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English language proficiency and academic performance of Nursing Students speaking English as a second language

Poziom znajomości języka angielskiego a wyniki w nauce studentów pielęgniarstwa posługujących się angielskim jako drugim językiem

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STRESZCZENIE

POZIOM ZNAJOMOŚCI JĘZYKA ANGIELSKIEGO A WYNIKI W NAUCE STUDENTÓW PIELĘGNIARSTWA POSŁUGUJĄCYCH SIĘ ANGIELSKIM JAKO DRUGIM JĘZYKIEM

Wstęp. Studenci posługujący się językiem angielskim jako drugim językiem (ESL) napotykają poważne wyzwania na anglojęzycznych uniwersytetach.

Cel. Zbadanie poziomu znajomości języka angielskiego i wyników w nauce studentów pierwszego stopnia pielęgniarstwa.

Metody. Badanie korelacji na próbie 136 studentów pielęgniarstwa którzy wypełnili specjalnie opracowany kwestionariusz zawierający cechy socjodemograficzne, zmienne mające wpływ na poziom biegłości języka, otwarte pytania oraz Skalę Akulturacji Języka Angielskiego (ELAS) służącą do identyfikacji poziomu znajomości tego języka.

Wyniki. Czterdzieści trzy procent uczestników badania doświadczało trudności w zrozumieniu drugiego języka w praktyce klinicznej, 68% napotykało problemy w studiowaniu w drugim języku, a 47% wstydziło się mówić po angielsku. Około 71% respondentów uzyskało małą ilość punktów w skali ELAS, a 58% uzyskało dobrą średnią ocen (GPA). Analiza regresji wykazała, iż wewnętrzna motywacja, wyzwania związane ze studiowaniem i wstępna średnia ocen były predykatorami wyników w nauce.

Wnioski. Wyniki badania sugerują, iż oceny studentów były związane z wykorzystywaniem przez nich języka angielskiego w zakresie czytania i pisania w trakcie studiów. W związku z tym, pracownicy wydziału powinni mieć na uwadze konkretne plany służące poprawie i monitorowaniu umiejętności językowych studentów już na etapie rekrutacji.

Słowa kluczowe: **Angielski jako drugi język (ESL), średnia ocen, studenci pielęgniarstwa, ocena wyników, standardy przygotowania nauczycieli**

ABSTRACT

ENGLISH LANGUAGE PROFICIENCY AND ACADEMIC PERFORMANCE OF NURSING STUDENTS SPEAKING ENGLISH AS A SECOND LANGUAGE

Introduction. Students who speak English as a second language (ESL) may face considerable challenges at English language universities.

Aim. To investigate the English language proficiency and academic performance of ESL bachelor's degree nursing students.

Methods. A correlational design was used with a sample of 136 nursing students who completed a structured questionnaire on socio-demographic characteristics, variables that affect language proficiency, open questions, and English Language Acculturation Scale (ELAS) to identify their English proficiency.

Results. Forty-three percent of the participants experienced difficulty in understanding the second language in clinical practice, 68% experienced challenges in studying the second language, and 47% were embarrassed to speak English. Approximately 71% of the participants had low ELAS scores and 58% had a good grade point average (GPA). Regression analysis revealed that internal motivation, study challenge, and entrance GPA were predictors of academic performance.

Conclusions. The results suggest that students' grades were correlated with their use of English to read and write during their studies. Thus, faculty administrators should have concrete plans for improving and monitoring the English language proficiency of students throughout their enrolment.

Key words: **English as a second language (ESL), grade point average, nursing students, performance assessment, teacher preparation standards**

INTRODUCTION

All nursing schools in Saudi Arabia (SA) have a four-year nursing undergraduate program, as well as „one-year internship" with English language as the mode of instruction. Most of the nursing students enter the program from high schools in which the curriculum is delivered in Arabic with some subjects in English, and enroll in the Bachelor of Science in Nursing (BSN) program to transit into an English mode of instruction. BSN programs in SA require students to enroll in a year of foundation education with intensive training in English language skills. Inefficient language skills have been considered a barrier to successful learning in medical education and are a major cause of the decline in academic performance and education standards [1]. Also, in terms of academic performance, it was observed that students with English mode of instruction schools perform better than other students [1]. Although this observation had no supported data, the limited English proficient student required intensive training in English language skills. Hence, for the current study a limited-English-proficient student is defined as a student whose first language is Arabic, not English, and who is unable to do ordinary classroom tasks in English, which thereby affects his/her academic performance [1].

English as a second language (ESL) has gained much attention during the past decades worldwide [2]. Practicing English as the main language of communication in the clinical setting is difficult and challenging for nursing students. Although the entire nursing curriculum is taught in English, students experience difficulty in communicating in this language. In Saudi Arabia, students do not have sufficient exposure to English prior to college enrollment because English is not intensively taught at school, what affects their academic level and work [3]. This thus highlights the need for a study of this issue. The aim of this study was to determine the English language proficiency of nursing students, identify academic environmental support, and to correlate these with the academic performance of nursing students who are pursuing a bachelor's degree.

ESL nursing students often choose not to speak out in class in English out of apprehension [4], which may prevent them from acquiring help from teachers, even though they would be provided with highly tailored teaching input, interaction, and feedback [5], additional time for testing, and opportunities to practice speaking [6]. In Saudi Arabia, where Arabic is the native language, nursing students cope with English language mode of instruction. Nursing students are subjected to a mandatory foundation course in English that they must successfully complete prior to their admission to the university curriculum. Students' success depends on how well they cope with the challenge of studying in the ESL mode of instruction [1,3]. The challenges the students experience in communicating verbally and in writing in English courses, particularly with staff, in a multicultural and multinational environment, are their ongoing major concerns. Low language proficiency has been considered a barrier to learning and academic success in nursing education [7]. ESL students need more years of study to gain the necessary skills to compete with native English speakers [8,9].

A considerable body of literature has been published on academic performance. This concept is considered as an outcome of the educational process between student, teacher, and institution. Academic performance is characterized by the student's most recent grade point average (GPA) [10]. A study of Garone and Van de Craen (2017) has indicated a positive impact of English language proficiency on academic performance among Hispanic students at the secondary level in the United States [8]. Sahragard, Baharloo, and Soozandehfar found a significant relationship between language proficiency and academic achievement of Iranian college students but did not observe any significant correlation between language proficiency and academic achievement [9]. Another study by Sadeghi et al. of medical students revealed a significant positive relationship between English language proficiency and their overall academic achievement [11]. Additionally, as noted by Kong et al., English language proficiency was a predictor of future academic success [7]. As ESL nursing students might have difficulties understanding lectures and interacting with their professors due to a lack of English proficiency, limited ESL skills might be one of the determinants that directly or indirectly influence high academic performance. Therefore, the predictors of high academic performance in an ESL mode of instruction within the nursing context, such as nursing colleges, must be identified.

Within the nursing context, all the nursing courses are taught in English. Many nursing students faced great challenges in studying their subjects and inadequate academic achievement may be prevalent, as evidenced by the low grade point average and high failure rate [12], because Saudi learners usually come to college unprepared, without enough English as a second language skills, despite spending an average of three to four hours per week during the last six years of their school education studying English [13]. As a result, low grades, lack of basic knowledge, poor study habits, poor classroom participation, lack of motivation, low overall satisfaction with programs, and an increased number of at-risk students are expected [1].

AIM

This study investigated the English language proficiency and academic performance of nursing students who are pursuing a bachelor's degree.

MATERIALS AND METHODS

Study design

A correlational design was used with an embedded open question to examine the relationship between English language proficiency and the academic performance of nursing students and to elicit more information. The study was conducted over a period of 2 months,

from March to April 2017. King Saud University has a well-developed English education nursing program, so the nursing students attending King Saud University were invited to participate in the study.

Sample size and sampling procedures

The study consisted of 136 nursing students (both male and female) who were currently enrolled at college of nursing. Sample size was calculated according to Tabachnick and Fidell, who gave the following rule of thumb to determine the sample size for regression: $n > 50 + 8(m)$, where n is the sample size and m is the number of predictors [14]. According to this rule and with $m = 9$, the estimated sample size was $n = 122$. The sample size in this study was thus sufficiently large to meet this criterion. The criteria for inclusion involved students enrolled in levels 5 and 6 in the nursing program, who had completed the fundamental nursing courses, and who were interested in participating in the study. The exclusion criteria were students enrolled in graduate-level nursing education or masters-level nursing programs and students who are English native speakers.

Data collection

The data were collected using two tools. Tool I: A structured questionnaire developed by the researcher to collect the data. Part one includes personal information and academic profile, such as age, sex, and students' academic performance in each semester measured using the GPA scores at the time of entrance to the nursing bachelor's program from the common foundation year and from the previous semester. GPA scores ranged from 1 to 5, in which 5 indicates a high grade level and 1 indicates failure. GPA scores were measured at two points: entry into the program and at the last semester. Part two includes questions about the variables of English language proficiency, such as faculty support, study challenges, difficulty in understanding English, whether the student is embarrassed to speak English, faculty member assistance, student effort, having a faculty member as a motivator, and internal motivation. Part Three includes an open question, "In the last four weeks, illustrate a supportive academic situation or event or individual that encouraged you for better academic performance," and thematic content analysis was used to measure the frequency of different themes with caution as a proxy for significance, and basic themes were derived.

Tool II: Includes the ELAS to measure English language proficiency and use. The ELAS was developed by Salamonson et al. as a valid and reliable scale with the five items of usual language used in reading, speaking, speaking with friends, thinking, and language spoken at home. It is considered a screening tool to identify students who are at the greatest risk of academic underperformance following program entry [15]. Participants were asked to rate themselves on a 5-point Likert scale (1 = only non-English language(s); 2 = more non-English than English; 3 = both non-English and English equally; 4 = more English than non-English; and 5 = only English). Scores for the ELAS are calculated by summing the values for each item and range from 5 to 25. The ELAS scores divide the students into three groups: low (5–13), medium (14–18), and high (19–25) scoring groups.

The researcher was allowed 15 minutes to discuss the research purpose and methodology during the orientation session of students. Time was provided to allow the students to read the description of the research study and consider participating in the study. Each participant was assigned a code to identify the student's academic records while maintaining confidentiality. In addition, several electronic sources (i.e., nursing web link and g-mail) served as reminders to students that they could choose to participate in the study at any time during the semester. Recruitment continued until the maximum number of participants was enrolled.

Validity and reliability

Tools were submitted to five academic nursing experts in the field of obstetric and gynecological nursing to test its content validity. Modifications were made according to the academic nursing experts' judgment of the clarity of sentences and the appropriateness of the content. Tool reliability was tested using Cronbach's alpha, which yielded a value of 0.80, which indicates acceptable reliability of the tool. The study tools were pre-tested on a random sample of six women (10%) selected from the same study setting to check their clarity and applicability, discover any difficulties with their application, and determine the time needed to complete the tools. Modification of the tools was made according to the pilot study results. The students who participated in the pilot study were excluded from participating in the study.

Ethical considerations

Three principles of ethics, respect for persons, beneficence, and justice, were considered in this study. The study sample comprised students who were considered at high risk in research because of their vulnerability. Thus, in this study, informed consent was obtained, and the participants had the right to participate or decline participation in the study and to withdraw at any time. Regarding beneficence, the study does not cause harm or risks to students. In addition, the justice principle ensured that the benefits and burdens of the research were equal for all participants. The study protocol and data collection instrument were reviewed and approved by the Institutional Review Board (IRB) of the College of Medicine at King Saud University (E-17-2403). After the IRB approved and student consent were obtained, students were asked to complete the questionnaire. They were informed on the nature of the study and that their participation was independent of the academic assessment process. An information sheet was given, and written consent was obtained to access their academic results.

IBM SPSS for Windows version 21.0 (Armonk, NY; IBM Corp.) was used for the quantitative data analysis. Descriptive statistics were used to describe the demographic characteristics and academic performance of the participants, as well as the predictors of academic performance. Correlation tests were conducted to examine

the relationships between students' scores on the ELAS subscales and their academic performance. A multiple linear regression analysis was conducted to examine the predictors of academic performance. The analysis of the open question in part three of the questionnaire was analyzed using a thematic content analysis. Cronbach's alpha for the ELAS was 0.94, and the corrected item-total correlations ranged from 0.84–0.89, indicating that all five items sufficiently contributed to the internal consistency of the ELAS. Cronbach's alpha for this study was 0.70.[15]

RESULTS

More than half (63%) of the respondents was aged less than 25 years, while more than two-thirds (37%) were aged more than 25 years; the majority of respondents (78%) were female. More than half (58%) of the respondents had a GPA between a B and B+, 5% had a GPA between an A and A+, and 36% had a GPA between a C and C+. Regarding the entrance GPA, more than half (54%) of the respondents had an entrance GPA ranging from B to B+, 11% from an A to A+, and 34% from a C to C+. The mean academic performance, as measured by the GPA in the last semester, was 5, which indicates a very good level (standard deviation (SD): 1.2; range: 1–8). Forty-three percent of the students experienced difficulty in understanding a second language in clinical practice, 68% experienced challenges in studying in a second language, and 47% were embarrassed to speak English because they are not fluent in it. However, the majority of the students had a faculty member as a motivator (83%) and good internal motivation (85%). In addition, 78% of the students made an effort to learn. Table 1 shows the variables affecting language proficiency and academic performance.

As shown in Table 2, the majority (71%) of the students had achieved a low score on the ELAS, whereas one-quarter (25%) achieved a medium score and only 4% achieved a high score. The score used to identify students at the greatest risk of academic underperformance was 12 out of 25 (SD: 3.7; range: 5-25). The correlation between students' scores on the ELAS subscales and their grades was examined using a two-tailed bivariate Pearson's correlation analysis. The data indicated a significant relation between the language used in reading and students' grades (academic performance) in the last semester ($r = 0.251$, $n = 136$, $p < 0.01$). The increase in students' grades was proportional to the increase in their use of English to read and to the students' grades during study. There is no significant correlation with the other ELAS subscales, such as GPA, in the last semester.

In Table 3 it is noticeable that the variation in academic performance was 45% according to the regression analysis. Based on the table of coefficients, the prediction model contained three predictor variables and was achieved in three steps by removing 14 variables. The b-coefficients were all significant and in logical directions. Three significant predictor variables were identified: internal motivation, entrance GPA, and study challenge ($R2 = 0.458$; $F(2) = 37.115$, $p < 0.05$). Internal motivation received a stronger weight than entrance GPA and study challenge. Thus, internal motivation is a relatively strong indicator of academic performance, followed by study challenge, whereas the entrance GPA received the lowest weight.

The participants provided individual answers to an open question in the questionnaire; therefore, the researchers focused on the content and meaning of the words in the answers [16]. Thematic analysis is a common

Tab. 1. Variables related to affect language proficiency as a predictor of academic performance

Variables	No.	%
1-Faculty support		
Yes	69	51
No	67	49
2-Study challenge		
Yes	92	68
No	44	32
3-Difficulty in understanding		
Yes	58	43
No	78	57
4-Embarrassed to speak English		
Yes	64	47
No	72	53
5-Faculty member support		
Yes	117	86
No	19	14
6-Student effort		
Yes	106	78
No	30	22
7-Faculty member as a motivator		
Yes	113	83
No	30	17
8-Internal motivation		
Yes	115	85
No	21	15

Tab. 2. Percent distribution of participants according to their scores on the ELAS (n = 136)

Variables	No.	%
Low	96	71
Medium	34	25
High	6	4

Tab. 3. Stepwise regression analyses of academic performance (n = 136)

Model		Unstandardized Coefficients		Standardized Coefficients	*t*	Significance
		B	Std. Error	Beta		
3	Entrance GPA	0.616	0.066	0.600	9.352	0.000*
	Internal motivation	0.844	0.217	0.251	3.896	0.000*
	Study challenge	0.391	0.167	0.150	2.336	0.021*
$R^2 = 0.458$						

Note: *$p < 0.05$

method of analysis that dissects the answer into an explicit meaning and a rationalization [17]. By reading and re-reading the different types of answers from the respondents and categorizing the data into different inductive codes (sister, mother, father, brother, friend, classmate, colleague, teacher, faculty, doctor) for the themes, basic themes were then derived and classified according to the essence of the respondents' textual answers. The categorization of the different segments and subsequent labeling with a code allowed us to identify four basic themes, which were ultimately grouped into the two themes of faculty members and family (Figure 1).

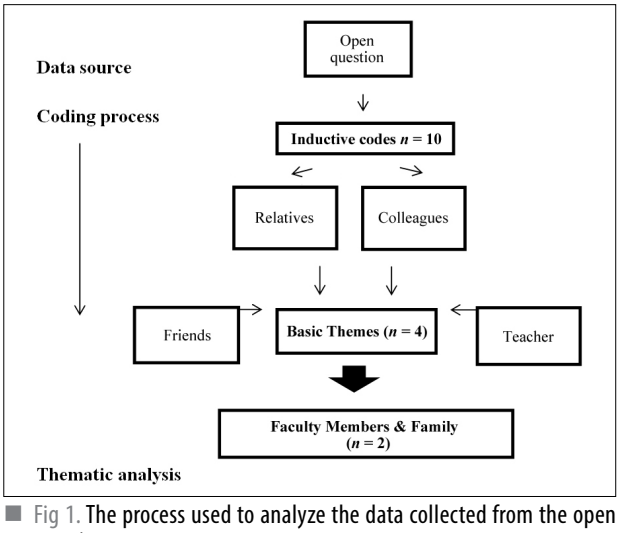

Fig 1. The process used to analyze the data collected from the open question

DISCUSSION

This study aimed to assess the contribution of English language usage to the academic achievement of third-year nursing students. Based on English language usage, as measured by scores achieved on the ELAS, more than two-thirds of the participants had low scores. Although no differences were observed in GPAs by gender, a significant percentage of the younger participants achieved very good scores. In contrast to the study by Wan Chik et al., which found that male students exhibit lower academic performance than female students as measured by GPA [18]. The current level of English language usage was low, with an overall level of less than 12 out of 25, as previously reported [15]. Meanwhile, academic performance, as measured by the GPA in the last semester, indicated that students' academic performance has no effect on English language proficiency based on the ELAS score. Such a finding suggests that the female students, even with limited English capabilities, study harder than male students in order to achieve higher grades. These results are inconsistent with the findings reported by Racca and Lasaten, as they revealed a significant relationship between students' English language proficiency and their academic performance [19]. Furthermore, Arum and Roksa stated that GPA gives an accurate and predictive measure of student performance in academic or other areas of achievement [20].

It is stressful for Arabic speakers of English to adjust to new ways of practicing speaking English in a new education institution. Based on past research conducted in English-speaking universities, Arabic speakers of English were found to face difficulties in comprehending lectures, taking part in tutorial discussions, writing essays and theses, reading course books and designated articles, and communicating with lecturers [2]. Previous studies have noted the importance of English language proficiency as a factor in determining the academic performance of students who are learning under an ESL mode of instruction [6,10,21]. This finding contrasts with the results of the study by Glew et al., which revealed an inverse relationship between participants' performance and scores on all ELAS subscales [22]. This study found that usage of English through reading positively influenced academic performance, which is consistent with the results of other studies. However, the inverse relationship observed between academic performance and scores on other English language subscales may be due to the application of the ELAS in the current study. The application of the ELAS in another context to assess the English language proficiency of nursing students who enrolled in an ESL mode of instruction is very important [23,24]. The five ELAS subscales measured the use of English in reading, speaking, speaking with friends, thinking, and speaking at home. Reading problems and expected achievements have been cited as one of the most neglected problems facing undergraduate students. Phakiti and Li found that the students faced major problems in extracting and synthesizing information from various books and recognizing and acquiring academic vocabulary for use [25]. These difficulties affect the students' ability to read and engage in critical discussions of academic lectures. The students reported that they took two to three times longer to read academic lectures or books. In addition, unfamiliarity with the English-speaking study environment affected students with different languages in speaking, interpreting unfamiliar texts, and expressing their criticality in that educational environment. Also, as the majority of the respondents (71%) may not use English to speak at home with family or friends and may not think in English, these factors may have contributed to their low ELAS scores. In addition, students may believe that high academic performance, rather than English proficiency, will be more useful for job opportunities in the future.

Entrance GPA and study challenges were also predictors of academic performance. This finding contradicts those of other studies [26]. However, no significant direct causal relationship was observed between the total ELAS score and the other study variables. Another interesting finding from the regression analysis is that internal motivation predicted academic performance. In accordance with the present result, previous studies have demonstrated that internal motivation has a larger effect on academic performance [27,28,29]. Internal motivation helps students direct their behaviors to achieve a specific goal. In a study of Iranian nursing students, motivation had a significant and direct influence on ELAS scores [30].

Two themes emerged from the respondents' answers to the open question, that were faculty members and family. The combination of the qualitative and quantitative data identified supporting factors that affected the academic performance of the nursing students [31]. The results of the analysis of each type of data were consistent with regard to only having a faculty member as a motivator. Suárez et al. claimed that family had a positive effect on students' academic performance, as long as it was adequate and involved support for the students [32].

Limitations

The study was unable to show that the other variables related to the mode of instruction, such as faculty support, difficulty understanding English, being embarrassed to speak English, faculty member assistance, student effort, and having a faculty member as a motivator, are predictors of academic performance. Academic support for their English language proficiency helps students to improve their ability to use academic skills in their assignment and exams and to improve their language skills, especially writing skills, and thus enhances their academic performance. The use of English in their daily life activities lies mostly in dealing with their colleagues, in the market, and mostly at work. Although the current results cannot be generalized, the study site is rich in the presence of students of various nationalities, which highlights the importance of further studies of student motivation to learn a second language.

CONCLUSIONS

In summary, the internal motivation, entrance GPA, and study challenges of the respondents, as well as the factors of having a faculty member as a motivator and student effort, have a significant effect on the academic performance of nursing students. In addition, scores on the ELAS subscale assessing the language used in reading by nursing students were correlated with their academic performance. As the current study examined a limited number of students, future studies should recruit a larger sample from different departments or make a comparison with the same type of program in another university. Previous academic performance is often a good indicator of a student's future academic performance, so it is recommended that the previous GPA of the students and their academic background be studied and correlated with the current GPA. Due to the inclusion of diverse faculty members with different cultural backgrounds and different levels of English usage, students' English language usage and their academic performance must be assessed to ensure their ability to thrive in such an academic environment. The coordinators of the curriculum and course plan should review the existing curriculum, particularly its inclusion of English language support lessons. The results of this study support the implementation of a similar study with a wider scope to validate its findings and the ELAS scale.

Implications

Faculty administrators should have concrete plans for improving and monitoring the English language proficiency of nursing students throughout their enrollment in nursing colleges. The faculty should be offered a professional development program to assist in their use of different methods, strategies, and techniques for using ESL to nursing students.

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