SELF-DIRECTED LEARNING READINESS OF THE UNDERGRADUATE NURSING STUDENTS: A STUDY FROM EASTERN NEPAL

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ORA 217

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ABSTRACT

Introduction

Self-directed learning is one of the concepts of learning which is mostly used in higher education, especially in the discipline of medicine and paramedics.

Objectives

The objectives of this study were to assess the self-directed learning readiness of the undergraduate nursing students and to find out its association with selected demographic variables.

Methodology

A descriptive, quantitative, cross-sectional study was undertaken among undergraduate nursing students from three nursing colleges of Eastern Nepal; from January 2019 to August 2020. The nursing colleges were randomly selected; one constituent nursing college and two colleges affiliated to Purbanchal University. Census sampling method was adopted and 565 students were enrolled. Ethical clearance was taken from the Institutional Review Committee of the institute. Data was collected using a self-administered, valid and standard tool: Williamson's Self Rating Scale for Self-directed Learning (SRSSDL) via online google forms, then transferred to Microsoft EXCEL. Data analysis was done using SPSS 16.0 version. Mean, median, standard deviation, range, chi-square test, Mann Whitney U test and Kruskal Wallis H test were used for data analysis.

Result

Overall Self-directed Learning score was 244.83±30.15. The majority of the respondents (79.3%) had high scores of SRSSDL (221-300) and 20.7% of the respondents had moderate levels of SRSSDL (141-220). The demographic variables didn't exert any significant effect on the overall level of SRSSDL but varied only with the sub-dimensions of SRSSDL.

Conclusion

This study shows that overall self-directed learning among nursing students is moderate to high and the sub-dimensions have significant associations with demographics and academic level.

KEY WORDS

Education, learning, nursing students.

INTRODUCTION

Adult learners usually find ways for obtaining new information despite receiving education in a formal model. Self-directed learning is one of the concepts of learning. This is mostly used in the educational institutions imparting higher education, especially in the discipline of medicine and allied sciences. Knowles' concept of andragogy has been widely adopted by educators from various disciplines around the world. Knowles, (1985) narrates "the learner is self-directed, the vast experiences of an adult add to knowledge, the learner is at a stage in life where he/she is ready to learn, adult learning is problem-centered, and the adult is internally motivated".[1,2] It can occur in diverse situations and is necessary for a formal learning setting, in the workplace as well as in the personal life. Self-directed learning is a lifelong learning process. It is an independent learning skill with self-regulation.[3] Self- directed learning can be understood as any study form in which individuals have primary responsibility for planning, implementing, and even evaluating the effort.[4] Other advantages of self-directed learning include increased confidence, autonomy and motivation.[5,6]

In the context of an ever-changing health care environment healthcare professionals need to continually update their knowledge and skills beyond their formal education to meet public expectations. Nursing involves the application of art and science through theoretical concepts, scientific research, voluntary commitment to the art of caring as recognition of nursing, and efforts to include caring behaviors during each nurse-patient interaction.[7]Various studies have been done in the past to assess the nursing students' motivation and self-learning readiness which showed varying levels of self-directed learning readiness.[8,9]

After the emergence of the COVID-19 pandemic, the entire nursing education has been transitioned to virtual classroom formats; synchronous and asynchronous learning have become part of nursing education. In many parts even online examinations are being conducted which requires self-directed learning skills. As there have been tremendous leaps in technological advances, nursing professionals must become more self-directed in their learning to increase their efficiency and to provide better patient care.[10] The findings of this study will provide evidence of the level of self-directed readiness among the undergraduate nursing students of Eastern Nepal. This would form a basis for providing feedback to the students on their learning needs and supervision during the academic program whereas by the faculties as a reference in identifying the students who need to be reinforced, guided, and supervised as per their level of readiness for self-directed learning. It can also be incorporated as a newer method of teaching-learning in the curriculum of nursing students at the bachelor level. Hence this study was undertaken with the objectives of assessing the self-directed learning readiness of the undergraduate nursing students and finding out its association with selected demographic variables.

METHODOLOGY

It was a descriptive, quantitative, cross-sectional study. In this study, three nursing colleges were randomly selected. Purbanchal University School of Health Sciences (PUSHS) is the only constituent campus of the Faculty of Medical and Allied Sciences. Hamro School of Nursing (HSN) and Birat Health College (BHC) are the affiliated nursing colleges under the Faculty of Medical and Allied Sciences.

As the census method was adopted for the study, all under graduate nursing students studying in these nursing colleges were taken as subjects. Hence, the total sample size was (257+116+196)=569 (from PUSHS, HSN and BHC respectively). Those undergraduate nursing students who didn't give consent and weren't willing to participate in the study were excluded from the study. Four out of 569 students didn't participate in the study. Thus, the response rate was 99.30%.

The tool for data collection consisted of two parts. The first part consisted of a demographic questionnaire which was used to acquire basic information, such as age, academic level, college, program (BSN/PBNS), marital status, previous high school type(private/public/vocational), grade; and the second part which comprises of Self-administered, valid and standard tool (Williamson's Self Rating Scale for Self-directed Learning). SRSSDL is composed of 60 items articulated in five subscales: Awareness (12 items), Learning strategies (12 items), Learning activities (12 items), Evaluation (12 items), Interpersonal skills (12 items). Responses for each item are rated by using a five-point Likert scale: 5 = always, 4 = often, 3 = sometimes, 2 = seldom, 1 = never. All items are positively stated, with a higher total score showing a higher level of SDL. SRSSDL is found to be an effective tool for self-assessment of SDL both for nursing students, and other health allied students.[11] This continuum is further divided into three levels: students' SRSSDL scores between 60 to 140, 141 to 220, and 221 to 300 as low, moderate, and high level of self-directed learning skills respectively.[12] The SRSSDL is found to be a valid and reliable instrument. The SRSSDL has good reliability; internal consistency (Cronbach's alpha coefficient ranging from 0.74-0.94). Cronbach's alpha for internal consistency of 5 dimensions are 0.79, 0.73, 0.71, 0.71, and 0.71 respectively. The validity of the tool has been maintained by the Delphi technique, known groups technique, and forward back translation.[13] The permission for the use of the tool was obtained from Swapna Naskar Williamson,who is the developer of this tool.

Ethical clearance was taken from the Institutional Review Committee of PUSHS (Ref no IRC/006/2020).An information sheet was developed and was provided to the study participants, informed consent was obtained from the study participants, and confidentiality of the participants was maintained.

For data collection, permission was taken from the above colleges also. The purpose of the study was explained to the students after contacting the class coordinators at each

academic level separately via email. The students were called upon in the zoom meeting. Informed consent was taken. Then the students were explained about the questionnaire and it was provided via the internet using google forms. The link for the questionnaire was sent into the zoom chat and asked them to fill-up the form and submit the questionnaire. The submitted questionnaire was entered into a google spreadsheet and further analysis was done.

Data was entered using EXCEL and analyzed using SPSS 16.0 version. Mean, standard deviation, frequencies, and the minimum and maximum scores were computed. Kolmogorov Smirnov and Shapiro Wilk Tests were utilized on the data to determine whether they were normally distributed. Different parametric/non-parametric tests were used after calculating the skewness and kurtosis. Chi-square test, Kruskal Wallis and Mann- Whitney U tests were used for inferential analysis.

Results

There were 565 participants in the study and the response rate was 99.3%. The mean age of the respondents was 21.79 ± 18 years. The highest number of respondents were from third year (29.7%) with majority from the BSN(67.6%) program. The majority had completed their intermediate level from the private colleges (81.4%) with first division (69.0%) in the previous academic year and were single (86.5%). (Table no. 1).

Table 1: Socio demographic and academic profile of nursing students n=565

SN	Variables	Categories	Frequency (n)	Percentage (%)
1	College	Constituent	253	44.8
		Affiliated	312	55.2
2	Mean age in years ± SD		21.79 ± 18	
3	Program	BSN	382	67.6
		PBNS	183	32.4
		First year	167	29.6
		Second year	143	25.3
4	Academic level	Third year	168	29.7
		Fourth year	87	15.4
		Married	76	13.5
5	Marital status	Unmarried	489	86.5
		Private	460	81.4
6	Previous high school type	Public	51	9.0
		vocational	54	9.6
		Distinction	149	26.4
7	Grade/division (in the previous academic year)	First division	390	69.0
		Second division	26	4.6

Table no. 2 depicts the final SRSSDL score of the respondents. The overall SRSSDL score was 244.83±30.15 and the majority of the respondents had a high score for SRSSDL (79.3%).

Table 2: Self Rating Scale for Self-Directed Learning score (SRSSDL) n=565

Final SRSSDL score	Mean ±SD	Range	Categories	Frequency	Percentage (%)
	244.83±30.15	142 -300	Moderate (141-220)	117	20.7
			High (221-300)	448	79.3

Table no. 3 illustrates 5 sub-dimensions of SRSSDL each of which had 12 items. Scores in the sub-dimensions ranged from 23-60.

Table 3: Mean, median and standard deviation of Self Rating Scale for Self-Directed Learning (SRSSDL) scale andsub-dimensions n=565

Sub-dimensions	Number of items	Mean ± SD	Inter Quartile Range	Median	Min	Max
Awareness	12	48.4±5.9	44-53	49.0	30	60
Learning strategies	12	49.4±6.2	46-54	50.0	25	60
Learning activities	12	47.9± 6.8	43-53	48.0	25	60
Evaluation	12	49.6± 6.9	46-55	50.0	23	60
Interpersonal skills	12	50.0± 6.5	46-55	51.0	23	60

Table no. 4 depicts that none of the selected variables viz. college, program, academic level marital status, previous high school type, and grade/division (in the previous academic year) exerted any significant association with the SRSSDL levels at p< 0.05.

Table 4: Association of Self Rating Scale for Self-Directed Learning score (SRSSDL) with selected variables

SN	Variables	Categories	Level of SRSSDL		Row percentage (%)	p-value
			Moderate	high		
1	College	Constituent	53	200	44.78	0.917
		Affiliated	64	248	55.22	
		BSN	78	304	67.61	0.806
2	Program	PBNS	39	144	32.39	
		First year	37	130	29.56	0.170
		Second year	37	106	25.30	
3	Academic level	Third year	27	141	29.73	
		Fourth year	16	71	15.41	
		Married	10	66	13.45	0.051
4	Marital status	Unmarried	107	382	86.55	
		Private	100	360	81.41	0.248
5	Previous high school type	Public	6	45	9.02	
		Vocational	11	43	9.57	
		Distinction	30	119	26.37	0.942
6	Grade/division (in the previous acad emic year)	First division	81	309	69.02	
		Second division/others	6	20	4.61	

Chi square test, p<0.05

Table 5 shows the association of different sub-dimensions of the Self Rating Scale for Self-Directed Learning (SRSSDL). Significant association were found between awareness and previous high school type; academic level and the learning strategies as well as learning activities, and the previous high school type and the learning activities.Likewise, academic level had significant association between evaluation and inter-personal skills.

Table 5: Differences between the selected variables and sub dimensions of Self Rating Scale for Self-Directed Learning (SRSSDL) n=565

Sub dimensions	Variables	Categories	Median (Inter Quartile Range)	p
Awareness	Previous high school type	Private	48 (44-53)	0.001*
		Public	52 (48-55)	
		vocational	49 (44-52.25)	
Learning strategies	Academic level	First year	49 (45-52)	0.019*
		Second year	50 (45-55)	
		Third year	52 (47-55)	
		Fourth year	51 (47-55)	
Learning activities	Academic level	First year	47 (42-52)	0.018*
		Second year	47 (42-53)	
		Third year	49 (45-54)	
		Fourth year	49 (44-53)	
Learning activities	Previous high school type	Private	48 (43-53)	0.013*
		Public	51 (48-56)	
		vocational	49 (43.75-52)	
Evaluation	Academic level	First year	49 (45-53)	0.004*
		Second year	50 (45-54)	
		Third year	52 (48-56)	
		Fourth year	51 (46-56)	
Interpersonal skills	Academic level	First year	50 (44-54)	0.007*
		Second year	51 (46-56)	
		Third year	52 (48-56)	
		Fourth year	50 (47-54)	

Kruskal–Wallis H Test, *Significant at p<0.05

The association of different sub-dimensions of the Self Rating Scale for Self-Directed Learning (SRSSDL) with selected variables using Mann- Whitney U test is illustrated in Table no. 6. There was a significant association between awareness and program (p=0.019), awareness and college (p=0.018), and learning activities, and program (p=0.027). The respondents from BSN program were more aware about the components leading to self-directed learning. Similarly, students of the constituent college were more aware of the components leading to self-directed learning. Also, the students from the BSN program had more insight into the different learning activities to become self-directed learners.

Table 6: Differences between the selected variables and sub dimensions of Self Rating Scale for Self-Directed Learning(SRSSDL) n=565

Sub dimensions	Variables	Categories	Median (Inter Quartile Range)	p
Awareness	Program	BSN	49 (45-54)	0.019*
		PBNS	48 (44-52)	
Awareness	College	Constituent	50 (45-54)	0.018*
		Affiliated	48 (44-52.75)	
Learning activities	Program	BSN	49 (44-54)	0.027*
		PBNS	47 (43-51)	

Mann-Whitney U Test,*Significant at p<0.05

DISCUSSION

In this study, the majority of the respondents had high scores of SRSSDL (221-300) whereas only 20.7% of the respondents had moderate levels of SRSSDL (141-220). None of the nursing students had a low level of SRSSDL

scores (60-140). None of the demographic variables and the academic level exert any significant effect on the overall level of SRSSDL. This is in accordance with Abu Moghli et al. (2005)[14], Lucia Cadorin et al (2012)[15] and Safavi et al. (2010)[16] who observed that the majority of Jordanian, Italian and Iranian nursing students had a high level of SDLR and perceived themselves as an independent learner. This finding is also similar to a study done among female undergraduates in Saudi Arabia in 2016 where the majority of the respondents had a high level of SRSSDL.[17] Similar result was found among the Chinese baccalaureate nursing students in 2012, where 62.3% reported a high level of self-directed learning scores but had a significant variation with gender.[18] Similar finding was seen in the study conducted by Örs M in Turkey[3] and Samarasooriya in Srilanka[13] where the majority of the nurse learners had a high level of self-directed learning scores. However, these results contradicted the study of Lestari and Widjajakusumah (2009)[19] in Indonesia who indicated that 50% of the students had low to moderate scores for self-directed learning readiness. The total Self-Rating Scale for Self-Directed Learning (SRSSDL) score in this study didn't show any significant variation with the students' demographic profiles and their academic level. This agrees with the study done by Chen et al. (2006)[20] in Taiwan and Roberson and Merriam (2005)[1] in the USA, who found that gender, age, and educational degrees were not correlated with self-directed learning. Similarly, a study was done in Korea also showed a significant association of SRSSDL with sex, father's education and mother's education.[11] We hadn't taken into account father's and mother's education in our study and sex wasn't a variable in our study since all the nursing students in our study were females. However, a study conducted in Switzerland[3] showed a significant association of self-directed learning with gender, department and educational level. This variation indicates that the demographic factors may have different effects in diverse geographical areas and different socio-cultural backgrounds.

Although there was no association of the sociodemographic and academic variables of the respondents with the overall score of SRSSDL in the current study, a significant association was found between different sub-dimensions of SRSSDL and those variables. Respondents from the public schooling background had a significant association with awareness (p=0.001) and also with learning activities (p=0.013). This finding showed that the nursing students who were from public colleges were more aware of the factors contributing to becoming self-directed learners than the private colleges. Also, the students from public colleges had more insight into the learning activities and were actively engaged to become self-directed learners. Likewise, the academic level was found to have a significant association with learning strategies (p=0.019), learning activities (p=0.018), evaluation (p=0.004) and interpersonal skills (p=0.007). This finding concludes that as the academic level progresses the nursing students are more likely to have more insight into different strategies that have to be adopted, learning activities learners should actively engage in, learners' specific attributes to help monitor their learning activities and learners' skills in

interpersonal relationships, which are pre-requisite to their becoming self-directed learners.

Similarly, a significant association was found between awareness and program (p=0.019), awareness and college (p=0.018) and learning activities and program (p=0.027) which showed that the BSN students were more aware of the factors contributing to becoming self-directed learners and requisite learning activities that the learners should actively engage to become self-directed in their learning processes. Similarly, the students of the constituent college were more aware of the factors contributing to becoming self-directed learners than the other affiliated colleges.

CONCLUSION

This study shows that overall self-directed learning among nursing students is moderate to high and the sub-dimensions have significant associations with demographics and academic level.

Nursing students who were from public colleges were more aware of the factors contributing to becoming self-directed learners than the private colleges; they had more insight in the learning activities and were actively engaged to become self-directed learners. As the academic level progresses the nursing students are more likely to have more insight into different strategies and learning skills required to becoming self-directed learners.

For the students acquiring high levels of SRSSDL score, this indicates effective self-directed learning. The goal now is to maintain progress by identifying strengths and methods for consolidation of the students' effective self-directed learning. The students who possess a moderate level of SRSSDL score, this is halfway to becoming a self-directed learner. There should be identification of areas for improvement, evaluation and adoption of approaches along with guidance from teacher in need. Facilitating self-directed learning is a challenging process for both faculty members and students, which can be done by introducing this component in the nursing curriculum itself as an integral part of education.

RECOMMENDATIONS

This study included only the nursing students from the Eastern Nepal. The national level study can be done among the students of other universities also. This study can also be done among students of other health sciences like public health, pharmacy, medicine, etc.

LIMITATIONS OF THE STUDY

Only the colleges from the Eastern Nepal were selected for the study through larger sample size (565) possesses greater generalizability.

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CONFLICT OF INTEREST

There is no conflict of interest during the study.

FINANCIAL DISCLOSURE

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