

Writing-to-Learn

Attitudes of nursing students at Sultan Qaboos University

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الكتابة بهدف التعلم إتجاهات طلبة التمريض في جامعة السلطان قابوس

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ABSTRACT: Objectives: The objectives of this study were to assess the attitude of Omani nursing students towards writing-to-learn (WTL) and its relationship to demographic variables, self-efficacy and the writing process. **Methods:** A cross-sectional design was used to evaluate attitudes towards WTL by Sultan Qaboos University nursing students. A convenience sample of 106 students was used and data collected between October 2009 and March 2010. A modified version of the WTL attitude scale developed by Dobie and Poirrier was used to collect the data. Descriptive and inferential statistics were used for analysis. **Results:** Senior and junior students had more positive attitudes to WTL than mid-level students who tended to have negative attitudes towards writing. Although 52.8% students had negative attitudes towards the writing process, the median was higher for attitudes to the writing process compared to the median for self-efficacy. There was a positive correlation between self-efficacy and writing process scores. **Conclusion:** Overall, students had negative attitudes towards WTL. Attitudes are learnt or formed through previous experiences. The incorporation of WTL strategies into teaching can transform students' negative attitudes towards writing into positive ones.

Keywords: Attitude; Nursing; Students; Writing; Learning; Self Efficacy; Education; Oman.

المخلص: الهدف: هدف هذه الدراسة هو تقييم اتجاهات طلبة التمريض العمانيين نحو الكتابة بهدف التعلم وعلاقتها مع المتغيرات الديموغرافية والفاعلية الذاتية وعملية الكتابة. الطريقة: تم استخدام طريقة الدراسة المقطعية لتقييم الإتجاهات نحو الكتابة بهدف التعلم من خلال طلبة التمريض في جامعة السلطان قابوس. استخدمت عينة تكونت من 106 طالباً وطالبة وجمعت البيانات في الفترة ما بين أكتوبر 2009 و مارس 2010. ولجمع البيانات تم استخدام المقياس المعدل للإتجاهات نحو الكتابة بهدف التعلم والذي صممه كل من الباحثين دوبي وبويرير. تم استخدام الإحصاءات الوصفية والاستدلالية لعملية التحليل. النتائج: الطلبة المنتظمون في المراحل المتقدمة والأولى كانت اتجاهاتهم أكثر إيجابية من اتجاهات الطلبة المنتظمين في المرحلة المتوسطة والذين كانت لديهم اتجاهات سلبية نحو الكتابة. وبالرغم من أن 52.8% من الطلبة كانت اتجاهاتهم نحو الكتابة سلبية إلا أن العدد الأوسط للإتجاهات نحو عملية الكتابة عند المقارنة كان أعلى من العدد الأوسط للإتجاهات نحو الفاعلية الذاتية. وقد وجد أن هناك علاقة إيجابية بين نتائج الفاعلية الذاتية وعملية الكتابة. الخلاصة: إن الطلبة لديهم اتجاهات سلبية نحو الكتابة بهدف التعلم بشكل عام، وإن هذه الإتجاهات يتم تعلمها أو تكونها من خلال التجارب السابقة. وأنه من خلال إدراج أساليب الكتابة بهدف التعلم أثناء القيام بعمليات التدريس من الممكن تغيير اتجاهات الطلبة السلبية لتغدو إيجابية.

مفتاح الكلمات: إتجاهات؛ تمريض؛ طلبة؛ كتابة؛ تعلم؛ فاعلية ذاتية؛ تعليم؛ عُمان.

ADVANCES IN KNOWLEDGE

- Writing-to-learn (WTL) is considered to be an important strategy of learning in all disciplines and to improve academic performance across all levels. Writing increases self-awareness in students which in turn contributes to their personal growth. A positive attitude towards writing enables students to benefit from this strategy. This study provides new insights into the attitudes of Omani nursing students towards writing as a learning strategy.
- The findings of this study will be incorporated into the selection and design of a WTL educational strategy for nursing students at the College of Nursing, Sultan Qaboos University, Oman.

APPLICATION TO PATIENT CARE

- Nurses who have a positive attitude towards writing will be better able to relate theory to practice and be competent in documenting patient care.
- As accurate documentation is an important part of patient care, nurses with competency in writing can document in a clear, concise and comprehensive manner their patients' conditions, the care provided and patient response to treatment. This enables all the members of the healthcare team, including those from other disciplines, to follow and continue a care regimen which ensures quality and safety.
- Nurses who are competent in writing will also participate in scientific publishing thus adding to knowledge in their discipline.

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WRITING-TO-LEARN (WTL) IS THE process of writing about a concept in order to learn about it. Learning to write is considered an important step in academic life and one of the essential ways to acquire knowledge; however, in the early 1990's there was a paradigm shift from 'learning to write' to 'writing to learn'.¹ Based on the central assumption that writing skills are primarily thinking skills, a higher order conceptual skill can evolve through writing. When students write to learn they essentially sort through ideas, connect thoughts, reflect on the knowledge they have gained and can then 'see' what they are learning. A WTL strategy is particularly important in promoting critical thinking skills among nursing students.²

Internationally, WTL is an important teaching strategy and researchers have found that higher-order thinking occurs when there is an increased focus on the writing process.³ The writing process is defined as a process of developing a document using techniques which include: pre-writing, drafting, revising, editing and publishing.

Self-efficacy is a context-specific belief in one's ability to succeed in a particular task and has far-reaching effects on achievement. Self-efficacy has a positive influence on attitudes towards the writing process. This includes encouraging students to invest extended time in thinking deeply and writing about issues which are important to them.⁴ A meta-analysis of six quantitative studies across disciplines at the university level⁵ as well as a meta-synthesis of 10 qualitative studies cited by Webb³ revealed positive evidence that WTL approaches improve academic performance across science topics at all levels. The use of scientific writing heuristics in chemistry laboratory sessions at the university-level have also been shown to be highly effective in cognitive development.⁶

Apart from the development of cognitive abilities, the nursing curriculum also demands that students be capable of documentation in clinical practice and the expression of ideas in examinations, assignments and projects. Furthermore, nursing curricula incorporate best-evidence clinical practice and prepare students for their future roles in contributing materials to publications and presentations.⁷ The production of clear, accurate and relevant writing is an essential competency in nursing.⁸ Through writing, students

have an opportunity to record their thoughts and ideas, and provide evidence of their mastery of course concepts.⁹

There are no published data available on the use of the WTL strategy among nursing students in Oman. Personal observations also suggest that nursing students at Sultan Qaboos University (SQU) appear to be more comfortable when doing assignments that do not require elaborate writing. Therefore, a deeper investigation of these students' attitudes towards writing was undertaken in order to inform attempts to introduce a WTL strategy at the College of Nursing (CoN) at SQU. This study used a modified WTL attitude scale (WTLAS) to generate data on SQU nursing students' attitudes towards writing.

Methods

A cross-sectional design was used to accomplish the study objectives. The objectives of the study were to identify: (1) the attitudes of nursing students at SQU towards writing as a strategy to learn, and (2) the association between this attitude and selected demographic variables. All students enrolled at the SQU CoN in the 2009–2010 academic year were eligible to participate in this study. A convenience sample was obtained.

Data collection was completed in six months between October 2009 and March 2010. The questionnaire, which included demographic data questions and the WTLAS, was initially sent online to each student. As response rates were low (15%) (despite two reminder emails) a hard copy was distributed to the students. The students were then asked to return the completed questionnaire either online or as a hard copy.

Permission to conduct this study was granted by the Research & Ethics Committee of the CoN. Students were informed of the research and were assured of complete confidentiality and anonymity. Participation was voluntary and students were informed that non-participation would not affect their academic grades. All students responded. Participants provided verbal and written consent by completing a section on the first page of the questionnaire, where it was also made explicit that the group data were to be used in a research study.

The demographic data collected included type of nursing programme, gender, exposure to English

Table 1: Demographic and educational characteristics of Sultan Qaboos University nursing students (N = 106)

Characteristic	Description	n	%
Gender	Male	38	35.8
	Female	68	64.2
Programme pathway	Regular BSN	95	89.6
	Bridging	11	10.4
Level from which English was taught as a subject	Primary school	85	80.2
	Secondary school	14	13.2
	Higher Secondary school	1	0.9
	University/ College	6	5.7
Level from which all courses were taught in English	Primary school	5	4.7
	Secondary school	2	1.9
	Higher secondary school	3	2.8
	University/ College	96	90.6
English courses taken at SQU	None	5	4.7
	Intensive English learning	69	65.1
	Challenge test	18	17.0
	Any other English course	4	3.8
	All three of the above	2	1.9
	Intensive English & Challenge test	4	3.8
	IELTS	4	3.8
Online or e-learning courses taken	0	11	10.4
	1	11	10.4
	2	12	11.3
	3	13	12.3
	4	34	32.1
	≥5	25	23.6

BSN = Bachelor of Science in Nursing; Bridging = course for Diploma in Nursing students to gain a BSN. SQU = Sultan Qaboos University; IELTS = International English Language Testing System.

courses at secondary school and exposure to online learning. The WTLAS was developed by Dobie &

Table 2: Distribution of scores according to components of writing (N = 106)

Components of writing	Attitude	n	%
Writing process	Negative	56	52.8
	Positive	50	47.2
Self-efficacy	Low	55	51.9
	High	51	48.1

Poirrier.¹⁰ The tool is built on a five-point Likert scale with response options ranging from 'strongly agree' to 'strongly disagree' and has 30 statements of which nine are negative statements. It is designed to elicit responses about basic psychosocial apprehensions and positive and negative perceptions about writing. The modified tool used in this study had 35 statements about writing in English of which 11 were negative statements. The statements were grouped into two areas, one on attitudes towards the writing process and the other on the student's perception of their own self-efficacy in writing. For the purpose of content validity, four expert senior nurse educators at the CoN reviewed the Dobie and Poirrier's WTLAS and deleted three items from the questionnaire that were unfamiliar to SQU students, i.e. 'Admit slips', 'Exit slips' and 'use of journals'. After consultation with these same educators, these items were then replaced with similar questions using attitudinal concepts more familiar to SQU students. Five additional questions were included in the questionnaire based on the personal experiences of teaching and interacting with SQU nursing students.

The modified WTLAS was then pilot tested on 10 students. It was found that certain words needed modification for easier understanding. For example 'impromptu' was replaced by 'unprepared', 'terrible time' changed to 'difficult time' and words such as 'brainstorming' and 'free writing' were deleted. The tool was once again validated by the same nurse educators. Internal consistency or reliability of the modified WTLAS was obtained using Cronbach's alpha, with a value of 0.83.

Students' attitudes were measured according to the scores achieved in the questionnaires. The highest score achievable was 175. The results of the attitude scores were skewed to the left and hence the median was taken as the cut-off point. Scores above 125 (based on the median) were considered to demonstrate a positive attitude while scores below

Table 3: Logistic regression analysis of the effects of variables on the writing process

Variable	OR	95% CI	P
Gender	0.95	0.39–2.31	0.91
First English level subjects	0.57	0.20–1.61	0.29
All English levels	0.68	0.17–2.73	0.58
English course before nursing	1.24	0.49–3.15	0.64
Type of study programme	0.56	0.13–2.51	0.45
Total online courses	3.26	1.27–8.36	0.01*

OR = odds ratio; CI = confidence interval; *P = 0.05.

Coding of independent variables: Gender: female = 2; First English level: beyond primary education = 2; Level of all English subjects: university or college = 2; English course before nursing: other exposure to English language = 2; Programme: BSN = 2; Total online courses: 0–2 = 2, ≥3 = 1; Coding of dependent variable: Writing process: high = 2.

BSN = Bachelor of Science in Nursing.

125 indicated a negative attitude towards writing as a strategy for learning. The statements were grouped into two areas: those reflecting attitudes towards the writing process and those reflecting the student's perception of their self-efficacy in writing.

Data entry, management and analysis were performed using the Statistical Package for the Social Sciences, Version 17 (IBM, Corp., Chicago, Illinois, USA). Descriptive and inferential statistics were used. Since the survey included both positively- and negatively-stated items, reverse scoring of the negatively-stated items was performed prior to analysis. A logistic regression analysis was used to estimate the predictive ability of selected independent variables on the dependent variable called 'writing process'.

Results

This study used a modified WTLAS to generate data on SQU nursing students' attitudes towards writing. The demographic and educational variables of the participants are described in detail in Table 1. A total of 90% of the respondents were students in the generic Baccalaureate Nursing Program, (i.e. four-year Bachelor of Science [BSN] degree); the remainder were students with the Diploma in Nursing who were studying for the BSN. The respondents were primarily female (64%) and 85% had studied English from primary school. However, 5.7% noted that they had only begun to study English for the first time after entering SQU. The

Table 4: Mean attitude scores of various levels of students

Level of students	n	Mean	Standard deviation	F-test	P
Senior	41	128.80	14.27	0.13	0.72
Middle	51	118.22	14.49		
Middle	51	118.22	14.49	0.24	0.62
Junior	14	129.14	16.88		
Senior	41	128.80	14.27	0.08	0.78
Junior	14	129.14	16.88		

the vast majority (90.6%) of the students responded that only at SQU were all of their subjects taught in English.

The first objective of the study was to assess the attitude of students towards writing as a learning strategy. In terms of the WTLAS, more than half of the students (55.7%) had a negative attitude towards writing as a learning strategy, while 44.3% had a positive attitude. Attitudes towards self-efficacy in writing were also found to be low in 51.9% of students [Table 2]. Relevant statistical tests were performed; however, the results were not statistically significant. Although 52.8% of the students had negative attitudes towards the writing process, the median was higher in the writing process (74%) in comparison to the median for self-efficacy (50%). There was a positive correlation between self-efficacy and scores for writing process.

The second objective of the study was to correlate the attitude scores with selected demographic variables. The data were further analysed using inferential statistics. No significant differences ($P \leq 0.05$) were noted between student attitudes to writing and gender; the type of nursing programme; the level at which students started learning English or were first taught subjects in English, and the type of English courses they took prior to starting at SQU. There was, however, a statistically significant correlation with the number of online courses taken. Students who had taken at least three online courses were three times more likely to have a positive writing attitude compared to students who had fewer experiences with online courses. A logistic regression analysis of six variables revealed that the total number of online courses taken was a statistically significant determinant of the attitude towards the writing process (odds ratio [OR] = 3.26; 95% confidence interval [CI]: 1.27–8.36; $P < 0.01$)

Table 5: Correlation between the writing process and self-efficacy (n = 106)

		Writing process	Self-efficacy
Writing process	Pearson Correlation	1	0.55°
	Significance (2-tailed)	-	0.00
Self-efficacy	Pearson Correlation	0.55°	1
	Significance (2-tailed)	0.00	-

°Correlation is significant at 0.01 (2-tailed).

as shown in Table 3.

In order to investigate the differences in attitudes towards writing between cohorts of students, they were stratified as senior students (4th year and above), middle level students (3rd and 2nd year students) and junior level students (1st year and foundation level). Table 4 shows the distribution of senior, middle, and junior students and their average attitude scores. The senior and junior students had more positive attitudes towards WTL, whereas the middle level students had more negative attitudes towards WTL; however, these results were not statistically significant.

Although the scale gave the overall attitude score for individual students, it was important to identify the attitudes towards the specific components of writing. Hence the statements of attitude were regrouped to separate the writing process *per se* from the learner's self-efficacy. Table 5 indicates that there is a strong correlation between the respondents' attitude towards the writing process and their attitude towards self-efficacy.

Discussion

WTL provides nurse educators with a new tool with which they can evaluate and respond to many difficulties encountered in the education of nurses. By focusing on the intellectual development of the nursing students, and with writing skills being viewed as thinking skills, writing can provide important links between courses in the curriculum. Writing activities can be planned in several courses to build upon each other while providing students with a wide variety of opportunities to practise this skill. These activities can be developed to enhance the teaching content and thus complement the

course objectives.¹ However, writing tasks for many students can provoke strong emotions and feelings.¹¹ Students are often apprehensive about their abilities to communicate successfully in written form.⁹ Hence, it is worth discussing the affective domains of writing with the aim of helping students to recognise their anxieties and thus improve their writing.

The affective domain plays an important role in writing; negative writing experiences affect both the student's attitude and the quality of the student's writing.^{11,12} Nursing students achieved higher aggregate semester scores when they utilised WTL strategies (WTLS).¹³ Dobie and Poirrier showed that WTLS helped nursing students, who had negative attitudes towards writing, to clarify their concepts and experienced a reduction in feelings of nervousness about having to produce written work; thus their attitude towards writing was improved.¹⁰

A key finding of this study is that students who had taken more online courses demonstrated a more positive attitude to writing than students who had no or only limited experience of such courses. This likely indicates a higher comfort level with the use of interactive computer programmes and the development of skills that are transferrable to the task of writing.

The purpose of this study was to identify the attitudes of nursing students towards writing as a tool for learning. The overall attitude of nursing students towards writing as a learning strategy was negative (55.7%); although a substantial minority (44.3%) had a positive attitude. This is consistent with the findings of Dobie and Poirrier who also reported that the pre-test evaluation of attitudes towards writing was negative.¹⁰ Students in the current study also reported low scores in attitudes towards the writing process. This is consistent with the findings of Schmidt who evaluated a WTLS with undergraduate nursing students.⁹ Attitudes towards self-efficacy in writing were also found to be low in the current study.

One possible explanation for these findings could be that once senior students get more exposure to clinical settings they perceive writing as an important competency for professional nurses. On the other hand, junior students have fewer writing assignments but maybe more open to learning. The mid-level students may have been given more writing assignments, but if these assignments were

not structured, they may thus not have perceived the benefits of writing in English.

This study has several implications for planning the writing component of the nursing curriculum at SQU. WTL strategies have helped students to develop critical thinking skills.¹ By incorporating WTL into the curriculum, the faculty can help students improve their writing skills and understand course material more fully, as well as encourage critical thinking.^{7,14} An academic writing workshop embedded in the curriculum and supported by both content- and writing-skill experts may be effective in improving academic writing skills in multidisciplinary groups of students who have low to medium English language proficiency.¹⁵ Although advanced-level writing assignments in multidisciplinary curricula may seem challenging even to the faculty, with careful planning and follow-up WTL courses can be successfully implemented in all curricula. This study also draws attention to the need to provide resources to facilitate writing skills among students at the college and university entry level.

This study has certain limitations. It was designed to describe the attitudes of nursing students towards writing but did not investigate the reasons for their positive or negative attitudes. Nonetheless, it is the first study in Oman to examine nursing students' attitudes towards writing.

Further studies should be undertaken to investigate the possible causes for positive and negative attitudes to WTL and suggest remedial measures to improve WTLS which may serve to make writing an essential component of university learning. An experimental study could also be designed to assess the effectiveness of the WTL strategies among Omani students. For example, reflective writing or journaling could be introduced as an intervention to improve attitudes towards writing.¹⁰ It is also recommended to investigate the attitudes of nursing students towards WTL in Arabic and compare these with the attitude towards WTL in English.

Conclusion

The findings of this study suggest that the students in Oman, like students elsewhere, have negative attitudes towards WTL. Negative attitudes towards writing provide a strong rationale for including

academic writing in the foundation year of the nursing curriculum and then to incorporate writing assignments throughout the nursing curriculum. Attitudes are learned or changed through experience; hence, negative attitudes towards writing can be transformed into positive attitudes by the implementation of carefully thought-out structured writing tasks. Through writing, students can develop skills of critical thinking and reflection, as well as enhance their communication abilities.

Efforts can and should be taken to cultivate positive student attitudes towards writing in English. WTL strategies used in other countries, such as reflective writing in personal journals, have improved student attitudes towards writing and learning, increased student-teacher communication and increased student retention of knowledge. Perhaps the introduction of a WTLS for SQU junior level nursing students could yield positive results.

ACKNOWLEDGEMENTS

The authors would like to thank the following people most sincerely for their help with this article: Dr. Paul Webb, Director of Center for Educational Research, Technology & Innovation, Nelson Mandela Metropolitan University, South Africa, for his encouragement, review and valuable suggestions on this manuscript; Prof. Erika S. Froelicher, Visiting Consultant, College of Nursing, for her critical review of the manuscript and her valuable suggestions; Dr. Ahmad Abu Raddaha, College of Nursing, for reviewing the statistical analysis, and Dr. Ann Mitchell, for her critical review of the manuscript and valuable suggestions.

References

1. Allen DG, Bowers B, Diekelmann N. Writing to learn: a reconceptualization of thinking and writing in the nursing curriculum. *J Nurs Educ* 1989; 28:6–11.
2. Cowles KV, Strickland D, Rodgers BL. Collaboration for teaching innovation: writing across the curriculum in a school of nursing. *J Nurs Educ* 2001; 40:363–7.
3. Webb P. Science education and literacy: imperatives for the developed and developing world. *Science* 2010; 328:448–50.
4. Freedman SW. Evaluating writing: Linking large-scale testing and classroom assessment. The University of California at Berkeley: National Center for the Study of Writing & Literacy, 1991. Occasional Paper, OP 27.
5. Gunel M, Hand B, Prain V. Secondary analysis of non-traditional writing in science across different grade-levels. *Int J Sci Math Educ* 2007; 4:615–37.

6. Hand BM. Science inquiry, argument and language: A Case for the Science Writing Heuristic. Rotterdam: Sense Publishers, 2008. Pp. 165–76.
7. Luthy KE, Peterson NE, Lassetter JH, Callister LC. Successfully incorporating writing across the curriculum with advanced writing in nursing. *J Nurs Educ* 2009; 48:54–9.
8. American Association of Colleges of Nursing. The Essentials of Baccalaureate Education for Professional Nursing Practice. Washington DC: American Association of Colleges of Nursing, 2008. P. 12.
9. Schmidt LA. Evaluating the Writing-to-Learn strategy with undergraduate nursing students. *J Nurs Educ* 2004; 43:466–73.
10. Dobie A, Poirrier G. When nursing students write: changing attitudes. *Lang Learn Across Disciplin* 1996; 1:23–33.
11. Wellington J. More than a matter of cognition: An exploration of affective writing problems of post-graduate students and their possible solutions. *Teach Higher Educ* 2010; 15:135–50.
12. Adams J. Understanding writing beliefs of advanced writing students. PhD Thesis, Brigham Young University, Utah, USA, 2006. P. 256.
13. Ashworth TE. Using writing-to-learn strategy in community college associate degree nursing programs. Ph.D. Thesis, Virginia Polytechnic Institute and State University, 1992. *Dissertation Abstracts International*, A 53/03, 696.
14. Jackman M. The WRite Attitude: Nursing Students Write Their Way to Improved Patient Care WRite Away! The University of Louisville's Writing-Across-the-Curriculum Newsletter, 1995; Issue 1.
15. Salamonson Y, Koch J, Weaver R, Everett B, Jackson D. Embedded academic writing support for nursing students with English as a second language. *J Adv Nurs* 2010; 66:413–21.