, 2012). Ward nurses have reported that this relationship does not exist because some student nurses are not enthusiastic about learning, and lack motivation (Courtney-Pratt et al., 2012). Students' satisfaction with vocational training supervision is thus concerned with attitudes, communication, and cooperation (Sundler et al., 2014).

Effective learning is described as the occurrence of students deriving meaning from the experience in which they are actively involved (Kaphagawani, 2015). Papastavrou et al. (2010) described vocational training support as an opportunity to facilitate learning during vocational training. The findings of a study conducted by Mabuda et al. (2008) in South Africa showed that students regarded their preceptors as sources of support and guidance. However, the findings further revealed that preceptors do not accompany students during vocational training for support and guidance, but to evaluate students' performance. Therefore, due to the absence of trained preceptors, students are left to rely on untrained preceptors for teaching, guidance, and supervision (Mabuda et al., 2008). Through vocational training accompaniment, students learn to integrate theory and practice, and thereby achieve

improved learning opportunities. Accompaniment can be described as the ability of the preceptor to attend, guide, and coexist with students during vocational training (Mntambo, 2009). During vocational training accompaniment, preceptors should engage in identifying the needs of students at the vocational training site to ensure that students become professionally knowledgeable and competent (Abouelfettoh et al., 2015).

The vocational training facility atmosphere refers to the characteristics of the facility; including cooperation, attitudes, morale, and friendliness of the staff as well as the interpersonal relationships between the staff and students (Barnett & Chuan, 2012). Barnett et al. (2012) in Malaysia, further assert that the vocational training facility atmosphere influences students' learning since it plays a role in whether students feel appreciated and influences their perception of whether they will meet their learning objectives during vocational training. Consequently, health facility managers have a significant role in creating and maintaining a positive facility atmosphere that is conducive to learning. Furthermore, health facility managers influence the staff to be involved in students' teaching, learning, and supervision through motivation and support (Skaalvik et al., 2011).

The influence of the facility's atmosphere on student learning can be either positive or negative (Frankel, 2009). A facility's atmosphere that positively influences learning is characterised by staff that are satisfied, friendly, display good morale and cooperative attitudes, and are willing to teach and guide students, as well as provide quality care to clients (Papastavrou et al., 2010; Kaphagawani, 2015). Several research studies emphasise that for students to have a positive experience, they must experience a sense of belonging (Watson-Miller, 2015; Sundler et al., 2014). A sense of belonging is a subjective experience that occurs from positive interaction with and acceptance from the staff (Watson-Miller, 2015). Belongingness provides evidence that staff are interested in the students' learning and provides opportunities for students to integrate theory with practice (Lamont et al., 2015). It is within this atmosphere that students develop confidence and independent learning skills. In this regard, students are open to discussions and are free to ask relevant questions. A positive facility atmosphere contains a good interpersonal relationship between students and staff and a supportive environment where students receive feedback and constructive criticism (Skaalvik et al., 2011).

A pleasant health facility atmosphere supports mentors' and students' work, morale, and professionalism. A good working relationship between preceptors and the university is also meaningful. Furthermore, preceptors should have clearly defined roles and are to be recognised for the roles they play (Traynor & Mehigan, 2014).

In contrast, in a health facility's atmosphere where staff members are unfriendly and display bad attitudes, students are denied opportunities to learn. Results of a study conducted in South Africa by Mntambo (2009) reported staff being unkind to students, rude, and shouting at students in front of patients. Likewise, some students encounter an unwelcoming attitude of surprise and adverse reactions during their initial days in the wards (Dale et al., 2013). These unpleasant encounters provide a negative picture of clinical placement.

From the literature review, the above authors jointly demonstrated a correlation between the clinical learning environment and the quality of students' practical learning experiences. Furthermore, the authors identified components of a quality learning environment and the roles of various stakeholders in ensuring a quality clinical learning environment as well as the benefits of the quality clinical learning environment. However, throughout the literature review, there was no evidence of any empirical studies on undergraduate students' experiences of the quality of the vocational training environment in the context of the University of Health and Allied Sciences to help stakeholders identify the vocational training performance gap. This has created a knowledge and literature gap that this study intends to fill.

Problem Statement

Health and allied sciences students' satisfaction is considered an essential influencing factor when evaluating the effectiveness of the vocational training setting as a learning environment (Papastavrou, Dimitriadou, Tsangari & Andreou, 2016). Students have raised concerns regarding inadequate opportunities to practice the

theory taught in the classroom. Furthermore, students have raised awareness of the lack of support and guidance from the staff of the facilities in which they are placed in the vocational training environment (Emvula, 2016). From the above literature review, the researchers could not find any literature related to the specific context that looked at health and allied sciences students' level of expectation and satisfaction with the vocational training at the University of Health and Allied Sciences, Ho. Hence, the researchers embarked on this study to explore the students' levels of expectation and satisfaction with the vocational training environment with the aim of identifying performance gaps that would help improve practice.

Methodology

Research design

A quantitative approach with a descriptive cross-sectional design was applied in this study. Descriptive cross-sectional quantitative research with a positivist perspective was used in this study. Positivists believe in realism and objectivism. Positivists attempt to predict, generalise and identify cause-effect relationships. In the positivist's view, the goodness of research is based on whether the results are due to internal and external validity; replicability, and reliability (Scotland, 2012). The researchers assumed that all undergraduate students who have experienced clinical practice placement were aware of the different constructs that lead to satisfaction and dissatisfaction within the clinical practice environment.

A descriptive design was considered fit as the natural setting, e.g., the clinical environment was not manipulated, and students provided descriptions of experiences related to these surroundings. A cross-sectional design refers to a study in which a population is examined simultaneously in various stages or levels of education to describe changes across stages or levels (Grove et al., 2015). To capture information in totality about the undergraduate students of the University of Health and Allied Sciences, both regular and sandwich undergraduate students of all levels formed the target population.

Setting

This study was conducted in its natural environment at the University of Health and Allied Science's vocational training facilities located in the Ahafo, Ashanti, Bono East, Bono, Central, Eastern, Greater Accra, North East, Northern, Oti, Savannah, Upper East, Upper West, Volta, Western North and Western regions of Ghana. The Learning environment used for the study includes the Clinic, CHPS compound, District/Municipal Hospital, District/Regional Health Directorate, Fitness center, Health Center, Mission Hospital, Polyclinic, Regional Hospital, Teaching Hospital, and Sports center located in the 16 administrative regions of Ghana.

Data collection instrument and procedure

Population and sampling

The target population included all undergraduate regular students and sandwich students at the University of Health and Allied Sciences. The convenience sampling method was used to select a sample of (n=870) made of 643 regular undergraduate students and 227 sandwich students. The return rate was 89%.

Data collection instrumentation

The data collection instrument utilized for this study was a self-administered Vocational Training Environment, Supervision, and Preceptor evaluation modified scale, developed by Saarikoski, Isoaho, Warne, and Kilpi (2008). The instrument is a validated and reliable tool, consisting of mostly Likert scale and closed-ended questions. The modified instrument consists of 34 items soliciting responses from students' level of importance/expectation and level of satisfaction with aspects of the vocational training environment. This was adapted because it offers the opportunity to calculate the performance gap.

Pre-testing of instrument

A pre-test was conducted on a small group (n=20) of undergraduate second-year nursing students of the studied University. The pilot test was conducted to evaluate if the students understood the questions in the questionnaire and to assess the time it takes to complete the questionnaire. The questionnaire was completed in 15-20 minutes. The participants were informed and encouraged to ask questions and provide comments if they did not understand any part of the questionnaire. Feedback and findings from the pilot test were used to adjust the questionnaire accordingly.

Reliability and validity

The Cronbach's alpha for Vocational Training Environment, Supervision, and Preceptor scale = 0.977 which is very high.

Data collection

The researchers developed the survey instrument put in Google form and administered the links to willing participants through their e-mails and group platforms during their vocational training in the first semester of the 2021/2022 academic year.

Data analysis

A statistical package (SPSS, version 26.0) was used to analyse the data. Continuous variables were tabulated and presented in frequencies, means, and standard deviations. Findings from statistical analyses are presented in arranged tables to demonstrate the relationship between variables. Statistical associations were applied to determine associations between the dependent and independent data on a significant level of 0.05. Specifically, descriptive statistics were used to summarise the demographic variables such as age, gender, year of study and the type of vocational training facility during their last placement. The frequencies of these variables were thus calculated and presented in tables. The Pearson correlation coefficient was used to find the association between importance and satisfaction of vocational training environment factors among regular and sandwich students.

In finding out whether student type influences levels of their expectation and satisfaction of various aspects of vocational training environment factors, it was observed that the two data sets were not normally distributed, hence the Wilcoxon Rank-Sum Test was conducted using IBM SPSS Statistics for Windows, Version 26.0. (IBM Corp. Armonk, NY). Statistical significance was determined at $P \leq 0.05$.

Ethical considerations

Respondents were made to sign an informed consent form before participation in the study. Ethical principles such as the right to self-determination, anonymity, confidentiality, beneficence, and justice, were maintained.

Results

Table 1: Demographic characteristics of respondents

	Regular N=643		Sandwich N=227	
Characteristic	Frequency	Percentage	Frequency	Percentage
Gender				
Female	326	50.7	132	58.1
Male	317	49.3	95	41.9
Age (in years)				
< 20	76	11.8	1	0.4
20-24	364	56.6	4	1.8
25-29	72	11.2	29	12.8
30+	131	20.4	193	85.0
Level				
100	56	8.7	6	2.6

200	248	38.6	72	31.7
300	264	41.1	133	58.6
400	75	11.7	16	7.1
Vocational Learning environment				
Clinic	-	-	1	0.4
CHPS compound	6	0.9	-	-
District/Municipal Hospital	176	27.4	108	47.6
District/Regional Health Directorate	138	21.5	101	44.5
Fitness center	9	1.4	-	-
Health Center	32	5.0	-	-
Mission hospital	38	5.9	-	-
Polyclinic	28	4.4	5	2.2
Regional Hospital	45	7.0	-	-
Teaching Hospital	103	16.0	-	-
Sports center	2	0.3	-	-
Other facility	66	10.3	-	-
Region of Practice				
Ahafo	2	0.3	1	0.4
Ashanti	75	11.7	25	11.0
Bono East	15	2.3	11	4.9
Bono	14	2.2	11	4.9
Central	41	6.4	25	11.0
Eastern	81	12.6	20	8.8
Greater Accra	175	27.2	31	13.7
North East	2	0.3	4	1.8
Northern	15	2.3	8	3.5
Oti	10	1.6	13	5.7
Savannah	4	0.6	-	-
Upper East	12	1.8	9	4.0
Upper West	17	2.6	16	7.1
Volta	141	21.9	30	13.2
Western North	9	1.4	6	2.6
Western	30	4.7	17	7.5
School				
SAHS	218	33.9	12	5.3
SBBS	28	4.4	-	-
SOM	32	5.0	-	-
SONAM	138	21.5	101	44.5
SOP	32	5.0	-	-
SPH	183	28.5	114	50.2
SSEM	12	1.9	-	-

Source: Survey data, May, 2022

Key: SAHS: School of Allied Health Sciences, SBBS: School of Basic and Biomedical Sciences, SOM: School of Medicine, SONAM: School of Nursing and Midwifery, SOP: School of Pharmacy and SPH: School of Public Health

Demographic characteristics of respondents

Regular and sandwich students were selected from levels 100 to 400 cohorts in the 2021/2022 academic year. Participating regular students were from the Schools of Nursing and Midwifery, Allied Health Sciences, Medicine, Pharmacy, Public Health, Basic and Biomedical Sciences, and Sports and Exercise Medicine. The sandwich students were from the Schools of Allied Health Sciences, Nursing and Midwifery, and Public Health. Out of 870 respondents, 458 (53%) were females and 412 (47%) were males. Regarding participant's ages, 76 (11.8%) of regular students and 1(0.4) of sandwich students were < 20 years, 364 (56.6%) of regular students, and 4(1.8%) of sandwich students fell within the age range of 20-24 years, 72 (11.2%) of regular students and 29 (12.8%) of sandwich students fell within the age range of 25-29 years and 131 (20.3%) of regular students and 193(85.0%) of sandwich students were more than 30 years old.

Results of statistical analysis

Objective 1: To assess and compare regular undergraduate and sandwich students' levels of expectation and satisfaction on the following aspects of vocational training environment: facility/ward/unit atmosphere, the leadership style of preceptor, leadership of preceptor to nursing care/clients, preceptorship/supervisory relationship, preceptor as enabling the integration of theory and practice, cooperation between placement staff and preceptor, relationship among student, preceptor and achievement of vocational training objectives.

Objective 2: Find out whether performance gaps exist or otherwise about the above aspects of the vocational training environment.

Table 2: Levels of expectation and satisfaction of regular and sandwich students and performance gap

Scale categories	Regular			Sandwich		
	Importance Mean (SD)	Satisfaction Mean (SD)	Gap Mean (SD)	Importance Mean (SD)	Satisfaction Mean (SD)	Gap Mean (SD)
Facility/Ward/Unit Atmosphere	5.87 (±1.30)	5.94 (±1.07)	-0.07(±1.17)	5.92(±1.34)	6.06(±1.02)	-0.14(±1.14)
Leadership style of preceptor	5.84 (±1.37)	5.92 (±1.07)	-0.08 (±1.26)	5.86(±1.56)	5.99(±1.14)	-0.13(±1.61)
Leadership of preceptor to nursing care/clients	5.68 (±1.25)	5.67 (±1.31)	0.01 (±1.50)	5.13(±2.00)	5.37(±1.57)	-0.24(±1.54)
Preceptorship/Supervisory relationship	5.69 (±1.84)	5.81 (±1.49)	-0.12 (±1.57)	5.93(±1.54)	6.12(±1.10)	-0.19(±1.33)
Preceptor as enabling the integration of theory and practice	5.61 (±1.83)	5.58 (±1.67)	0.03 (±1.33)	5.98(±1.27)	5.96(±1.12)	0.02(±0.93)
Cooperation between placement staff and preceptor	5.69 (±1.80)	5.67 (±1.62)	0.02(±1.35)	5.92(±1.58)	5.89(±1.37)	0.04(±1.28)
Relationship among student, preceptor	5.59 (±1.85)	5.50 (±1.62)	0.09 (±1.37)	5.77(±1.57)	5.89(±1.23)	-0.11(±1.19)
Achievement of Vocational Training Objectives	5.76 (±1.83)	5.41 (±1.75)	0.35 (±1.55)	6.14 (±1.30)	5.89(±1.41)	0.25(±112)
Overall	**5.74 (±1.21)**	**5.77 (±1.06)**	**-0.03 (±)0.83**	**5.81 (±1.08)**	**5.94 (±0.91)**	**-0.12 (±0.69)**

Source: Survey data, May, 2022

Table 1, shows that regular students' perception of level of expectation for leadership of preceptor to nursing care/clients (0.01), preceptor as enabling the integration of theory and practice (0.03), cooperation between placement staff and preceptor (0.02), relationship among student and preceptor (0.09), achievement of vocational training objectives (0.35) recorded positive performance gap less than 1%. The results indicate that students' satisfaction with the above vocational training environment factors was less than their level of expectation.

On the other hand, students' satisfaction level exceeded their expectations with the following vocational training environment factors as they recorded negative performance gaps: facility/ward/unit atmosphere (-0.07), leadership style of preceptor, leadership of preceptor to nursing care/clients (-0.08) and

preceptorship/supervisory relationship (-0.012) respectively. The results suggest the University and preceptors should try and maintain their performance in the above factors to students' high level of satisfaction.

Results from Table 1 further revealed that sandwich students' level of satisfaction exceeded their level of expectation on the following vocational learning environment factors as they recorded a negative performance gap less than (1): facility/ward/unit atmosphere (-0.14), leadership style of preceptor (-0.13), leadership of preceptor to nursing care/clients (-0.24), preceptorship/supervisory relationship (-0.19) and relationship among student, preceptor (-0.11). The University and preceptors are encouraged to maintain this performance.
The results also indicated that the sandwich students were less satisfied with the following three vocational training environment factors as they recorded positive performance gaps less than (1): preceptor as enabling the integration of theory and practice (0.02), cooperation between placement staff and preceptor (0.04) and achievement of vocational training objectives (0.25). Even though the above performance gaps were less than (1) suggesting no significant improvement is needed, the University and the preceptors can still do better to exceed students' level of expectations in the above three factors. Table 1 shows that the total satisfaction levels of both regular and sandwich students with regard to vocational training environment factors exceeded their levels of expectation.

Objective 3: To find out the correlation between the importance and satisfaction of vocational training environment factors among regular and sandwich students

Table 3a. Correlation matrix between the importance of vocational training environment factors among regular students

Learning Environment Factors	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) FWUA	1.00						
(2) LPUP	0.41*	1.00					
(3) LWNC	0.35*	0.42*	1.00				
(4) PSR	0.35*	0.34*	0.51*	1.00			
(5) PITR	0.36*	0.31*	0.47*	0.70*	1.00		
(6) CPSP	0.32*	0.28*	0.51*	0.70*	0.75*	1.00	
(7) RSP	0.34*	0.27*	0.42*	0.64*	0.71*	0.78*	1.00

*Statistically significant at $p<0.05$
Source: Survey data, May, 2022
Key:
*FWUA= Facility/Ward/Unit Atmosphere
*LPUP= Leadership style of Preceptor/Nurse Manager/Unit Supervisor
*LWNC= Leadership of the Preceptor/Ward Manager/Unit Supervisor to nursing care/clients
*PSR= Preceptorship/Supervisory relationships
*PITR= Preceptor as enabling the integration of theory and practice
*CPSP= Cooperation between placement staff and preceptor
*RSP= Relationship among Students and Preceptors

Table 3b. Correlation matrix between importance of vocational training environment factors among sandwich students

Learning Environment Factors	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) FWUA	1.00						
(2) LPUP	0.51*	1.00					
(3) LWNC	0.29*	0.36*	1.00				
(4) PSR	0.43*	0.36*	0.36*	1.00			
(5) PITR	0.40*	0.43*	0.28*	0.58*	1.00		
(6) CPSP	0.37*	0.32*	0.34*	0.49*	0.53*	1.00	
(7) RSP	0.33*	0.27*	0.32*	0.53*	0.48*	0.54*	1.00

*Statistically significant at $p<0.05$

Source: Survey data, May, 2022

Key:

*FWUA= Facility/Ward/Unit Atmosphere

*LPUP= Leadership style of Preceptor/Nurse Manager/Unit Supervisor

*LWNC= Leadership of the Preceptor/Ward Manager/Unit Supervisor to nursing care/clients

*PSR= Preceptorship/Supervisory relationships

*PITR= Preceptor as enabling the integration of theory and practice

*CPSP= Cooperation between placement staff and preceptor

*RSP= Relationship among Students and Preceptors

Table 3c. Correlation matrix between satisfaction of vocational training environment factors among regular students

Learning Environment Factors	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) FWUA	1.00						
(2) LPUP	0.67*	1.00					
(3) LWNC	0.52*	0.55*	1.00				
(4) PSR	0.54*	0.52*	0.47*	1.00			
(5) PITRI	0.49*	0.47*	0.46*	0.68*	1.00		
(6) CPSP	0.44*	0.45*	0.46*	0.66*	0.79*	1.00	
(7) RSP	0.48*	0.46*	0.41*	0.64*	0.72*	0.78*	1.00

*Statistically significant at $p<0.05$

Source: Survey data, May, 2022

Key:

*FWUA= Facility/Ward/Unit Atmosphere

*LPUP= Leadership style of Preceptor/Nurse Manager/Unit Supervisor

*LWNC= Leadership of the Preceptor/Ward Manager/Unit Supervisor to nursing care/clients

*PSR= Preceptorship/Supervisory relationships

*PITR= Preceptor as enabling the integration of theory and practice

*CPSP= Cooperation between placement staff and preceptor

*RSP= Relationship among Students and Preceptors

Table 3d. Correlation matrix between satisfaction of vocational training environment factors among sandwich students

Learning Environment Factors	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) FWUA	1.00						
(2) LPUP	0.70*	1.00					
(3) LWNC	0.38*	0.36*	1.00				
(4) PSR	0.73*	0.69*	0.31*	1.00			
(5) PITR	0.68*	0.64*	0.32*	0.74*	1.00		
(6) CPSP	0.47*	0.55*	0.32*	0.53*	0.52*	1.00	
(7) RSP	0.55*	0.45*	0.35*	0.54*	0.55*	0.58*	1.00

*Statistically significant at $p<0.05$
Source: Survey data, May, 2022
Key:
*FWUA= Facility/Ward/Unit Atmosphere
*LPUP= Leadership style of Preceptor/Nurse Manager/Unit Supervisor
*LWNC= Leadership of the Preceptor/Ward Manager/Unit Supervisor to nursing care/clients
*PSR= Preceptorship/Supervisory relationships
*PITR= Preceptor as enabling the integration of theory and practice
*CPSP= Cooperation between placement staff and preceptor
*RSP= Relationship among Students and Preceptors

Tables 3a-3d show that there was a positive and significant correlation between all components of the vocational training environment regarding satisfaction and importance of these components among all types of students. The results for both regular and sandwich were all significant.

Objective 4: To find out whether student type influences levels of their expectation and satisfaction of various aspects of vocational training environment factors.

Comparison of importance between regular and sandwich students
All the data failed the normality test and thus Wilcoxon Rank-Sum Test was conducted among the regular and sandwich students to determine if student type can influence the views of students on the importance/expectation of various components of the vocational training environment factors. The results showed that there was a statistically significant difference between the two groups of students regarding the importance of leadership of the preceptor to nursing care and clients [$z=4.350$; $p<0.0001$]. Based on these results, the view of students regarding the importance of leadership of the preceptor to nursing care and clients is significantly impacted by student type.

Table 4: Comparison of importance between regular and sandwich students

	Regular N=643		Sandwich N=227		Wilcoxon rank-sum test	
Variable	Rank sum	Expected	Rank sum	Expected	Z	p-value
FWUA_Importance	277247.5	280026.5	101637.5	98858.5	-0.859	0.3904
LPUP_Importance	277225.5	280026.5	101659.5	98858.5	-0.878	0.3798
LWNC_Importance	293977.5	280026.5	84907.5 0	98858.5	4.350	<0.0001*
PSR_Importance	276530	280026.5	102355	98858.5	-1.095	0.2734
PITR_Importance	274933	280026.5	103952	98858.5	-1.612	0.1071
CPSP_Importance	275192.5	280026.5	103692.5	98858.5	-1.536	0.1246
RSP_Importance	279434	280026.5	99451	98858.5	-0.187	0.8519
Total_Importance	279376.5	280026.5	99508.5	98858.5	-0.200	0.8417

* Significant at $p<0.05$
Source: Survey data, May, 2022

Comparison of satisfaction between regular and sandwich students

All the data failed the normality test and thus Wilcoxon Rank-Sum Test was conducted among the regular and sandwich students to determine if student type can influence the views of students on their satisfaction with various components of the vocational training environment factors. The results showed that there was a statistically significant difference between the two groups of students regarding the satisfaction of the students on the leadership of the preceptor to nursing care and clients [z= -1.180; p=0.00199], preceptor relationship [z=2.328; p=0.0096] and the relationship between students and preceptors [z=-2.943; p=0.0033]. Based on these results, the view of students regarding the satisfaction with the leadership of the preceptor to nursing care and clients, preceptor relation, and relationship between students and preceptors are significantly impacted by student type.

It can be concluded that based on the results, the hypothesis that "there is no statistically significant difference between regular undergraduate and sandwich students' levels of expectation and satisfaction of vocational training environment factors will be rejected

Table 5: Comparison of satisfaction between regular and sandwich students

	Regular		Sandwich		Wilcoxon rank-sum test	
Variable	Rank sum	Expected	Rank sum	Expected	Z	p-value
FWUA_Satisfaction	275194	280026.5	103691	98858.5	-1.614	0.1066
LPUP _Satisfaction	276231	280026.5	102654	98858.5	-1.180	0.2380
LWNC_Satisfaction	287506.5	280026.5	91378.5	98858.5	2.328	0.0199*
PSR_Satisfaction	271685.5	280026.5	107199.5	98858.5	-2.589	0.0096*
PITR_Satisfaction	273470	280026.5	105415	98858.5	-2.064	0.0390
CPSP_Satisfaction	274272.5	280026.5	104612.5	98858.5	-1.821	0.0686
RSP_Satisfaction	270658.5	280026.5	108226.5	98858.5	-2.943	0.0033*
Total_Satisfaction	275185	280026.5	103700	98858.5	-1.488	0.1368

*Significant at $p<0.05$
Source: Survey data, May, 2022

Discussion

The first objective of the study was to assess and compare regular undergraduate and sandwich students' levels of expectation and satisfaction on the following aspects of vocational training environment: facility/ward/unit atmosphere, leadership style of preceptor, leadership of preceptor to nursing care/clients, preceptorship/supervisory relationship, preceptor as enabling the integration of theory and practice, cooperation between placement staff and preceptor, relationship among student, preceptor, and achievement of vocational training objectives. The second objective was to find out whether performance gaps exist or otherwise with regard to the above aspects of the vocational training environment. The third objective was to find out the correlation between importance and satisfaction of vocational training environment factors among regular and sandwich students and the last objective was to find out whether student type influences levels of their expectation and satisfaction of various aspects of vocational training environment factors.

The analysis shows that both regular and sandwich students' level of satisfaction was less than their level of expectation on the following vocational training learning environment factors: preceptor as enabling the integration of theory and practice, cooperation between placement staff and preceptor, and, achievement of vocational training objectives. Even though the performance gaps recorded were less than (+1), the study argues that though significant improvement is not required, it is important for the health facility managers, preceptors, and the university to take steps to improve on the above factors. The results are consistent with the findings of studies completed in the Kingdom of Saudi Arabia by Abouelfettoh et al. (2015), Papastavrou, and Dimitriadou, Tsangari, and Andreou (2016) in Cyprus.

On the other hand, both regular and sandwich students' satisfaction level exceeded their level of expectation with the following vocational training environment factors as they recorded negative performance gaps less than (1): facility/ward/unit atmosphere, leadership style of preceptor, leadership of preceptor to nursing care/clients, facility/ward/unit atmosphere, leadership style of preceptor, leadership of preceptor to nursing care/clients, preceptorship/supervisory relationship, and relationship among student, preceptor. The University and preceptors are encouraged to maintain this performance. With these findings, sandwich students seemed to be more satisfied than their regular counterparts about the number of vocational training environment factors. The findings are supported by D'Souza, Karkada, Parahoo, and Venkatesaperumal (2015) who found that 82.3% of the students in Oman were satisfied with the leadership style of the ward manager. The results suggested feedback from the ward manager could easily be considered as a learning situation.

The findings are different from the findings of the study done by Shabnum et al. (2018) in Pakistan, where only 24.7% agreed that patients received nursing care on an individual basis. Contrary to this, the results of a study done by Dimitriadou et al. (2015) in Cyprus showed that only 26.1% of the participants received group supervision. Cyprus is a developed nation and is likely to have adequate staffing that can supervise students adequately, unlike in developing countries such as Ghana, where resources are scarce.

The results showed that there was a statistically significant difference between the regular undergraduate and sandwich students regarding the importance of leadership of the preceptor to nursing care and clients [$z=4.350$; $p<0.0001$]. Based on these results, the view of students regarding the importance of leadership of the preceptor to nursing care and clients is significantly impacted by student type. The results also showed that there was a statistically significant difference between the two groups of students regarding the satisfaction of the students on leadership of the preceptor to nursing care and clients [$z= -1.180$; $p=0.00199$], preceptor relationship [$z=2.328$; $p=0.0096$] and relationship between students and preceptors [$z=-2.943$; $p=0.0033$]. Based on these results, the view of students regarding the satisfaction with the leadership of the preceptor to nursing care and clients, preceptor relation, and relationship between students and preceptors are significantly impacted on by student type. These differences may be attributed to the fact that the sandwich students who are already working in most of the health facilities before enrolling onto the undergraduate sandwich programme of study are already

familiar with most of the vocational learning environment factors as compared to regular inexperienced undergraduate students who were placed for the first time in such environment.

Conclusion and implication for improvement in vocational training practice

The findings showed that the expectation and satisfaction level of students differs between regular and sandwich undergraduate students, but overall, the majority of the students were satisfied beyond their expectations. However, a significant percentage of the students were somehow dissatisfied with some of the vocational training environment factors. To improve on vocational training practice, the University of Health and Allied Sciences should organise regular capacity-building training for preceptors and health facility managers so that students' level of satisfaction regarding facility/ward/unit atmosphere, the leadership style of preceptor, leadership of preceptor to nursing care/clients, preceptorship/supervisory relationship, preceptor as enabling the integration of theory and practice, cooperation between placement staff and preceptor, the relationship among student, preceptor, and ability to achieve vocational training objectives could be improved.

If the students are dissatisfied with the vocational training environment, optimum learning has not taken place, and vocational training outcomes are not met. Learning during vocational training placement leads to professional competence and knowledge expansion among health and allied sciences students.

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