Original Research Article

English Language Usage and Academic Achievement Among Nursing Students: A Cross-Sectional Study

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Abstract

Introduction: Nursing students who speak English as a second language (ESL) face academic challenges such as academic and clinical underperformance and slower course progression. English language usage and its effect on Saudi undergraduate nursing students' academic achievement is limited in the literature.

Objectives: To identify the level of and the effect of English language usage on academic achievement among Saudi undergraduate nursing students.

Methods: A cross-sectional, correlational descriptive design was employed. Data were collected from a convenience sample of nursing students (N = 90) attending a public nursing program in Saudi Arabia using English Language Usage Scale (ELUS-11). Data were analyzed using univariate, bivariate, and multivariate statistics.

Results: Saudi nursing students' academic achievement was high. However, their English language usage was low. Yet, the student's highest average score was related to listening, followed by reading, general, writing, and speaking. The general linear model revealed that English language usage influenced academic achievement (B = .026, p <.001) after controlling the sample gender and academic level.

Conclusions: The findings showed English language usage was associated with academic achievement. Saudi nursing students were willing to succeed in their studies despite their low levels of English skills. Providing English resources such as courses through extracurricular activities and workshops for the students might enhance their use of English, which might improve their academic achievement.

Keywords

academic achievement, English as a second language, nursing education, nursing students, Saudi Arabia

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Introduction/Background

Most of the health care education is being taught in Saudi Arabia in English language including nursing. Undergraduate nursing education in Saudi Arabia is offered through a 5-year program including a year for internship (Phillips, 1989). However, the majority of nursing students enrolled in a nursing program after high school, which utilizes Arabic language as the medium of instruction for most subjects (Sidiqa Allah & Sahel, 2020). Therefore, they may face challenges and difficulties during their undergraduate educations. Most of nursing students in the country start their academic journey by attending a foundation year that encompasses basic sciences such as biology, chemistry, and statistics (Aljohani, 2020). Also, they receive English language skills courses during the foundation year.

Over the past decades, there has been an increased attention toward English as a second language (ESL) at higher education levels internationally, including Saudi Arabia (Rienties et al., 2012). ESL is a term used to describe individuals who use English language as another language different from their native language (Allen, 2017). Although nursing is being taught in English in Saudi Arabia, the use of English as

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the main mode of communication in clinical settings might be difficult and challenging for nursing students. In Saudi Arabia, nursing students do not have adequate exposure to English language prior to college enrollment, which could affect their academic performance (Al-Khairy, 2013; Tang et al., 2015).

Review of the Literature

The literature included studies on academic achievement and performance. Academic achievement refers to performance outcomes of the educational process that occurs at school, college, and university, which can be characterized by the student's cumulative grade point average (GPA) (Spinath, 2012). Several studies from various fields, including nursing, indicated that English language proficiency was associated with college students' overall academic achievement (Martirosyan et al., 2015; Mthimunye & Daniels, 2019; Nasirudeen & Xiao, 2020; Oducado et al., 2020; Salamonson et al., 2008; Tenney et al., 2019) and a predictor of future academic success (Dev & Qiqieh, 2016) and licensure success (Oducado et al., 2020). However, some nursing studies indicated that English language usage was not associated with academic performance (Gajewski, 2022; Zheng et al., 2014), which indicated that the literature shows inconsistent findings.

Nursing students who speak ESL face academic challenges (Donnelly et al., 2009; Olson, 2012; Zheng et al., 2014). Academic and clinical underperformance and slower course progression are associated with low levels of English proficiency (Salamonson et al., 2008, 2011). In addition, ESL nursing students who meet the English requirements underperformed academically compared to English native nursing students (Gajewski, 2022). Therefore, exploring the students' academic achievement in an ESL mode of instruction within the nursing education in an international setting such as Saudi Arabia must be identified.

According to Cummins' model of second language acquisition, there are two levels of language acquisition proficiency: social communicative language and academic communicative language (Cummins, 1983). Social communicative language is acquired through everyday social interactions such as face-to-face conversations (Cummins, 1983). On the other hand, academic communicative language is acquired through the exposure of academic setting and requires higher order of thinking such as analysis, evaluation, and interpreting abstract concepts (Cummins, 1983). According to Cummins (1983), a learner takes 5–7 years to be proficient in academic communicative language. Therefore, those who can speak English fluently in social interactions are not necessarily proficient in academic language.

Nursing students are expected to have proficient English skills during their clinical trainings and when they graduate for effective communication in the workplace, where English is the main language in Saudi health care system. Although nursing students in Saudi universities take English courses in the foundation year, their English language usage and its effect on their academic achievement are limited in the literature. Therefore, this study aimed to identify the level and effect of English language usage on Saudi nursing students' academic achievement. The specific aims were (1) to explore nursing students' levels of English language usage and academic achievement, (2) to examine the mean differences and associations between the sample characteristics variables, English language usage, and academic achievement, and (3) to explore the effect of English language usage on academic achievement when controlling for the sample gender and academic year. The hypothesis of this study is that English language usage is positively associated with academic achievement.

Methods

Design

A cross-sectional, correlational descriptive design was utilized in this study. This type of design allows to provide insights into the relationships among the variables (Polit & Beck, 2021). Recruitment of participants was performed using a secured online platform. The study link was distributed via the college electronic mailing list during June and July 2020. The link included an anonymous self-reported questionnaire. Eligible participants were able to access the questionnaire by clicking on the link included in the email. The questionnaires were sent to 795 eligible students. After 2 weeks, 90 questionnaires were completed, resulting in a response rate of 11.3%.

Research Questions

The research questions addressed in this study were (1) What are the Saudi nursing students' levels of English language usage and academic achievement? (2) What are the relationships between the sample characteristics variables, English language usage, and academic achievement? (3) What is the effect of English language usage on academic achievement when controlling for the sample gender and academic year?

Setting

This study was conducted at a nursing college at a public university located in Riyadh, Saudi Arabia. The college is considered one of the largest nursing colleges in the country offering nursing programs at many levels. The college has more than 1,200 undergraduate nursing students. All the students are speaking ESL.

Sample

This study used convenience non-probability sampling. For the accessible target population of 795 nursing students, the sample size was calculated using G*Power software Version 3.1 (Heinrich-Heine-Universität, Düsseldorf, Germany) to determine the minimum sample size needed to run the statistical analysis. Under a significant level of .05, power of 80%, and 4 predictors, the needed sample size was 85 participants.

Inclusion/Exclusion Criteria

The inclusion criteria were undergraduate Saudi nursing students enrolled in a public university where the study took place and completed at least the first semester of college. Graduate nursing students were excluded because of their years of experience in the health care settings, which may have improved their English language usage.

Ethical Considerations

The institutional review board (IRB) approval was obtained from a public university ethics committee. A recruitment statement with the following information was provided to all potential respondents: introduction and explanation of the study, its purpose, processes, risks, and benefits. Participants were assured that their anonymity and confidentiality would be maintained. Participants were also informed of their right to withdraw from the study at any time without any consequences.

Study Instruments

A structured questionnaire was developed to collect demographic information, English Language Usage Scale (ELUS-11), and academic achievement. The demographic information included age, gender, and academic level (first, second, third, fourth, and internship). Academic achievement was measured using cumulative GPA.

English language usage was measured using the ELUS-11 (Salamonson et al., 2014). ELUS-11 is a self-reported scale that has 11 items measured on a 5-point Likert scale that measures 5 dimensions of language usage—speaking (3 items), listening (2 items), writing (2items), reading (2 items), and general (2 items) (Salamonson et al., 2014). The ELUS-11 score ranges from 11 (Arabic only) to 55 (English only). The scale has shown high reliability (Cronbach's $\alpha = .96$) (Salamonson et al., 2014). The scale was used in an Arabic setting in a previous study and has shown excellent reliability (Cronbach's $\alpha = .99$) (Alananzeh et al., 2019). The reliability of the scale in this study was good (Cronbach's $\alpha = .86$).

Statistical Analysis

Statistical Package for Social Sciences (SPSS) (version 28.0) (IBM Corp., Armonk, New York, USA) were used to clean data and perform all statistical analyses in the study. Univariate analyses (descriptive statistics) were assessed using frequencies and percentages for categorical variables, and central tendency for continuous variables. Pearson's correlation was utilized to examine the association between the continuous independent variables. *t*-test was performed between the categorical independent variables that are dichotomous and the continuous outcome variable. One-way analysis of variance (ANOVA) was performed between the categorical variables that have more than two possible responses and the outcome variable. Finally, a general linear model analysis was conducted to explain the amount of variance the English language usage explains in the outcome variable when controlling for the sample gender and academic year. Level of significance was set at $p < .05$.

Table 1. Sample Characteristics of Participants (N = 90).

Variable (range)	*n* (%) or *M* ± *SD*
Age (18–26 years)	21.2 ± 1.56
Gender	
Male	45 (50.0)
Female	45 (50.0)
Academic Year	
First	9 (10.0)
Second	7 (7.8)
Third	25 (27.8)
Fourth	42 (46.7)
Internship	7 (7.8)
GPA (3.0–4.97)	4.18 ± .44

Note. GPA = grade point average.

Results

Sample Characteristics

Table 1 shows the sample characteristics. The average age of undergraduate nursing students was 21.2 ($SD = 1.56$) years old. Gender of the respondents was equal, representing 50% of each gender. More than 46% of the sample was fourth-year nursing students. The average GPA of the sample was high ($M = 4.18$ [$SD = 0.44$]) with a possible range of 1–5.

Levels of English Language Usage and Academic Achievement

Table 2 shows the average scores of the ELUS-11. The average score for speaking was low ($M = 4.99$ [$SD = 1.42$]), with a score range of 3–10. In addition, the average scores for other dimensions were reading ($M = 4.61$ [$SD = 1.53$]), listening

Table 2. Descriptive Statistics of Average Scores for English Language Usage Scale (ELUS-11) (N = 90).

Variables (range)	Mean (*SD*)
Speaking (3–10)	4.99 (1.42)
Reading (2–8)	4.61 (1.53)
Listening (2–10)	5.41 (2.20)
Writing (2–10)	4.07 (1.94)
General (2–9)	4.19 (1.72)
Total (11–39)	23.27 (6.99)

($M = 5.41$ [$SD = 2.20$]), writing ($M = 4.07$ [$SD = 1.94$]), and general ($M = 4.19$ [$SD = 1.72$]), with a possible score range for each of the dimensions of 2–10. The average score for the total score of the ELUS-11 was low ($M = 23.27$ [$SD = 6.99$]), with a score range of 11–39.

Associations Between the Sample Characteristics Variables, English Language Usage, and Academic Achievement

Table 3 shows the mean differences in ELUS-11 dimensions, total score of ELUS-11, and academic achievement. There was a statistically significant difference between male and female nursing students in writing dimension average scores only from the ELUS-11 dimensions ($t = 3.077$, $p = .003$). Female nursing students had higher writing skills compared to male students. Similarly, there was a significant difference between male and female nursing students in academic achievement ($t = 2.169$, $p = .033$). Female nursing students had better academic achievement than male students.

Regarding academic year, there were statistically significant differences in the average reading dimension scores among different academic years ($F = 2.569$, $p = .044$). Using Fisher's Least Significant Difference (LSD) post hoc test, nursing students in the fourth year had significantly higher scores in reading compared to second-year students ($p = .01$). Also, there were statistically significant differences among academic years in the average total scores of ELUS-11. Using LSD post hoc test, the fourth-year nursing students had higher total scores compared to the first ($p = .035$), second ($p = .015$), and third ($p = .044$)-year students. There was no significant difference between fourth and internship years students in the total score of ELUS-11. Regarding other ELUS-11 dimensions, there were no significant differences among academic years. Similarly, academic year was not associated with academic achievement.

As shown in Table 4, there were moderate positive correlations between academic achievement and speaking ($r = .449$, $p = .001$), reading ($r = .363$, $p = .001$), writing ($r = .352$, $p = .001$), general ($r = .399$, $p = .001$), and total score of ELUS-11 ($r = .453$, $p = .001$). However, the correlation between academic achievement and listening was positively weak ($r = .277$, $p = .008$).

Effect of English Language Usage on Academic Achievement

The results presented in Table 5 displays the general linear model analysis of academic achievement. The model explained 23.7% of the variance in academic achievement ($R^2 = .237$, $p = .001$). Among the variables in the model, only the total score of ELUS-11 significantly influenced academic achievement ($B = .026$, $p = .001$). Nursing students who scored high in ELUS-11 had higher academic achievement than those who scored low in the ELUS-11.

Discussion

This study examined the level of English language usage and its effect on undergraduate nursing students' academic achievement. The findings showed that Saudi nursing student's use of English was low, consistent with the results of a previous study that assessed third-year nursing student's English Language usage in Saudi Arabia (Alharbi & Yakout, 2018). According to Cummins model of second language acquisition (1983), acquiring higher level of proficiency in a second language requires 5–7 years for an individual to be proficient, especially in academic language. None of the students in this study, who were from different levels, completed 5 years. Although the average total score of ELUS-11 score was low, the student's highest average score was related to listening, followed by reading, general, writing, and speaking. This could be related to the nature of nursing courses that utilized lectures using slides show in most of the classes, which slightly might have increased their English listening and reading skills.

It was found that female nursing student's English writing skills were higher than male students. This was consistent with a previous study that evaluated Saudi dental student's English language scientific writing skills, which reported that female students used greater number of words compared to male students (El Tantawi et al., 2016). In addition, academic achievement was higher among females than male students. Similar results were reported in previous studies (Chik et al., 2012; Mthimunye & Daniels, 2019; Zhu, 2020). However, this finding was not consistent with a study conducted in Saudi Arabia evaluating undergraduate nursing student's academic performance (Alharbi & Yakout, 2018).

Furthermore, English language usage was different by academic year. Fourth-year nursing students had higher usage than first-, second-, and third-year students. This showed that the student's advancement in the program increased their use of English. Their experience of education impacted their English skills positively, regardless of the low average overall score of English language usage. Having an

Table 3. Mean Differences in English Language Usage Scale (ELUS-11) Dimensions, ELUS-11 Total Score, and Academic Achievement (GPA) by Gender and Academic Year (N = 90).

Variables	Speaking		Reading		Listening		Writing		General		Total Score		GPA	
(Possible range)	(3–25)		(2–10)		(2–10)		(2–10)		(2–10)		(11–55)		(1–5)	
Range	M (*SD*)	t / *F*	M (*SD*)	t / *F*	M (*SD*)	t / *F*	M (*SD*)	t / *F*	M (*SD*)	t /*F*	M (*SD*)	t / *F*	M (*SD*)	t / F
Gender														
Male	4.8 (1.4)	.966	4.4 (1.6)	1.459	5.4 (2.4)	.048	3.5 (1.8)	**3.077****	4.0 (1.9)	.797	22.1 (7.2)	1.550	4.1 (.4)	**2.169***
Female	5.1 (1.5)		4.8 (1.5)		5.4 (2.1)		4.7 (1.9)		4.3 (1.5)		24.4 (6.7)		4.3 (.4)	
Academic Year														
First	4.6 (1.3)	1.469	4.1 (1.3)	**2.569***	4.8 (1.6)	1.998	2.8 (1.4)	2.276	3.9 (1.8)	.826	20.1 (4.6)	**2.666***	4.1 (.1)	.865
Second	4.1 (.9)		3.4 (.9)		4.4 (1.7)		3.3 (1.0)		3.3 (1.0)		18.6 (4.3)		4.1 (.6)	
Third	4.8 (1.2)		4.3 (1.6)		4.8 (2.1)		3.8 (1.6)		4.1 (1.8)		21.9 (6.6)		4.1 (.5)	
Fourth	5.3 (1.6)		5.1 (1.5)		6.1 (2.2)		4.6 (2.1)		4.4 (1.7)		25.4 (7.1)		4.3 (.4)	
Internship	5.0 (1.4)		5.0 (1.6)		5.3 (2.9)		4.1 (2.5)		4.6 (2.3)		24.0 (9.3)		4.3 (.5)	

Note. *t*-test and one-way analysis of variance (ANOVA) were used. GPA = grade point average.
*$p < .05$; **$p < .001$.

experience with a desirable behavior could increase self-efficacy toward that behavior, as explained by Bandura's self-efficacy theory (Bandura, 1997). English self-efficacy has been found to be associated with university students' English language performance (Zhu, 2020). Therefore, enriching students' experience using English language as a medium of instruction might improve their overall English language usage.

Although the bivariate association between academic achievement and each of ELUS-11 dimensions showed positive associations, the multivariate analysis revealed that only the total score of ELUS-11 (English language usage) influenced nursing students' academic achievement when controlling for the sample gender and academic year. This was in line with the study hypothesis and previous studies (Martirosyan et al., 2015; Mthimunye & Daniels, 2019; Nasirudeen & Xiao, 2020; Salamonson et al., 2008; Tenney et al., 2019). However, inconsistent results were reported in studies in Australia, Malaysia, and Saudi Arabia (Alharbi & Yakout, 2018; Chik et al., 2012; Glew et al., 2015; Zheng et al., 2014). The importance of English proficiency for ESL students had been noted as a factor that determines academic achievement and performance (Arum & Roksa, 2011; Crawford & Candlin, 2013; Garone & Van de Craen, 2017). Despite the students' low English language usage, their academic achievement was high. The reason that led to this finding might be related to most of the faculty members, who teach the students in this study, whose native language is Arabic. Therefore, they might use Arabic as the medium of instruction when the students struggle to understand in English.

Strengths and Limitations

While the study provided valuable information about the relationship between English language usage and academic achievement, there are some limitations to be addressed. First, the use of a cross-sectional design might have impacted the determination of causality among the variables. In addition, the use of convenience sampling approach might have led to sampling bias. For example, the percentage of fourth-year nursing students was greater than other years, which was not representative of the population. This might be because of the nursing research course that is offered in the fourth year, which might have increased fourth-year students' motivation to participate in research studies. Thus, quota sampling is recommended for future research studies among nursing students in different academic levels to avoid sampling bias.

This study was conducted in one public university. Therefore, the generalizability of the findings might be affected and not represent the target population. Additionally, the use of self-reported surveys had its limitations such as false or socially desirable responses, which might have inflated some responses like GPA. Therefore,

Table 4. Associations for English Language Usage Scale (ELUS-11) and Academic Achievement (N = 90).

Variables		1	2	3	4	5	6	7	8
1	Age	1							
2	Speaking	.174	1						
3	Reading	.158	.626*	1					
4	Listening	.030	.427*	.514*	1				
5	Writing	.112	.590*	.659*	.395*	1			
6	General	.001	.555*	.629*	.477*	.622*	1		
7	Total Score	.111	.773*	.844*	.739*	.817*	.817*	1	
8	Academic Achievement (GPA)	.078	.449*	.363*	.277*	.352*	.399*	.453*	1

Note. Pearson's product correlation was used. GPA = grade point average.
*$p < .001$.

Table 5. General Linear Model Analysis of Academic Achievement (N = 90).

	Academic Achievement (GPA)			
Variables	B[a]	t	*p*	Model Summary
Gender				$R^2 = .237$
Male (Reference)				***p* <.001***
Female	.132	1.561	.122	
Academic Year				
First	.071	.479	.633	
Second	−.023	−.139	.890	
Third	.054	.534	.595	
Fourth (Reference)				
Internship	−.072	−.444	.658	
ELUS-11 Total Score	.026	4.013	**.001***	

Note. [a]B coefficient. ELUS-11 = English Language Usage Scale; GPA = grade point average.
*$p < .001$.

further research is recommended using more a rigorous design such as longitudinal design to collect data at more than one point of time. Also, reviewing students' files (i.e., academic transcripts) to determine the associations between their actual grades or GPA and English course grades is recommended for future studies.

Implications

The level of English language usage of nursing students in this study was low, which may inform faculty members and university management about the nursing students' English language skills level. To mitigate this issue, faculty members may develop specific strategies to enhance students' English language proficiency. Also, the university administrators may benefit from offering professional development programs that target faculty members to improve their use of various techniques, methods, and strategies for ESL students. Also, increasing the number of English language skills courses for nursing students during their study may increase their English language usage, which would improve their academic achievement.

This study examined the effect of English language usage on academic achievement only. Hence, further research studies are recommended to explore other factors such as psychological (motivation and intelligence quotient [IQ]) and environmental (instructors' competencies and educational resources) factors, and their associations with academic achievement. Future studies evaluating specific English language courses and their effectiveness are suggested using interventional designs (i.e., quasi-experimental), to identify the strengths and weaknesses of the courses, to suggest further improvement.

Conclusions

This study provided empirical evidence that English language usage was associated with academic achievement. However, the English language usage among Saudi nursing students was low, but their academic achievement was high. This indicated that they were willing to succeed in their studies despite their low level of English skills. Additionally, improving faculty member's use of ESL techniques in teaching through professional development may help enhance Saudi nursing students' English language skills and their academic achievement. Encouraging Saudi nursing students and providing English resources such as courses through extracurricular activities and workshops might enhance their use of English, which would improve their academic achievement.

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