

ORIGINAL ARTICLE

## Refining the Skills of Self-Directed Learning among Student Nurses: An Interventional Study from Swat, Pakistan

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### ABSTRACT

**Objective:** To assess the improvement of readiness to self-directed learning (SDL) among student nurses in Swat.

**Methods:** The study was conducted utilizing quasi-experimental design, in Pak-Swiss Nursing College, Swat from 1<sup>st</sup> May to 2<sup>nd</sup> August, 2019. The sample size was composed of 42 student nurses of first semester selected through consecutive sampling technique. An adopted questionnaire containing 40 questions with likert scale was employed. The cut-off point of 150 was used for assessing motivation to SDL suggested by Fisher. Prior to the intervention, data were collected regarding readiness to SDL. After that a presentation session was arranged. Then students were given assignment for exam preparation to utilize SDL method. Upon completion of one month, data were collected on the same questionnaire. Students scoring > 150 were labeled as motivated to self-directed learning.

**Results:** The mean age of the participants was 19.8±1.02 years. A significantly higher mean SDL score was observed post-intervention as compared to the pre-intervention of SDL, i.e. 160 ±13 and 146.1 ±10.9 respectively (p-value < 0.001, 95% C.I.: -19.05 to -8.60). Moreover, a statistically significant improvement in the mean score was also found for “self-management” (p-value <0.001, 95% CI: -8.66 to -4.43) and “self-control” (p-value <0.001, 95% CI: -6.06 to -4.87). However, no statistically significant difference was found in terms of “desire for learning” (p-value 0.982, C.I. -2.11 to -2.16).

**Conclusion:** Readiness to SDL improves by creating awareness among students. It is highly recommended that SDL skills should be developed in the students in order to expand academic knowledge, polish practical skills and prepare them for professional career.

**Keywords:** Self-directed Learning, Interventions, Knowledge, Readiness, Student Nurses Interventions, Knowledge, Readiness, Student Nurses.

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### INTRODUCTION

Self-Directed Learning (SDL) is a method of instruction that can be defined in terms of the amount of responsibility the learners agree to take for their own learning.<sup>1,4</sup> It can be defined as the degree the individuals possess the attitudes, abilities and personality characteristics which are required for self-directed learning.<sup>1,2</sup> Knowles describes it as a process whereby the individuals diagnose their learning needs, design learning experiences, locate learning resources, evaluate their learning and change approaches to learning.<sup>5,6</sup> Furthermore it is used increasingly in the field of adult education,<sup>1,7</sup> and has been mentioned in literature with various synonyms such as independent learning, self-regulated learning, autonomous learning, self-managed learning and self-instructed learning.<sup>1,7,8</sup> Numerous researchers consider it as one of the best

ways of learning and recognize that there is convincing evidence that individuals who take initiative to learn tend to learn significantly better than those who fail to take initiative.<sup>9</sup> The enormous increase in body of knowledge and growing application of technology in the clinical practice make it imperative for the health care students as well as the health care professionals to develop the skills needed for SDL.<sup>7,10</sup>

SDL is essential for nurses to embrace variations in health care, understand the innovation in the specializations, utilize the information technologies, and to possess adequate knowledge and skills to apply evidence based practices.<sup>3,7,11,12</sup> Moreover the SDL acquire the freedom to learn what they consider important for enhancement of knowledge and professional development.<sup>13,14</sup> In the same way these learners equip themselves with time management, stress management, assignment preparation,

examination preparation, note taking,<sup>13</sup> assertiveness, and effective use of information.<sup>7</sup> Additionally, numerous studies investigated its close association with better performance and argue that students can perform well if they are provided with ample opportunity for enhancement of self-directed learning.<sup>15</sup> According to the findings obtained from research study, a positive and moderate association was found between the mean score of SDL and the average achievement grade.<sup>7</sup>

No such study of nursing was found in the context of Pakistan. Nursing students have not been evaluated regarding SDL, so there is a dire need that study should be conducted on student nurses regarding SDL. The objective of the study was to assess the improvement of readiness to SDL among student nurses. The study may potentially contribute wider benefits to nursing education in the context of SDL.

## METHODS

A quasi-experimental research design was employed to conduct study from May 1<sup>st</sup>, to August 2<sup>nd</sup>, 2019. The study population consisted of all the students of first semester in Pak-Swiss Nursing College, Swat, Pakistan. Consecutive sampling technique was utilized for the selection of total 42 participants. All the students of the class were included in the study. The total students enrolled were 50, however 8 of them remained absent in the pre-interventional data collection therefore they were excluded from the study.

Data were collected through already validated Self-directed Learning Readiness Scale (SDLRS) version of 40 questions. The scale was developed by Fisher et al.<sup>2</sup> The Cronbach's alpha score of the scale was found to be 0.88. The questionnaire consisted of two parts. The demographic variables identified the gender, age, academic education completed, and their residence. The SDLRS was used to identify readiness in terms of problem-solving ability, prioritization of work, time management, good managing skills, time for work, and plan for own learning of learner. There are total 40 questions in SDLRS. The Scale was further divided into three subscales: namely Self- Management, Desire for Learning and, Self-Control. Each question had 5 Likert options e.g. 1 for Strongly Disagree, 2 for Disagree, 3 for Neutral, 4 for agree, 5 for Strongly agree. The overall score ranges from 40 to 200. The output variables were counted in categories and mean score. The first category was >150 indicating high level of readiness to SDL and the second category was ≤150 for less motivation. Fisher kept this cutoff value to identify the

motivated students to self-directed learning readiness.<sup>1</sup> Ethical approval of the study was issued by the ethical committee of the institution (Ref #: PSNC-Ethics-001). Before collecting data written approval was also obtained from the managing director of the college. Furthermore, written consent was obtained from all the participants of the study while they had full right to leave the study at any time.

The data were collected from students in two sessions. After collecting data in the pre-interventional session, the students attended the class on SDL of two hours duration regarding definition of SDL, its importance in theoretical and clinical skills, and the positive and negative aspects of SDL. The students were also given tutorials and coaching classed for one month. Students were instructed to prepare themselves for examination in the coming month by utilizing the method of SDL. The students received structured, high intensive tutorial interventions during the time span of one month. Moreover, reflective meetings, based on the learning process rather than on the contents, were arranged with experienced instructors. The Plato and Socrates methods were utilized in various sessions with the students to question life, thinking about the life process and initiate learning.<sup>7</sup> Upon completion of one month of duration, data were collected again from students in post-interventional session utilizing the same questionnaire. The data of 8 students were not considered for analysis because their pre-interventional data was not available.

All the data collected were analyzed by SPSS 22. The descriptive statistics of frequencies and percentages were used for gender and education level. Means and standard deviations were calculated for age and the numbers of responses from the participants. Maximum scores, minimum scores, means and standard deviations were calculated for SDLS and its subscales. The mean difference of pre-interventional and post-interventional scores were compared by applying paired sample t-test. p-value was considered significant at <0.05 level taking the confidence interval of 95%.

## RESULTS

The mean age of the participants was 19.8 ±1.03 years. The sample consisted of 37 (88.1%) males and 5 (11.9%) females.

The findings regarding SDLS showed vast difference between results of the pre and post interventional data. In the pre-interventional data 21 (50%) of the students revealed that they were motivated to SDL while in the post-interventional data the number increased to 36

(85.7%) (Figure 1). The same difference can also be observed in terms of maximum and minimum scores of the participants. A significantly higher mean SDL score was observed post-intervention as compared to the pre-intervention of SDL, i.e. 160 ±13 and 146.1 ±10.9 respectively (p-value < 0.001, 95% C.I: -19.05 to -8.60). (Table 1)

Findings regarding the sub scales of self-management, desire for learning and self-control shows that a statistically significant improvement in the mean score was found for “self-management” (p-value <0.001, 95% CI: -8.66 to -4.43) and “self-control” (p-value <0.001, 95% CI: -6.06 to -4.87). However, no statistically significant difference was found in terms of “desire for learning” (p-value 0.982, C.I. -2.11 to -2.16). (Table 2)

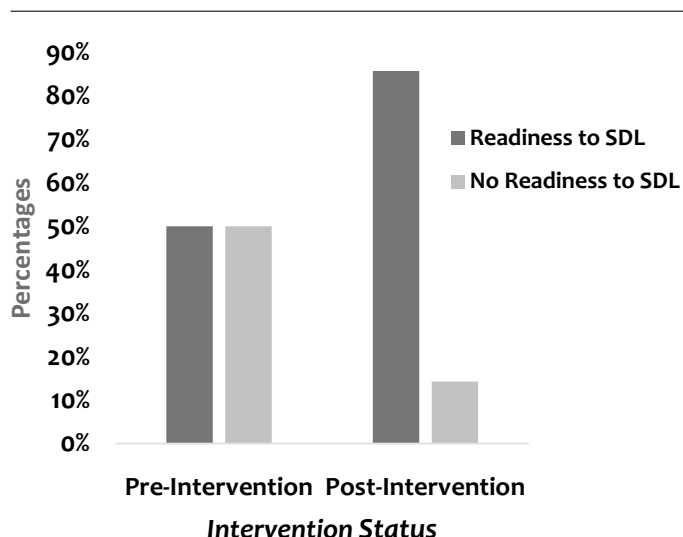


Figure 1 : Pre and post-interventional comparison of readiness to SDL

Table 1: Readiness to Self-directed Learning on SDLRS (n=42)

	Pre-interventional Data	Post-interventional Data	95% C.I.	p-value
Maximum scores	163	185.00		
Minimum scores	108	127.00		
Mean scores	146.1	160	-19.05 to -8.60	<0.001
SD of scores	10.9	13		

Paired sample t-test applied, p-value <0.05 taken as significant

Table 2 : Comparison of subscales on SDLRS

Subscales		Pre-interventional	Post-interventional	95% C.I.	p-value
<b>Self-management</b> Total no of item: 13 Max. Score: 65	Maximum scores	53	59		
	Minimum scores	27	37	-8.66 to -	<0.001
	Mean of scores	42	49.5	4.43	
	SD of scores	4.6	4.8		
<b>Desire for learning</b> Total no of item: 12 Max. score: 60	Maximum scores	58	57		
	Minimum scores	36	35	-2.11 to -2.16	0.982
	Mean of score	49	49		
	SD	4.8	4.4		
<b>Self-control</b> Total no of item: 15 Max. score: 75	Maximum scores	79	72		
	Minimum scores	42	46	-9.74 to -	<0.001
	Mean of scores	53	60	4.87	
	SD of scores	5.8	6.2		

Paired sample t-test applied, p-value <0.05 taken as significant

## DISCUSSION

This study was conducted with the aim to assess the improvement in the level of readiness to SDL among student nurses. A considerable improvement in the mean SDL score was observed in the current study pre and post intervention. In the previous studies mean scores to self-directed learning were reported to be 151.09, 150.55 and 148.55.<sup>13,4</sup> However, in the current study the pre-interventional score is low whereas the post-interventional score was very high as compared to the findings of previous studies. The lower score may suggest the dire need of improvement in our education system as the previous studies were conducted in the western countries. In another study conducted in Australia on Paramedic students of three universities revealed the lowest score 154.60 whereas the highest score was reported to be 160.39 and mean score was found to be 156.<sup>10</sup> Similarly, a considerably higher mean score reported in a Turkish study.<sup>7</sup> Undoubtedly the factor responsible for the higher score was improved level of education in Turkey. SDL is taught as a course in Turkey in nursing education, started in the academic year of 1999-2000.<sup>7</sup> In the same way the mean scores of Egypt and Saudi Arabia were reported to be 157 and 162 respectively.<sup>16</sup>

It can be observed that the overall score of the current study in the pre-interventional data (146) does not match with the acceptable range of motivation to SDL as suggested by Fisher *et al.*<sup>2</sup> >150 score. The score increased to 161 in the post-interventional data which corresponds to the acceptable range of revealing motivation to self-directed learning. It can be anticipated from the findings that the interventions can cultivate the skills among students nurses required for self-directed learning.<sup>17</sup> This finding conforms previous findings of literature as the previous study revealed the pre-interventional score to be 150 ( $\pm 15$ .) while in the post-interventional data, the average score raised to  $157 \pm 15.0$ .<sup>18</sup> Keeping in view these results, it is suggested that teachers are required to work with the students who have low score for readiness to self-directed learning.<sup>4</sup> Similarly, numerous researchers suggested an argument that improvement of students' ability to be self-directed in learning is central to higher education.<sup>19,20</sup>

Some of the expert sargue that most of the students lack exposure to self-directed activities which would allow them to identify their own learning needs and guide their learning process if given the opportunity to learn SDL.<sup>9</sup> The students who fail to develop SDL face

huge problems in their professional careers as the studies claim that professionals are required to be self-directed in order to enhance independence, self-confidence in practical skills, motivation, discipline and goal orientation in the face of information explosion and constant evolving medical knowledge during their professional careers.<sup>21</sup>

Keeping in view the importance of SDL, the educational institutions are expected to take into consideration the individual differences and encourage them to adopt SDL. The interventions for improving the skills of SDL must be carefully planned after the thorough assessment because this does not suit all and may cause anxiety and disappointment in some students.<sup>8</sup> Moreover, the teachers should act as facilitators to stimulate students to inculcate in them the abilities of self-directed learning<sup>12, 16</sup> as researchers demonstrated that students were self-directed and the teachers merely served as facilitators or resource for learning.<sup>22</sup> Considering the importance of SDL, future interventional studies are recommended to provide a strong base of curriculum development in the field of nursing for student nurses in Pakistan. The limited number of sample size and participants of only one semester are the limitations of this study. Similarly, the results could be influenced by the stress of the examination after the interventions.

## CONCLUSION

SDL is immensely important for the enhancement of theoretical as well as practical skills for student nurses. Individuals may better cope with the challenges of innovation in the fast changing technology and information explosion in the complex and challenging health environment. The score of the students regarding SDL rose after bringing about certain interventions. The findings emerged in the study confirmed that the skills required for SDL may be cultivated among students by introducing interventions on the basis of students' assessment.

**AUTHORS' CONTRIBUTION:** AK and HB substantially contributed to the conception and design of the study. AK has worked in the acquisition, analysis and interpretation of the data. HB has drafted the manuscript. AK revised it critically for intellectual content and gave final approval.

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