Correlation Between Theoretical Classroom Instruction And Related Learning Experiences: Evidence From A Philippine Nursing University

Ryan Michael F. Oducado, Mary Kristine Q. Amboy, Ayesha C. Penuela, Rosana Grace Belo-Delariarte

Abstract: In nursing education, it is expected that theory underlies practice. However, studies have indicated nursing students still experience theory and practice gap. This study attempted to determine the relationship between theoretical classroom instruction and Related Learning Experiences (RLE) of nursing students. Using existing data set of nursing graduates in a Philippine Nursing University for a five-year cohort (N=653), this study employed a descriptive correlational research design. Pearson's correlation and simple linear regression were used to analyze the data. Results indicated that a significant relationship existed between theoretical classroom instruction and RLE performance of nursing students. Theoretical classroom instruction explained 64% of the variance in RLE. This study highlights the importance of good theoretical instruction in predicting the performance of nursing students in the practicum or RLE component of nursing education and training. Success in the didactic portion significantly contributes to the success of the practical part of the nursing curriculum. Nursing academic institutions must continually strive to promote the transfer of learning from classroom to actual care setting to help bridge the gap between theory and practice.

Index Terms: theory and practice gap, nursing students, clinical performance, RLE performance, academic performance

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1. INTRODUCTION

Theoretical and practical courses are integral parts of nursing education and training. The Bachelor of Science in Nursing (BSN) curriculum prescribes nursing students to undergo theoretical classroom instruction and placements in the clinical and community setting. Practical components are critical part of the nursing curriculum, which are effected through the deployment of students in the different clinical and practice settings [1]. In the Philippines, the clinical practicum of students is often termed under Related Learning Experiences (RLE). RLE are teaching-learning opportunities designed to develop the competencies of students utilizing processes in various health situations that may be sourced from, but not limited to hospitals, Rural Health Units, clinics, schools, industrial establishments and community settings [2]. The theory-practice gap is a recurrent theme in nursing practice and academe with the potential to hinder progress in the nursing profession [3]. Although there exists a common agreement that hands-on clinical experience is central to learning, some nursing students have views that nursing theory and practice are separate endeavors wherein students perceive that nursing theory is only learned in the classroom while clinical skills can only be learned through experience [4]. These beliefs carry a possible challenge as students' academic achievement in the classroom setting might not echo on their competence in the clinical area [4]. To add, the disconnect between theoretical classroom instruction may also cause increase stress among students during actual practice in the real-world setting [5], [6]. In nursing education, theory is relative to clinical practice [7]. The clinical learning environment is an integral component of nursing education and training providing students with unique learning

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opportunities putting to the test classroom theory and skills with actual patient situations [8]. Theoretical knowledge learned in the classroom is needed to lay theoretical foundations and provide students with concepts likely to be encountered in the clinical setting. Therefore, it can be expected that theoretical classroom instruction enhance the performance of students in the clinical setting in the same way that the clinical practicum of students reinforce what is learned in the classroom [4]. To the researchers' knowledge, there is a dearth of locally published studies available exploring the relationship between performance in theoretical classroom instruction and the clinical setting. Providing up-to-date evidence from a Philippine Nursing University may be necessary to identify possible theory and practice gap. Hence, this study was conducted to establish the correlation between nursing students' performance in theoretical classroom instruction and their performance in their RLE and if performance in the didactic component can predict performance in the practicum component of the course.

2 LITERATURE REVIEW

Previous scholars found evidence that the theory-practice relationship is understood in many ways [9]. On top of this is the tendency to think of theory and practice as a divided discipline. The redefinition of beliefs and assumptions which underpin nursing appear to have been a factor in the increasing discrepancy between nursing theory and nursing practice [10]. Moreover, it is argued that the beliefs that practice may develop without knowing theory and being knowledgeable of theory is not an assurance for good practice added to the divergence between theory and practice [11]. Despite substantial efforts, the gap between nursing theory and practice has been bothersome among the academic and practice community of nurses [8]. It is debated that academic grade in the classroom may not always reflect students' competence in the clinical or practice setting [4]. Earlier studies found that the theory-practice gap is one of the inhibitory factors to the clinical performance of nursing students [5], [12]. In an integrative literature review, the authors identified that only a few had investigated the factors that affect the clinical performance of students [13]. While

there is evidence in the literature suggesting that classroom teaching relates to clinical performance, this has been narrow in scope and has not been not widely documented within the local setting. Besides, some studies in medical and allied health profession education conducted elsewhere disclosed no association between academic and clinical performance [14], [15].

3 METHODS

This study employed a descriptive correlational research design using existing academic records of all the graduates of the West Visayas State University Bachelor of Science in Nursing (BSN) for five years (2013 to 2017). In total, 653 nursing students were covered in this study. Students who were not able to complete the 4-year BSN program were excluded. Permission to conduct the study was sought from the Vice President of Academic Affairs of the University. Grades were taken from the Transcript of Record (TOR) of the students that were accessed through the Registrar's Office. Eleven (11) professional nursing subjects or courses with corresponding lecture (theory) and RLE (practical) components were analyzed: Fundamentals of Nursing Practice; Health Assessment; Community Health Nursing; Care of Mother, Child and Family or Maternal and Child Nursing (MCN 1); Care of Mother, Child, Family & Population Group-at-Risk or with Problems or Maternal and Child Nursing 2 (MCN 2); Care of Clients with Problems in Oxygenation, Fluid and Electrolyte Balance, Metabolism and Endocrine or Medical and Surgical Nursing 1 (MSN 1); Care of Clients with Problems in Inflammatory and Immunologic Response, Perception and Coordination or Medical and Surgical Nursing 2 (MSN 2); Care of Clients with Problems in Cellular Aberrations, Acute Biologic Crisis including Emergency and Disaster Nursing or Medical and Surgical Nursing 3 (MSN 3); Care of Clients with Maladaptive Patterns of Behaviors or Mental and Psychiatric Health Nursing; Nursing Research; Nursing Leadership and Management. Performance in theoretical classroom instruction and RLE were based on the student's grade point average after completion of each professional nursing courses included in the BSN curriculum. Performance in theoretical classroom instruction was typically measured by objective evaluation, such as multiple-choice examinations and quizzes. On the other hand, the RLE performance counterpart was evaluated using percentages from post-tests, case studies, and a 5-point performance rating scale (PRS) rated by clinical instructors or faculty following up students during their practicum. Although the psychometric property of the PRS was not formally assessed, the scale was developed and approved for use by the entire Nursing Faculty of the College based on the existing expected competencies and performance indicators of the BSN curriculum. The authors feel that the scale is a valid tool to evaluate the RLE performance of students. The study was granted an exemption from formal Ethics Review by the Unified Biomedical Research Ethics Review Committee of the University. To ensure the ethical conduct of this study maintaining confidentiality and anonymity, the University Registrar was instructed to give the researchers an anonymized hard copy of the TOR of the students reflecting only their grades and year of graduation. The data from five cohorts of nursing students were subjected to appropriate statistical analysis using mean, standard deviation (SD), and Pearson Product Moment Coefficient to determine the relationship in the two variables, theoretical

classroom and RLE performance. Simple linear regression was performed to determine the variance of performance in theoretical classroom instruction to RLE performance. Statistical analyses were performed using SPSS version 23. The level of significance was set at .05 alpha.

4 RESULTS

Table 1 shows that there is a statistically significant positive correlation between theoretical classroom instruction and RLE performance of student nurses for five consecutive years (p<.05) except for an incidental case in Community Health Nursing (r = -.08, p=.457) in 2016 which showed no significant relationship. Taken per subject, there was a significant negligible positive relationship between theoretical classroom and RLE performance in Health Assessment (r=.23; p=.000); Community Health Nursing (r=.28; p=.000); and Nursing Research (r=.13; p=.001). Significant low positive relationship was observed in Fundamentals of Nursing Practice (r=.45; p=.000), MCN 1 (r=.43; p=.000); MCN 2 (r=.50; p=.000); MSN 3 (r=.45; p=.000); Mental and Psychiatric Health Nursing (r=.45; p=.000); and Nursing Leadership and Management (r=.46; p=.000) while significant moderate positive relationship was revealed in MSN 1(r=.55; p=.000) and MSN 2 (r=.53; p=.000). A significant high positive relationship was observed in the composite grade (r=.80; p=.000) of students. Moreover, linear regression analysis revealed that performance in theoretical classroom instruction explains 64% of the variance in the RLE with values ranging from r^2=.57 to r^2=.78 in the five year period. The prediction equation model is also formulated: Y = 1.269 + .399 (X), wherein Y is the estimated RLE grade, 1.269 is constant, and X is the theoretical classroom instruction grade. Thus, if a student's classroom grade is 1.0, the predicted RLE grade is 1.668 or approximately 1.70.

5 DISCUSSION

This study investigated the correlation between nursing students' performance in theoretical classroom instruction and their performance in RLE. This study found a significant positive relationship between performance in theoretical classroom instruction and RLE of nursing students. The result indicates that nursing students who performed poorly in their classwork in nursing school also performed poorly in the RLE or practicum of the course. On the other hand, nursing students who excelled academically in theoretical classroom instruction were more likely to do well in the practical component of the course. Students with lower grades may have difficulty utilizing the psychomotor and cognitive skills while in the clinical area [16]. It was asserted that considering the practical nature of midwifery work, in this case, nursing, is it can be expected that grades in the practical component of the courses are higher to demonstrate competence [17]. While much earlier study found no significant relationship between academic indexes and clinical performance among physical therapy students [14] and medical students [15], more recent findings are fairly consistent in supporting the result of this investigation.   Academic and integrated performance assessments were linked with clinical performance scores among podiatric medical students [18] and with performance as practicing physicians [19]. Another study disclosed the important role of the curriculum in acquiring clinical competence in nursing education [20]. Correspondingly, nursing students' perceptions of their clinical experience was associated with their performance in the clinical practice

course [21]. Similar findings were also demonstrated among Lybian [4] and Filipino nursing students [22]. Knowing that students who perform poorly in theoretical classroom instruction are likely to have poor performance in the RLE provides an opportunity for nurse educators to be proactive in identifying students who are at risk of performing poorly. Nursing faculty should strategically monitor students during their RLE to provide appropriate guidance and support to underperforming students. Meanwhile, the result of this study may also suggest an improvement in the common negative perception of new nursing graduates where new graduate nurses are said to be theoretically equipped but are lacking in skills [23]. The latest survey by Wolters Kluwer Health Learning, Research & Practice disclosed a narrowing perception gap between nurse hiring managers and clinical educators on new graduates' practice-readiness [24]. The positive correlation between theoretical classroom instruction and RLE may have contributed in closing the gap between educational preparation and practice readiness of new graduates. Moreover, students having a greater mastery of knowledge acquired in the classroom were able to more aptly transition and demonstrate this knowledge into practice [18]. This finding may indicate the successful transfer of learning, wherein nursing students were able to transfer what they have learned in the classroom to their practice with actual patients [25]. Medical education schools, including nursing institutions, have made efforts to enrich classroom-based learning with timely clinical experience to enable the spontaneous connection between the two settings [25]. Nursing students were able to successfully form connections between what was learned in the classroom into the practice setting. This may contribute to students' satisfaction with their learning experiences in the program. The students' ability to finish or leave the program is influenced by the difficulty of the courses taken, poorly organized class schedules, quality of learning experiences, and satisfaction with clinical placements [22], [26], [27], [28]. Nursing faculty must continuously strive to provide students satisfactory learning experiences to promote successful completion of the degree. Despite the significant positive relationship demonstrated in this study, it can be argued that if theory unpins practice, both performances should be comparable yielding high correlation. Though this study found an overall high significant correlation between classroom instruction and RLE, there were still subjects wherein association was only negligible to moderate. A higher correlation is expected to indicate better congruence between theory and practice. A prior study among nursing students revealed that grades in the first semester Nursing, Psychology, and Biology subjects account for 51 to 76 percent of the variance in clinical performance [29]. Besides, while this study found that performance in theoretical classroom accounts for 64 percent of the variance in the RLE component which is relatively high, the remaining variance may still contribute to the prevailing issue of theory-practice gap reported by students in some studies [3], [5], [30]. The result of the present study may suggest other factors influencing the clinical placement or practicum of nursing students. This may also suggest that an opportunity exists for students who have performed well academically in theoretical classroom instruction to excel in the practical part of the program based on non-academic skill sets that the student can use in the clinical setting [18]. Scholars in nursing and other health-related professions found non-academic variables ranging from student, faculty, staff, and learning environment related factors influencing clinical performance or competence of students in medical, nursing, and allied health professions [12], [20], [31], [32]. These other factors influencing the clinical placement or practicum of nursing that warrants further investigation. As a final point, it cannot be discounted that while there could still be a gap, the findings provide support on the positive effect of success in theoretical classroom instruction has on RLE performance. When students are provided with sufficient theoretical instructions, they will be able to translate this knowledge in the clinical area. It is therefore imperative for nursing schools to provide students with the necessary guidance in their academic life [33]. This study has its limitations. As grades were used in this study to assess the performance of students, the possibility of assessment problems like subjectivity associated with assigning grades may limit the objectivity of the study. Moreover, further psychometric testing of the PRS used to evaluate the RLE of students may be conducted in future research as this is a critical tool in assessing the performance of students. Nonetheless, this study provides local and up-to-date evidence establishing the relationship between nursing students' academic or theoretical classroom instruction performance and clinical or RLE performance among university nursing students in the Philippines involving relatively large data sets. Findings may be used to help improve the theoretical and practicum component of the nursing program to further assist in bridging the inconsistency between what is taught in the classroom and what is being practiced in the varied health care setting where students practice their nursing skills.

6 CONCLUSION

This study affirmed the positive influence of academic success in theoretical classroom instruction has on the clinical or practical phase of nursing education. The findings of this study help clarify the commonly accepted notion of theory influencing practice. Both the theoretical and RLE components remain integral parts of the baccalaureate nursing program. Success in the didactic portion significantly contributes to the progress on the practical component of the nursing curriculum. Moreover, this study highlights the importance of good theoretical classroom instruction in preparing students to have better performance in the actual care setting. While there may still be inconsistencies, improvements and advances have been made to close the gap between nursing theory and practice. This study opens doors for further inquiry to identify factors affecting the RLE performance of students not explained in this study. Nursing schools must continually strive to promote the transfer of learning from the classroom to the practice setting to help bridge the gap between theory and practice.

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Table 1

Correlation Between Performance in Theoretical Classroom Instruction and Related Learning Experiences

Professional Nursing Courses	2013		2014		2015		2016		2017		Overall	
	r	p	r	p	r	p	r	p	r	p	r	p
Fundamentals of Nursing Practice	.54	.000	.45	.000	.41	.000	.59	.000	.51	.000	.45	.000
Health Assessment	.49	.000	.52	.000	.47	.000	.23	.021	.63	.000	.23	.000
MCN 1	.55	.000	.47	.000	.54	.000	.35	.000	.55	.000	.43	.000
MCN 2	.54	.000	.47	.000	.54	.000	.35	.000	.55	.000	.50	.000
Community Health Nursing	.26	.002	.41	.000	.16	.045	-.08	.457	.33	.000	.28	.000
MSN 1	.43	.000	.72	.000	.47	.000	.60	.000	.62	.000	.55	.000
MSN 2	.53	.000	.43	.000	.64	.000	.51	.000	.55	.000	.53	.000
MSN 3	.41	.000	.51	.000	.65	.000	.48	.000	.54	.000	.45	.000
Mental & Psychiatric Health Nursing	.24	.004	.35	.000	.68	.000	.72	.000	.58	.000	.45	.000
Nursing Research	.29	.001	.18	.034	.26	.001	.39	.000	.35	.000	.13	.001
Nursing Leadership and Management	.30	.000	.46	.000	.60	.000	.39	.000	.36	.000	.46	.000
Overall	.77	.000	.79	.000	.82	.000	.75	.000	.88	.000	.80	.000
Variance Explained	$r^2 = .60$		$r^2 = .63$		$r^2 = .67$		$r^2 = .57$		$r^2 = .78$		$r^2 = .64$	

$\pm$.00 to .30 = Negligible; $\pm$.30 to .50 = Low; .50 to .70 = Moderate; .70 to .90 = High; .90 to 1.00 = Very high (Mukaka, 2012) *Significant if $p < .05$