ORIGINAL RESEARCH

The Self-efficacy of Malawian Nursing Educators towards the use of Case Study Teaching Method

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Abstract

Introduction

The case study teaching method is important in imparting critical thinking and clinical reasoning skills in nursing students. The self-efficacy of the nurse educators towards the use of the case study teaching method is a critical aspect of determining the quality of teaching using this method. This study, therefore, aimed at assessing the self-efficacy of the nurse educators towards the use of the case study teaching method in Malawi.

Method

A cross-sectional study utilizing a quantitative research design was conducted at eight nursing colleges that are under the Christian Health Association of Malawi. Only nursing colleges offering college diplomas in nursing and midwifery technician were involved. A total of 145 nurse educators completed the Self-Efficacy towards Teaching Inventory. The computer software of Statistical Package for Social Sciences version 23.0 was used to analyze the data.

Results

The results show that the nurse educators are confident in using the case study teaching method (mean=78.4, SD=11.166). The study results also show that there are differences in mean scores between the nurse educators who attended an education workshop and those who did not (t=5.2334; P<0.001).

Conclusion

The study indicates that Malawian nurse educators have moderate levels of self-efficacy in using the case study teaching method. This study, therefore, has shown a need for nurse educators to participate in strategies that can increase their level of self-efficacy in using case studies.

Keywords: Self-efficacy, Nurse Educators, Case study teaching method.

Introduction

The case study teaching method is important in imparting student nurses with critical thinking, communication, and clinical decision-making skills[1]. Habasisa and Hlalele[2] describe the case study teaching method as an approach of teaching where a teacher plans and implements the lesson based on a scenario that describes a realistic situation and allows the students to analyze. When educators use this teaching method, an environment where students and teachers discuss the situations that surround the case is enabled[3]. This engagement allows learners to analyze the scenario and identify client problems leading to more profound learning.

Extensive research in nursing education has shown that the self-efficacy of a nurse educator towards the teaching method is one of the essential attributes that affect the quality of using the teaching method[4–6]. Garner and Bradshaw[7] define self-efficacy as the confidence of the nurse educator in being able to 'select, use, and modify appropriate teaching methods. This entails that when a nurse educator is deficient in self-efficacy his or her teaching becomes severely compromised. In the Queensland community in Australia, a study by the study of Oprescu and colleagues[4] established that the low self-efficacy of the nurse educators was a major contributing factor to their decreased productivity. This, therefore, explains why the self-efficacy of nurse educators is of paramount importance. It must be researched, analyzed and ways must be found that promote this attribute among nurse educators. This, therefore, makes this paper important in the nursing profession in the country

Globally, several countries such as Brazil, Vietnam, India, and South Africa have promoted the use of the case study teaching method in nursing education. The Brazilian government instituted the use of case studies in nursing education in 1996[9]. According to Cogol et al.[9], the Brazilian government first created Framework Law and Guidelines that determined new curricular standards, among these standards was the introduction of active learning methods that emphasized the importance of a critical-reflexive education. It is critical to note that governments can take drastic measures to make sure that nurse educators adopt and implement the case study teaching method. Policies can be put in place to make sure that scenario-based learning should take center stage in nurse education. All this signifies the value of the case study teaching method, and, as such, all nurse educators in countries like Malawi must also adopt this method of teaching.

In South Africa, the promotion of using the case study teaching method in nursing education intensified in 1995 after the South African government enactment of the South African Qualification Authority (SAQA) Act no. 58 of 1995[10].

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This act demands the training and education program for nursing students to aim at producing, among other things, a cadre of critical and reflective thinking nursing students[10]. What stood out clearly in South Africa for them to intensify the use of the case study teaching method in nursing was the desire to produce nursing graduates who are critical and reflective thinkers. A similar need has also been identified in Malawi. However, this paper stands by the view that whereas governments promote the use of the case study teaching method, the issue of self-efficacy of the nurse educator in using the case study teaching method should never be marginalized.

In Malawi, some scholars have observed that the current nursing education system is producing nursing graduates who lack critical thinking and clinical reasoning skills[11]. This has shown the need for strengthening the use of innovative teaching strategies that actively engage learners with clinical cases. This can best be done by using the case study method of teaching. This is an innovative teaching method that challenges the learners and engages them ineffective decision-making and dynamic reasoning[12]. This, in the long run, enables nurse graduates to better handle complex situations during clinical practice. However, it remains the unchanged view of this paper that nurse educators need high levels of self-efficacy to ably handle their case-based lessons and produce nurse graduates that demonstrate the desired mental attributes. When a nurse educator is lacking in self-efficacy in scenario-based learning, then the desired results will not be achieved. This will be the case although the case study method of teaching is the best method to produce nurses who are critical thinkers and have clinical reasoning skills.

The training curriculum for the nursing and midwifery technician program in Malawi demands using the case study teaching method in over 78% of the courses[13]. This is a clear testimony that the curriculum appreciates the importance of the case study method of teaching. However, even though this is the case, limited studies have investigated the quality of teaching when nurse educators use case studies, and, in particular, for Malawian nurse educators using the case study teaching method in lesson delivery. Hence, this study is very important. The principal aim of the study was to find out the level of self-efficacy of Malawian educators in using the case study teaching method. This is significant because if nurse educators have low self-efficacy then the country will not benefit from the use of the case study method of teaching. As earlier literature has shown, case studies done without self-efficacy are teaching activities that are in vain.

In 2015, Mbirimtengerenji and Adejumo[14] established that only 58.5% of nursing educators in Malawi use the case study teaching method. However, Mbirimtengerenji and Adejumo did not investigate the quality of case-based teaching. This study, therefore, fills the gap left by the study of Mbirimtengerenji and Adejumo. This study is of the view that though case studies are used by the nurse educators, the question still stands as to whether the nurse educators in Malawi have high levels of self-efficacy in using case-based lessons. If the nurse educators have low self-efficacy in the teaching method, then the teaching method is used in vain. This study could therefore open a window to assess whether or not teaching using case studies as a teaching method is effectively done. This would help in identifying weaknesses in the system so that remedial action is undertaken. This, in the long run, will go a long way in improving nurse education in the country.

Methods

Research design and Study Setting

This study was conducted in eight selected nursing colleges governed by the Christian Health Association of Malawi (CHAM) and used a quantitative descriptive cross-sectional study design. Only colleges that train nurse-midwife technicians (NMT) were selected. In total, CHAM has nine nursing colleges that offer the NMT program. However, only eight colleges participated while one college was involved in a pilot study. These eight CHAM colleges are Ekwendeni, Holy Family, Malamulo, Mulanje Mission, Nkhoma, St Joseph, St Lukes, and Trinity Nursing Colleges. CHAM nursing colleges were the focus of the study because they train the majority of nurse and midwife technicians (80%) in Malawi[15].

Sample size and sampling methods

The target population for the study was all nurse educators in the participating nursing colleges (N = 171). Using a cross-sectional sample size calculation formula ($n=N/[(1+N(e)^2)]$), a sample of 119 subjects was sufficient[16]. The number of respondents varied from college to college, Ekwendeni (25), Nkhoma (16), St Lukes (23), St Joseph (20), Mulanje (20), Malamulo (14), Holy family (10), and Trinity (11). All potential respondents who fulfilled the inclusion criteria were offered an opportunity to participate in the study. A potential respondent was included in the study if he or she was fully employed as a nurse educator of the aforementioned colleges. The respondent was also supposed to be actively involved in teaching the nurses and midwives technician students in the classroom and clinical area. The researcher believed that a respondent possessing these characteristics had sufficient knowledge and abilities in facilitating learning in line with the requirements of the nurse and midwife technician training curriculum1[7].

All potential respondents who were employed as educators but were not involved in teaching the NMT students or were nurse educators on apprenticeship were excluded from participating. The assumption was that such respondents might not have sufficient knowledge and ability to formulate strategies to facilitate learning in various ways in line with the requirements of the nurse and midwife technicians training curriculum

Ethical review and approval

The College of Medicine Research and Ethics Committee (COMREC) reviewed the study proposal and granted ethical approval (P.08/20/3117). Permission to conduct the study at the indicated study sites was granted by the college principals of Ekwendeni, Holy Family, Malamulo, Mulanje Mission, Nkhoma, St Joseph, St Lukes, and Trinity Nursing Colleges. To maintain confidentiality and anonymity, questionnaires for data collection were identified by codes only, and respondents were discouraged from writing their names on them.

Data collection

Data collection for this study was done in December 2020. We used the Self-Efficacy towards Teaching Inventory for Nurse Educators (SETTI-NE) to collect data. This is a tool designed to measure the self-efficacy of the nurse educator

in using the case study teaching method. This tool was adapted with permission from Garner and Bradshaw[7]. The tool was modified to suit the current study. The original tool has 37 statements while the revised tool has 23 statements. Some areas of the tool such as demographic characteristics were modified to suit the current study. Statements in the tool that are measuring the construction of test items were completely removed since it was not part of this study. The statements in the questionnaire were measured against a four-point Likert-type scale ranging from not confident (1) to completely confident (4).

A content validity inventory (CVI) of the revised tool was conducted. During this process, the study tool was reviewed by three experts in nursing education. All three experts have a Ph.D. in nursing as their highest qualification and are serving as senior academic members at the University of Malawi, Kamuzu College of Nursing (n=2), and the University of Wisconsin-Milwaukee College of Nursing in the United States of America (n=1). The experts rated the content of the tool on a four-point Likert-type scale (1 = not relevant, 2 = somewhat relevant, 3 = quite relevant, 4 = highly relevant) and had the option to provide written feedback.

Both the Item Content Validity Index (I-CVI) and the Scale Content Validity Index (S-CVI) were calculated.

All items with an S-CVI of 0.91 or greater were considered acceptable. All questions with an I-CVI of 0.66 were refined in consideration with the recommendations from the experts. However, all questions with an I-CVI of less than 0.66 were removed from the questionnaire as they were considered irrelevant.

To ensure reliability, the tool was pretested in a pilot study conducted at St. John's Institute for Health in Mzuzu. A total of 24 nurse educators participated in the pilot study. However, St. Johns Institute for Health was excluded from the main study.

The SETTI-NE is a reliable instrument with a good internal consistency with an overall raw Cronbach's alpha of 0.88. The reliability test of the tool after the pilot study indicated internal consistency and reliability with an overall Alpha Cronbach Coefficient of 0.98. No item of the SETTI-NE tool was changed after the pilot study.

Table 1: Demographic characteristics of the respondents

Variable		Frequency (n)	Percentage (%)
Sex	Male	52	36
	Female	93	64
Age			
28-38 years		61	42.1
39-49 years		60	36.6
50-60 years		24	19.3
Position			
Lecturer		106	73.1
Senior lecturer		27	18.6
Principal lecturer		12	8.3
Highest education level			
Masters		32	22.1
Bachelors		113	77.9
Work experience as a professional nurse			
1-10 years		94	64.8
11-20 years		49	33.8
21-30 years		2	1.4
Work experience as a nurse educator			
1-5 years		58	40
6-10 years		68	46.9
11-15 years		14	9.7
16-20 years		5	3.4
Attendance a formal in-service educational workshop that focused on teaching methodology	Yes	108	74
No	37	26	

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Table 2: Responses to statements on self-efficacy on case teaching method among the respondents

How confident are you in your ability to….	Not confident n (%)	Slightly confident n (%)	Confident n (%)	Completely confident n (%)
1. Integrate best practices into case study teaching method	1(0.7)	22(15.2)	86(59.3)	36(24.8)
2. State goals and objectives clearly during case-based lesson planning	11(7.6)	14(9.7)	52(35.9)	68(46.9)
3. Draw lesson plan with case study teaching method	3(2.1)	42(29)	67(46.2)	33(22.8)**
4. Select a good clinical case study to support the planned case-based lesson	2(1.4)	26(17.9)	64(44.1)	53(36.6)
5. Plan discussions based on a selected case study and the learning objectives of the lesson	0(0)	10(6.9)	90(62.1)	45(31)
6. Prepare a brief lecturer presentation to support a case-based lesson	0(0)	9(6.2)	94(64.8)	42(29)
7. Select relevant readings to support the selected case-based lesson	1(0.7)	9(6.2)	78(53.8)	57(39.5)
8. Develop student assignments based on selected cases	0(0)	12(8.3)	87(60)	46(31.7)
9. State grading criteria for the case-based assignment	0(0)	31(21.4)	55(37.9)	59(40.7)
10. Deliver case-based lesson	0(0)	34(23.4)	73(50.3)	38(26.2)**
11. Select and integrate a variety of other teaching methods such as group works, lecturer presentation during a case study teaching method	1(0.7)	23(15.9)	72(49.7)	49(33.8)
12. Initiate students and draw the students into groups discussions during case analysis	1(0.7)	32(22.1)	65(44.5)	48(33.1)
13. Ask open-ended, thought stimulating questions to the student during case analysis	0(0)	11(7.6)	83(57.2)	51(35.1)
14. Recognize and respect individual differences during case discussions and students group presentations	1(0.7)	16(11)	84(57.9)	44(30.3)
15. Manage student disagreements with instructor	2(1.4)	13(9)	79(54.5)	51(35.2)
16. Communicate consistently both verbally and non-verbally to the students during a case-based lesson	0(0)	6(4.1)	89(61.4)	50(34.5)
17. Show respect for student ideas and abilities	1(0.7)	2(1.4)	82(56.6)	58(40)
18. Respond appropriately to students' questions	0(0)	4(2.8)	82(56.6)	59(40.7)
19. Respond to student emotional reactions in class	1(0.7)	9(6.2)	89(61.4)	46(31.7)
20. Integrate further readings during a case-based lesson	0(0)	22(12.2)	78(53.8)	45(31)
21. Give student assignments based on a case study	1(0.7)	11(7.6)	88(60.7)	45(31)
22. Concluded a case base lesson	0(0)	7(4.8)	77(53.1)	61(42.1)
23. Evaluate a case-based lesson	2(1.4)	7(4.8)	81(55.9)	55(37.9)**
Mean and standard deviation	1.22 (SD: 2.295)	16.17 (SD: 10.798)	78.04 (SD: 11.166)	49.52 (SD: 8.506)

Key: ** critical domains of teaching using the case study teaching method

The SETTI-NE was administered in English via a paper/pencil survey to the respondents. The researcher distributed the SETTI-NE to the respondents. The respondents gave written consent that was attached to the questionnaire before responding to it. Care was taken to ensure anonymity by requiring that the respondents should not write their names both on the questionnaire and the consent form.

The respondents were allowed to respond to the questionnaire in their respective offices or rooms specifically arranged for data collection. A total of 145 respondents were recruited. All 145 respondents completed the questionnaire and returned it at an agreed time. This represents a 100% questionnaire response rate.

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Data management and Statistical analysis

Data were cleaned for inconsistencies before analysis through spot-checking, logic check, and eyeballing. The raw data were coded and entered in Statistical Package for Social Scientists version 23.0. We used Statistical Package for Social Sciences (SPSS) software version 23.0 to calculate means (M), standard deviation (SD), frequencies, and percentages. Frequency tabulations and percentages were calculated in analyzing the demographic data of the respondents. Mean and standard deviation was calculated from the frequency of respondents based on the scored level of confidence on SETTI-NE to determine the overall level of self-efficacy of the respondents. An independent sample t-test was calculated to compare the mean scores on the SETTI-NE among the respondents. Frequency and percentages were calculated on specific subscales of SETTI-NE to determine the respondents' self-efficacy in critical domains of teaching using the case study method.

Results

Demographic characteristics of the study participants

This study involved a total of 145 participants. Table 1 above shows the demographic characteristics of the participants

Self–efficacy of the nurse educators towards the use of case study teaching method

Table 2 shows the frequencies, percentages of the respondents' scores on the Self-Efficacy towards Teaching Inventory for Nurse Educators (SETTI-NE). Independent Sample test results show no difference in mean scores between respondents with Bachelors' and Masters' Degrees (t= -0.99675; P=0.3349). Independent Sample test results show a significant difference in mean scores between respondents who attended a formal in-service educational workshop that focused on teaching methodology and those who did not (t= 5.2334; P<0.001)

A one-way between-subjects ANOVA was conducted to compare the effect of the teaching experience of the respondents on the self-efficacy scores. There was not a significant effect of work experience on the self-efficacy of the respondents [F (3,141) =2.57, P=0.056]. A one-way between-subjects ANOVA was conducted to compare the effect of work experience as professional of the respondents on the self-efficacy scores. The results show that there was no significant effect of work experience on the self-efficacy of the respondents [F (2,142) =1.09, P=0.340].

Discussion

The study aimed to determine the self-efficacy of the nurse educator with the use of the case study teaching method in Malawi. The results of this study have shown that nurse educators in Malawi are generally confident (moderate self-efficacy) in using the case study teaching method (mean=78.04SD=11.166) (Table 2). According to the results of this study, nurse educators who attended a formal in-service educational workshop that focused on teaching methodology scored higher on self-efficacy as compared to those who did not (t= 5.2334; P<0.001).

These results raise a question about the quality of how the case-based lesson is planned and implemented by the nurse educators in Malawi. Literature has shown that the self-efficacy of a nurse educator affects the quality of using the teaching method[4,18,19]. Veronica and Lívia[19] established that teachers with low to moderate self-efficacy failed to be creative, innovative, and stimulate learning as compared to those with high self-efficacy. Similarly, Oprescu et al.[4] found that a low level of self-efficacy in 45% of nurse educators in their skills of facilitating teaching and learning using various teaching methods was associated with a decreased productivity in terms of their performance.

This study has also established that very few nurse educators are completely confident in the three critical domains of teaching using the case study teaching method; lesson preparation, lesson delivery, and lesson conclusion (Table 2). Similar results to that of Jacob, Dhing, and Malone[18] who found that many educators lacked confidence in case-based lesson planning and delivery are reflected, but this study noted that the educators who lacked confidence in these areas failed to select and integrate cases that were logical, realistic, and challenging enough to bring meaningful learning. However, these results differ from those of Achurra and Villardón[20], who found a very high perceived self-efficacy of teachers, particularly in areas of planning a lesson and interaction with students. However, Achurra and Villardón also found that the self-efficacy of educators was somewhat lower in strategies related to students' active involvement during lesson delivery and evaluation.

This study has established that educational workshops that focused on teaching methods improved the self-efficacy of the respondents. This result supports the studies that also found that formal preparation of the nurse educator, such as attending workshops focusing on education increase the confidence level of the educator towards teaching[21]. Similarly, Garner and Bradshaw7also found that simulation workshops were effective in increasing the self-efficacy of nurse educators towards the use of the simulation teaching method (P<0.001). Therefore, according to these results, we can infer that if nurse educators are trained continuously in the use of case study teaching methods, their self-efficacy can further improve to complete confidence.

Strengths and limitations

This study is among the limited studies that have reported on the self-efficacy of the nurse educators in using the case study teaching method. The results of this study have provided an insight to nursing educators in Malawi on the need to participate in activities that can improve their self-efficacy towards using the case study teaching method. These activities may include participating in continued professional development activities on teaching using the case study method as well as organizing training on teaching methods for faculty. This is so because training has proved to be very effective in improving the knowledge and self-efficacy of nurse educators in using a teaching method such as a case study[7].

However, the main limitation of this study is that only nurse educators who teach in CHAM colleges that are responsible for the training of NMTs were sampled. All nurse educators who teach in colleges that train registered nurses or those training NMT except for Malawi College of Health Sciences were not involved. This limitation has therefore affected the generalization of the study results to all nurse educators in Malawi.

We recommend that further studies should be conducted in this area, for instance, there is a need to conduct a qualitative study that should aim at exploring the experiences of nurse

educators using the case study teaching method in Malawi.

Conclusion

This study has found that nurse educators in Malawi have moderate levels of self-efficacy towards the use of the case study teaching method. The level of the self-efficacy of the nurse educators towards the use of the case study method might imply the quality of teaching. Therefore there is a need to develop strategies that could improve the self-efficacy level of these educators.

Conflict of interest statement

The authors declare no conflict of interest.

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