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Are Nursing Students' Early Course and Perceived Performance Related to Their Final and Actual Course Performance?

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ABSTRACT

Background: Assessing the academic performance of students is imperative for nursing educators. While it is commonly accepted that performance in quizzes is linked with final examination performance, little published empirical data is available among nursing student samples.

Purpose: The purpose of this study was to determine the relationship between performance in regular short lecture quizzes and long quiz on the final examination performance of nursing students in a nursing course. Likewise, this study ascertained whether there is a significant relationship between perceived performance and actual performance in the final examination of the course.

Methods: A descriptive-correlational study design was used. All 138 second-year nursing students enrolled in the Community Health Nursing course were included in this study. Grades in short quizzes, long test, and final examination were analyzed, and a one item global scale was utilized to determine students' perceived performance in the final examination. Pearson's *r* was employed to determine the relationship between variables.

Results: Results revealed that performance in regular short lecture quizzes ($p=0.000$) and long quiz ($p=0.000$) were significantly correlated with final examination performance. Moreover, there was a significant relationship between perceived performance and actual performance in the final examination ($p=0.000$).

Conclusion: This study suggests that early performance in the lecture course can significantly influence students' performance in the final assessment of the course. Nurse educators are encouraged to be proactive in identifying students who are at risk of performing poorly early in the course so that prompt remediation and guidance may be provided to students who are not performing well.

Keywords: Academic performance; actual grade; perceived grade; quizzes; nursing

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BACKGROUND

Assessment of academic performance of students is imperative for nurse educators (Oducado & Penuela, 2014; Mthimunya & Daniels, 2019). Studies have shown that academic performance in nursing school is a significant predictor of the Nurse Licensure Examination, a key indicator of the quality of the nursing program (Banua, 2017; Oducado, Cendaña, & Belo-Delariarte, 2019). Assessment of students' performance is an integral component of the teaching and learning process as it determines whether or not the goals of the course are being met (Delaram, Shams & Gandomani, 2017). It is also one way to inform educational institutions of the success of their teaching-learning practices (Belo-Delariarte, Oducado, & Penuela, 2018). Formative assessment that occurs throughout the course intends to improve students' attainment of learning objectives (Theall & Franklin, 2010).

Assessing students' performance by giving regular quizzes throughout the course provides information regarding students' progress and learning gaps along the way. A study found that students value frequent graded assessments as a study motivator (Vaessen et al., 2016). On the other hand, a qualitative research disclosed that academic nursing staff experienced ambivalence in the timing of assessment and types of formative assessment (Koh, 2010). Moreover, critiques charge frequent testing in the academe to cause heightened anxiety among students and that it decreases the value of learning for learning sake (Paul, 2015).

While it is widely accepted that students who perform well in continuous assessment tests are likely to get a good final grade (Wambuguh & Yonn-Brown, 2013), to the researcher's knowledge, there is a limited number of published studies on this topic among nursing students. Additionally, there is little available research conducted within the local setting. Some researchers also noted inconsistent results on the effect of frequent examinations on students' learning (Zamini et al., 2013). For instance, studies of Zamini et al. (2013) and Bluman, Purchase, & Duling (2011) found no influence of quizzes on final examination performance.

Moreover, although earlier researchers cautioned on the use of self-reported grades (Kuncel, Credé, & Thomas, 2005) and that students have the propensity to overreport their grades (Zimmerman, Caldwell, & Bernat, 2002; Tejeiro et al., 2012), it is also important to study the ability of students to accurately self-evaluate course performance to ascertain that students do not under- or over-estimate their achievement levels (Sticca et al., 2017). In this study, students perceived performance in the final exam reflects their self-evaluation defined "as the process that involves the students making summative judgments about their work, leading to the assignment of a mark or self-grading" (Tejeiro et al., 2012).

PURPOSE

The purpose of this study was to determine the relationship between performance or rating in regular short lecture quizzes and long quiz on the final examination performance or rating of nursing students in a nursing course. Also, this study

ascertained whether there is a significant relationship between perceived and actual performance in the final examination.

METHODS

Research design

This study employed a descriptive-correlational, cross-sectional research design.

Participants

All second-year nursing students (n=138) enrolled in the Community Health Nursing course in the first semester of 2019 in one nursing school in the Philippines were the participants of the study.

Ethical considerations

Ethical conduct of research was observed throughout the study. Students were informed of their voluntary participation in the study. All data remained confidential, and access was limited only to the researcher. Students were also informed that their participation or non-participation would not affect their grades.

Research instrument and data collection

Grades in regular short quizzes, long test, and final examination of students were analyzed for this study. Students were given short regular quizzes (15 to 25 items) after the lecture, and the long exam (100 items) was given two weeks after all the topics in the course were covered. The final examination (70 questions) was administered at the end of the semester, which was a little more than one month after the lecture series and long test were conducted. The types of the test during quizzes were identification, true or false, enumeration and multiple-choice while the long test and final examinations were in multiple-choice format. All examinations were administered in a paper-and-pen format, although a study found the type of quiz administration does not significantly affect student performance (Sherman et al., 2019).

To determine perceived performance, students were requested to self-evaluate after the final test using a single item self-administered instrument. Students were asked to rate, on a scale of 1 to 10 (10 being the highest), how well they performed in the final examination of the course. Wanous, Reichers, & Hudy (1997) suggested that single item scales may be used to represent global constructs.

Statistical data analysis

Descriptive statistics were utilized to describe the data while Pearson's *r* was employed to test for the relationship between variables. The statistical analysis was aided by IBM SPSS version 23. Alpha level of significance was set at .05.

RESULTS

Participants profile

Nursing students who participated in this study were in their second-year of the four-year baccalaureate nursing degree program. The majority (63%) of the students were females, typically within the age range of 19 to 21 years old with a mean age of 20.

Performance in quizzes, long quiz and final examination

The performance of students in different tests is shown in Table 1. On the average, nursing students had satisfactory to very satisfactory performance ($M=83.70$) in regular short lecture quizzes. They had good to very good performance ($M=86.18$) in the long test and had satisfactory to very satisfactory performance ($M=83.91$) in the final examination.

Table 1. Performance in short quizzes, long quiz, and final examination

Quiz and tests	<i>f</i>	%
Quizzes ($M=83.70$)		
Outstanding to Excellent (92.00 and above)	10	7.2
Good to Very Good (86.00-91.99)	50	36.2
Satisfactory to Very Satisfactory (80.00-85.99)	46	33.3
Passing-Fair (75.00-79.99)	17	12.3
Below 75	15	10.9
Long Quiz ($M=86.19$)		
Outstanding to Excellent (92.00 and above)	6	4.3
Good to Very Good (86.00-91.99)	72	52.2
Satisfactory to Very Satisfactory (80.00-85.99)	53	38.4
Passing-Fair (75.00-79.99)	7	5.1
Below 75	-	-
Final Exam ($M=83.91$)		
Outstanding to Excellent (92.00 and above)	7	5.1
Good to Very Good (86.00-91.99)	39	28.3
Satisfactory to Very Satisfactory (80.00-85.99)	70	50.7
Passing-Fair (75.00-79.99)	18	13.0
Below 75	4	2.9

Perceived performance in the final exam

Students self-evaluation of their performance in the final examination is reflected in Table 2. The table shows that a high majority of nursing students perceived their performance to be at the average level ($M=5.71$) in the final examination of the Community Health Nursing course.

Table 2. Perceived level of performance in the final examination

Level of Perceived Performance ($M=5.71$)	<i>f</i>	%
High (8.00-10.00)	8	5.8
Average (4.00-7.99)	124	89.9
Low (1.00-3.99)	6	4.3

Correlation between variables

Table 3 displays the relationship between the variables included in this study. It can be gleaned in Table 3 that there is a significant positive relationship between regular short lecture quizzes performance ($p=0.000$) and long quiz performance ($p=0.000$) with final examination performance. Table 3 also shows that there is a significant positive

relationship between perceived performance and actual performance in the final examination of the course ($p=0.000$).

Table 3. Correlation between variables

Variables	<i>r</i>	p-value
Short quizzes and final exam	0.510	0.000*
Long quiz and final exam	0.637	0.000*
Perceived performance and actual performance	0.335	0.000*

* $p<0.05$

DISCUSSION

This study investigated the correlation between students' performances in quizzes, long quiz and final examination. Not surprisingly, this study found that performance in regular short lecture quizzes and long test were significantly correlated with final examination performance. This finding may indicate that early performance in the course has a significant bearing in the final or terminal outcomes of the course. This result is consistent with the findings of Wambuguh & Yonn-Brown (2013), wherein regular lecture quizzes scores predicted final examination performance of college students in several courses. Poljicanin et al. (2009) likewise discovered that scores in daily mini quizzes were positively correlated with final examination performance of medical students in the anatomy course in Croatia. A similar finding was also disclosed in Iran with a sample involving nursing students in the study of Delaram et al. (2017). Authors concluded that weekly quizzes significantly increased students test scores in the midterm and final examinations of the Maternal and Child Health course. Azzi et al. (2014) likewise found that performance in formative assessment was related to the performance of medical students in the summative examination. Authors also relayed that the use of formative assessment was considered as a useful approach in identifying students at risk of failing. On the contrary, the study of Zamini et al. (2013) revealed that frequent announced quizzes did not influence the final exam score of medical students in Iran. In addition, although Bluman et al. (2011) were not conclusive, scholars relayed that the practice of giving review quizzes did not affect students' final exam performance in their study.

Moreover, the finding of this study also suggests that frequent assessment or regular testing has a positive impact on students' performance. Drill and practice, as in this case, the use of regular quizzes, promotes the acquisition of knowledge or skill through multiple repetitions, rehearsal, and practice (Lim, Tang, & Kor, 2012). Test-enhanced learning or testing effect considers test prompts to promote retrieval practice from memory, thereby enhances learning (Brame & Biel, 2015). A study among high school students found that daily quizzes had a positive influence on students' retention and mastery of the material (Kayser, 2015).

People's self-assessment holds a modest connection with their actual behavior and performance (Dunning, Heath, & Suls, 2004). It was demonstrated in this study that self-evaluation or perceived performance is related to actual performance in the final examination of the course. This means that students who viewed themselves to perform

well in the test were more likely also to get higher scores or perform well in the actual examination. This may reflect a relatively accurate self-evaluation of students regarding their performance in the test. This result of this study is consistent with the findings of Sticca et al. (2017) among high-school students and Laguador (2013) with freshmen engineering students in the Philippines. Landrum & Dillinger (2000) also found that 61% of students had an accurate prediction of their expected to actual grade. Correspondingly, realistic self-appraisal was found to be associated with academic performance of freshmen students (Adebayo, 2008).

It is also noteworthy that while the average students' performance in the long test was found to be higher compared to the average performance in the final examination, performance in regular lecture quizzes and final examination were relatively comparable. The time interval between the administration of the long test which was given two weeks after the lecture series and the final exam which was conducted more than one month after the lecture ended may have contributed to the higher ratings of students in the long test. While this is not a test-retest reliability study, test-retest correlations are found to decrease progressively as the interval lengthens (McAdams, 2009). Moreover, the finding of this study also suggests consistency in the early and final performance of students in course. It is recommended that nursing faculty must be proactive in identifying students at risk of underperforming early in the class. Additionally, academic guidance remains integral for nursing students (Oducado et al., 2017).

It is also interesting to note that despite performance in regular lecture quizzes and final examination were relatively comparable, this study demonstrated that the correlation between performance in the long and final exam was slightly higher than the correlation between regular short quizzes and final examination as indicated by the Pearson's correlation coefficient. It can be argued that this is because the long and final exams were administered in a similar multiple-choice format. This may direct the value of test administration in the same test item format. Some prior studies have shown that the format of the test items influences students' test performance (Thawabieh, 2016; Reardon et al., 2018).

Concerning the demographic profile of the students, similar to prior research conducted in a private nursing school (Oducado & Penuela, 2014), many nursing students in this study were females suggesting that nursing remains to be a female-dominated profession. It is also significant to acknowledge that participants in this study already belong to Generation Z or those born from 1995 to present (Oducado, 2019). This is interesting to note because this cohort is argued as a generation that is shaping the changes that are happening and will happen in the educational landscape (Oducado, 2019).

Since this study is only limited in a single course and college, it is suggested to use the findings with caution. Moreover, the use of non-standardized assessment in this study in the form of teacher-made tests may limit the validity, reliability and generalizability of the results. Nonetheless, the examinations used to assess students' performance were based on the content and objectives of the course merit a valid evaluation of students'

academic performance concerning the course or subject. Future researchers may work on a larger scale and use experimental designs and standardized measures to further validate the result of this study. This study has contributed to the body of knowledge on assessment in nursing education. Moreover, this study has provided current evidence and has documented within the context of nursing education a widely accepted notion that early course performance, as indicated by scores in regular quizzes, significantly contributes to the final course performance of students.

CONCLUSION

This study concludes that students' performance in regular short lecture quizzes and long quiz are reasonable indicators of final examination rating. Consistent with the literature, this study suggests that early performance in the lecture course can significantly influence students' performance in the final assessment of the course. This study highlights the importance of regular and continuous assessment of students' performance. Moreover, this study indicates that nursing students appear to have a realistic expectation of their examination performance in the course. Nevertheless, nurse educators can introduce strategies to remind and encourage students to evaluate their performance truthfully and assess their learning accurately. In addition, nurse educators must be proactive in identifying students who are likely to perform poorly early in the course so that prompt remediation and guidance may be offered to underperforming students.

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CONFLICT OF INTEREST

The author declares that he is the instructor of the course. Furthermore, the author declares that the study was conducted in the absence of any financial relationships that could be construed as a potential conflict of interest.

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