Assessment of Self-Directed Learning Readiness Among Undergraduates of Teacher Education in Vietnam

Dang Thi Thanh Thuy, Vietnam National University, Vietnam
Tang Thi Thuy, Vietnam National University, Vietnam

Abstract

This study aimed to evaluate levels of self-directed learning readiness (SDLR) among pre-service teacher education undergraduates in Vietnam. The study employed quantitative method by using a SDLR survey questionnaire. The questionnaires were administered to 249 undergraduate students at a university in the north of Vietnam. The data was analyzed by SPSS 26.0 with descriptive statistics and MANOVA to find out the level of SDLR. The research results showed that teacher education students reported achieving a moderate level in a dimension of SDLR of confidence and independence in learning while they had high levels in other dimensions. The findings also revealed that different years of education possessed different degrees of SDLR (attitude to learning, control in learning, confidence and independence in learning and self-concept in learning). The research would provide a springboard for future research to evaluate self-directed learning preparedness across majors, region, nation, income, etc. Furthermore, it could be a valuable reference to students, educators and curriculum designers in curriculum development, teaching and learning in the context of Vietnam.

Keywords: Self-Directed Learning, Self-Directed Learning Readiness, Teacher Education

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Introduction

The self-directed learning plays a vital role in today's world especially at higher educational institutions. Students now have opportunities to access to massive data and information. This presents challenges for the educational institutions to prepare the workforce for society's demands. These demands include skill-based competencies such as problem-solving, curiosity and reflection, creativity, collaboration, applying knowledge to real-life problems (Toit-Brits, 2019).

As stated by Cohen (2012) that self-directed learning is viewed as an effective mode of learning that encourages students to be active in their own learning and able to conduct such learning at any time and any place. Specifically, pre-service teachers who will likely become teachers, need to possess the quality of self-directed learning since knowledge in the field is constantly changing (Prabjanee et al., 2013). To promote the students' SDL, it is important to assess the readiness of students (Klunklin et al., 2010). This is because SDL is not for all students, and can cause anxiety and dissatisfaction in some students, as indicated by Yuan et al. (2012).

While self-directed learning is considered one of the most worthwhile approaches to higher education in the context of increasingly diversified knowledge, SDL is still a new concept in Vietnam (Tri et al., 2017). There has been no study to investigate self-directed learning readiness among Vietnamese university students in general and pre-service teachers in particular. Meanwhile, previous studies in other countries and disciplines may not be applicable in the Vietnamese context due to differences in learner characteristics. Therefore, we conducted this study with the aim to explore levels of self-directed learning readiness and compare the readiness across years of education among undergraduate students at a specific university in a mountainous area in Vietnam where training pre-service teachers to serve at the locality. The results of this study could provide empirical evidence n students' attitudes, abilities, and personality characteristics required for self-directed learning. In addition, the findings of this study could contribute to the knowledge base available to university educators to the orientation of student self-directed learning preparedness in the instruction plan.

Self-directed learning readiness

As defined by Wiley (1983), self-directed learning readiness (SDLR) is the degree to which an individual possesses attitudes, abilities, and personality characteristics necessary for SDL According to Guglielmino (1977), SDLR consisted of eight dimensions, including: 1) openness to learning, 2) self-concept as an effective learner, 3) initiative and independence in learning, 4) informed acceptance of responsibility, 5) love of learning, 6) creativity, 7) positive orientation to the future, and 8) the ability to use basic study and problem-solving skills. These dimensions have been widely used as a theoretical framework to examine SDLR. This scale then was studied and developed by Fisher et al. (2001) in a study on development of self-directed learning readiness scale for nursing education (SDLRS). Fisher et al. (2001) stated that most students had these abilities. In their instruments, three sub-factors were utilized for assessment including: 1) Desire for learning, 2) self-management, and 3) self-control.

Motivation: The attitude and responsibility towards learning include: 1) Attitude: desire to participate, interest, learning responsibility. In addition, a growth mindset demonstrates

curiosity, openness, perseverance in learning or confidence in learning; 2) Responsibility: willingness to take responsibility for one's own actions, respect for values; 3) External motivation: such as meeting goals, demands of educational needs (school, teachers, social context)

Self-management: Self-management manifests itself through learning and problem-solving skills, including: diagnosing of learning needs; setting learning goals; selecting suitable resources and strategies; monitoring learning progress; adjusting; acquisition and evaluation; generating knowledge. In addition, it is also expressed in implementing strategies/measures to manage emotions and maintain self-control, patience perseverance, ambition and autonomy in learning.

Self-control: Showing personal characteristics in the learning process, including: 1) awareness such as remembering to-do, controlling for shortcomings and limitations, cognitive flexibility, metacognition. In addition, students also value their own effectiveness, control emotions and ensure the stability. It is also presented in the resilience, ambition, self-control; 2) Independence in implementing and managing the end-to-end learning process; consideration in making decisions. Besides, it also shows the students' creativity.

Relation of self-directed learning development and readiness

According to Guglielmino (2008), self-direction can occur in a variety of situations, be it in a teacher-oriented classroom, or in a learning context where students plan and learn to meet their own learning needs or employers' requirements. Learning can be conducted independently or collaboratively. Guglielmino & Guglielmino (2016) believed that, in the viewpoint of active learning (activation), the students' personal attributes (including individual values, abilities and attitudes) that affect SDL. Besides, Guglielmino also pointed out that SDL exists naturally, continuously and it is available in each person at different levels. Therefore, he emphasized that students with a good level of SDLR can help them prepare for their future jobs (Nordin et al., 2016). The Figure 2 below demonstrates the staged self-directed learning model.

Individuals has different levels of SDLR and the Staged Self-directed Learning Model clearly demonstrates the difference in the individual's SDL level (Grow, 1991; Tennant, 1992). Accordingly, students who have low level of SDLR when performing SDL activities often show a high level of anxiety. Similarly, those with a high level of readiness for SDL but with an increasing level of teacher's instruction also showed a high level of anxiety (Grow, 1991; Wiley, 1983).

The SDLR is considered highly personalized. Students with a low level of SDLR when doing the SDL tasks/assignments may reveal a high level of anxiety. Moreover, the students who achieved high level of SDLR but studying in a structured and obligatory instruction may also express their high level of anxiety (Fisher et al., 2001; Wiley, 1983). Previous researches have shown that when teaching is suitable for the SDLR, it can create opportunities for effective learning. Furthermore, it is appropriate when building a foundation for SDLR it can improve the student's readiness for self-directed learning. At the same time, individual readiness can be demonstrated through personal attributes such as attitudes, values, and abilities (Guglielmino, 2013).

Measurement instruments of self-directed learning readiness

To measure the information system, a number of instruments have been developed and used such as Oddi Continuing Learning Inventory (OCLI) of Oddi (1986), Self-Directed Learning Readiness Scale (SDLRS) by Guglielmino (1977), Self-Directed Learning Readiness Scale (SDLRS) in nursing training by Fisher et al. (2001); Self-Directed Learning Perception Scale (SDLPS) by Pilling-Cormick (1996); Self-directed Learning Skills Scale (SDLSS) by Askin (2015).

According to Merriam & Baumgartner (2020), self-directed learning readiness scale (SDLRS) by Guglielmino is most often used in educational research to measure SDLR. This is a tool of high value and reliability (Nordin et al., 2016). The author identified eight factors including adult students' attitudes, values and abilities associated with readiness for self-directed learning. These factors are the elements of the SDLR scale. This scale was later developed by Fisher et al. (2001) to undergraduate students in nursing and other sectors of education.

Candy (1991) believed that assessing the students' self- directed learning readiness implies to assess students' ability of "can do" and "will do". Therefore, the SDLRS must show the measurement aspects of the SDLR, including factors related to skills and personal attributes needed for self-directed learning. In this study, the SDLRS by Guglielmino (1977) and the other SDLRS by Fisher et al. (2001) were referenced to develop and standardize an instrument to measure the SDLR applied for Vietnamese students in general.

Studies of self-directed learning readiness assessment

Assessment of SDLR level is an essential activity to consider the students' ability in SDL (Klunklin et al., 2010). Because, measuring the level of SDLR allows discovering the degree of self-direction of an individual or the relationships between self-direction and the variables related to the SDL such as creativity, intelligence and satisfaction (Brockett & Hiemstra, 2018). Therefore, many studies focused their interests in SDLRS such as Guglielmino (1977), Oddi (1984), Fisher et al. (2001). In addition, other studies concentrated on the factors affecting SDL and assessed SDLR at higher education in various nations and sectors.

According to Lounsbury (2009), psychological variables such as interest, personality, emotional stability, independence, super-ego strength, sensitivity and conscientiousness would have a direct effect on students' SDL, while demographic and social variables would have an indirect impact on SDL (Oliveira & Simões, 2006). The studies of Ponton et al. (2005) showed that the personality characteristics explained the content of self-directed learning. By contrast, Roberson & Merriam (2005) confirmed that factors affecting SDL are all related to personality characteristics. The studies also showed that there was a relationship between SDL and demographic variables such as gender, age, race, region, education level, marital status and learning outcomes (Fontaine, 1996; Shulman, 1994). However, the results of these studies are not consistent. Shulman (1994) found that there was a significant relationship between sex and the level SDLR through OCLI checklist. Fontaine (1996) stated that marital status was a factor to predict frequency of adult's participation in SDL.

Some studies also found a relation between self-directed learning and learning outcomes (Cazan & Schiopca, 2014; Chou & Chen, 2008; Lounsbury et al., 2009). They claimed that a positive correlation between self-directed learning and grade point average (GPA) as well as

course score was recorded. (Hsu & Shiue, 2005) pointed out that self-directed learning also played as a factor to forecast students' learning outcomes in traditional learning environments or non-web-based distance learning. Slaughter (2009) carried out a study on pharmacy students, and the results showed that the students with higher SDLR average scores learned better than those with lower scores. Students with high SDLR scores were said to be able to graduate on time and have lower exclusion rates. However, in a study by Francis & Flanigan (2012) found that no significant relationship between SDLR and learning performance was recorded. Similarly, Nordin et al. (2016) did not see the correlation between SDLR and academic achievement, but based on descriptive data revealed that the students with higher achievement were more likely to be ready for SDL than the students who had the lower learning achievement. This research result was consistent with the study by Abraham et al. (2011). Their findings showed that high-academic achieving students were seen to catch high score at all SDLR aspects. However, Abraham et al. (2011) suggested that although students desired to learn and had the ability for learning autonomy, they should be supported in skills of learning management.

Many studies related to the SDL skills and SDLR to undergraduate students have been conducted to a variety of majors such as medicine, nursing, technology, or pedagogy, natural and social sciences. Those showed that the importance of Assessment of SDLR level among students at higher education institutions. Because, defining the SDLR level can help students, educational institutions and educators understand the students 'capacity which would be the reliable scientific evidence to apply the relevant solutions in consistent with adult learning characteristics to maximize students' learning opportunities and create an educational environment, promote students' learning (Klunklin et al., 2010). However, a range of researches on SDLR focused primarily on nursing students and engineering students (Klunklin et al., 2010; Prabjanee et al., 2013; Yuan et al., 2012), among those there was a study by Prabjanee et al. (2013) investigated on the level of SDLR among students in colleges of education in Thailand. These studies assessed the SDLR to undergraduate students focusing on nursing meanwhile SDL is significant skill for pre-service teachers. Those attempted to investigate levels of self-directed learning readiness and compare this readiness across years of education and gender. These studies yielded consistent results that self-directed learning readiness differed significantly across years of education, but no significant difference was found across genders.

In Vietnam, SDL is a new concept (Tri et al., 2017), there are few researches on SDL and no studies on SDLR to undergraduate students in general and teacher education in particular. Meanwhile, studies on SDLR in other countries may not be applicable in the Vietnamese context due to differences in students' characteristics and learning context. This is the gap that the study will supplement and provide the scientific foundation for research on measurement and evaluation SDLR in Vietnam.

Methods

The quantitative was employed in this study. Besides, the desk study method to review the SDL theories was also applied during the research.

Sample

The population is a group of undergraduate students in the teacher education program at a university in the north of Vietnam. Participants were selected by clustered sampling and

purposive techniques. Those are students from the faculty of the pre-service teacher education. Questionnaires were administered to the students at their class by providing the link of online survey. Therefore, the response rate achieved 100%. There is 16,2% male student and 83,8% female student. Those classified as: first year (42,9%), second year (33,7%), third year (8,3%), fourth year (15,2%).

Instrument

The tool was developed based on the self-directed learning readiness scale (SDLRS) developed basing on the results of interviews and discussions with five Vietnamese professional experts in education measurement and assessment at higher education. Furthermore, discussions with 30 university undergraduates were conducted to decide the most relevant items to students. In addition, some valuable adaptation items from the SDLRS by Fisher et al (2001) were selected by both experts and students for the sub-scales. The scale by Guglielmino (1977) was only referenced during the scale development. The SDLRS applied a Likert-type scale, designed to examine self-directed learning readiness. The questionnaire was made through several steps. At first, referencing the items in the SDLRS by Fisher et al (version 2001 and an adaption in 2010), a draft of questionnaire with 42 items was sent to a group of 5 experts to review 2 times before sending to a group of 33 pre-service teachers at a university of education to pre-test and comment on the questionnaire. After revision, the second edited version was sent to the 5 experts to provide their feedback again. The last version was tested for validity and reliability of the scales. The Cronbach's alphas of 5 sub-scales were all over 0.80. Seven subscales with 41 items were formed after EFA analysis including 1) attitude to learning (8 items); 2) management in learning (9 items); 3) application and creativity (5 items); 4) control in learning (9 items); 5) confidence and independence in learning (4 items); 6) self-concept in learning (4 items); 7) acceptance of responsibility in learning (2 items). The survey was divided into two parts: first section is a part for 2 demographic information including gender, years of education. The second part examined attitudes, skills, and characteristics that comprise an individual's current level of SDLR with 41 items. The questionnaire was then administered to 249 pre-service teachers in a university in the northern mountainous area of Vietnam. The survey was online conducted with 41 statement items using a five-option Likert scale, ranging from 1 (completely not true to me) to 5 (completely true to me).

Data collection

The questionnaire was directly distributed to participants at their class for completion. Prior to completion of the survey, participants read the consent form and received permission to use their responses for research purposes. Confidentiality was preserved as no name was used in the paper. The participants completed the survey in approximately 10 to 15 minutes. Papers were collected and cleaned before analysis.

Data analysis

Quantitative data from the survey was analyzed by using the software of SPSS version 26 to descriptive statistics, t-test, MANOVA. Meanwhile, qualitative data collected was encoded into numbers. Data then was imported and saved in a classified data file for data entry.

The data analysis was conducted by using SPSS 26.0. Prior to conducting data analyses, survey psychometrics (internal-consistency reliability, construct validity, and content

validity) as well as the assumptions of one-way MANOVA were examined.

Descriptive statistics (frequencies, means, standard deviations) were performed to assess the assumption of normality. To examine the levels of SDLR, means and standard deviation were performed. Klunklin et al. (2010) provided criteria to interpret this readiness as follows: 4.50-5.00 (highest level), 3.50-4.49 (high level), 2.50-3.49 (moderate level), 1.50-2.49 (low level), and 1.00-1.49 (lowest level). Additionally, to compare the level of SDL across years of education, one-way MANOVA was performed. Linear discriminant function analysis was conducted to see which subscales contribute to the difference.

Results and discussion

Results

Three assumptions of a one-way MANOVA were tested prior to data analysis. The first normality expectation was fulfilled, as histograms showed that all ten dimensions of SDLR were regular. Skewness and kurtosis were also acceptable in all subscales, ranging from +1 to -1. The second assumption of homogeneity of variances was met since the test of equal variances was not significant. The assumption of independence of observation was difficult to assess since the participants may have taken the survey at the same time. The results of level of SDLR and comparisons of this readiness across years of education, majors are presented below. The results of level of SDLR and comparisons of this readiness across years of education and majors are presented below.

Table 1: Means and standard deviation of five dimensions of self-directed learning readiness

Dimensions of SDLR	M	SD	Level
Attitude to learning	3.86	0.59	High
Management in learning	3.61	0.50	High
Application and Creative	4.25	0.45	High
Control in learning	3.52	0.51	High
Confidence and independence in learning	3.43	0.59	Moderate
Self-concept in learning	3.71	0.57	High
Acceptance of responsibility in learning	3.76	0.57	High

These descriptive statistics of the ten subscales showed the different degrees in readiness of self-directed learning. Among those, students reported having SDLR at the moderate level in confidence and independence in learning (M=3.43, SD=0.59). The participants reported having the other dimensions at the high level, (M=3.52-4.25, SD=0.45-0.59).

Comparison of self-directed earning readiness across years of education

To compare SDLR across years of education, a one-way MANOVA was conducted. Table 2 below showed the differences across years of education.

Table 2: SDRL differences across years of education

Dimensions of SDLR	F	p-value	η2
Attitude to learning	4.460	0.004**	0.043
Management in learning	1.987	0.116	0.020
Application and Creative	2.106	0.100	0.021
Control in learning	7.442	0.000***	0.069
Confidence and independence in learning	3.087	0.028*	0.030
Self-concept in learning	5.813	0.001***	0.055
Acceptance of responsibility in learning	2.206	0.087	0.022

*p<0.05

The result showed that self-directed learning readiness differs across years of education. The discriminant ratio coefficient suggested that the four variables responsible for distinguishing SDLR between years of education were: attitude to learning (p=0.004, ŋ2=0.043), control in learning (p=0.000, ŋ2=0.069), confidence and independence in learning (p=0.028, ŋ2=0.030), self-concept in learning (p=0.001, ŋ2=0.055). They are statistically significant (p<0.05).

Discussion

It was interesting to learn that students possessed attitudes, abilities, and readiness to take charge of their own learning. The students thought they could be confident and learn independently, be responsible in learning and could application and creative in learning. However, the level of SDLR of the students in solving problems and their love for learning is lower than other dimensions of SDLR. This may be because of the popular situation at Vietnamese families that parents often involve in selecting and deciding the university for their children. The other reason may be that the learning culture at many universities in Vietnam where students often regard their university instructors as a source and authority of knowledge, leads to the dependence on others and their real love for learning. This result is similar to the result of a study by Prabjanee & Inthachot (2013) to university students in Thailand. Their research found that the average levels of creativity and openness to learning and other dimensions (self-assessment as an effective learner, proactive and independent in learning, accepting responsibility clearly, love of learning, positive future orientation, and ability to ability to use basic learning) while their problem-solving skills) has a high degree (Prabjanee & Inthachot, 2013). Their research result also showed that Thai students of different years have different levels of self-directed learning readiness. Furthermore, there was a prominent difference in the level of students' SDLR between students across years and disciplines.

When comparing self-directed learning readiness across years of education, the results showed that different years of education possessed different degrees of self-directed learning readiness. The findings in this study were far different with results of a study in Thailand by Prabjanee et al. (2013) who examined the SDLR of Thai education college students. They pointed out that the students possessed a moderate level of creativity and openness to learning. When identified the source of the resulting differences across years of education as self-control in learning, openness to learning, self-regulation and decision making, positive orientation to the future, self-concept as an effective learner. At this point, the direction of the difference is not clear, yet it is likely that younger students may have less future orientation, responsibility, and openness to learning than older students. Meanwhile, the difference of other factors is not clear. By contrast, Phillips et al. (2015) did not find out the difference in years of education (age) or gender. He saw the level of SDLR among fresh students is lower

than other students. Future research should attempt to investigate the directions of these differences.

Conclusion

In order to present a landscape of current circumstances of Vietnamese students in teacher education, this study attempted to investigate self-directed learning readiness of pre-service teacher education students in Vietnam and compare the SDLR across years of education and majors. The results showed that students of teacher education program reported achieving a moderate level in two dimensions of SDLR including confidence and independence in learning. The other six dimensions were at a high level. The findings also revealed that different years of education possessed different degrees of SDLR (attitude to learning, control in learning, confidence and independence in learning and self-concept in learning).

The study shed light on the current circumstances of students' SDLR among teacher education students in Vietnam. The results of this study could provide empirical evidence on students' attitudes, abilities, and personality characteristics required for self-directed learning. In addition, the findings of this study could contribute to the knowledge base available to university educators to the orientation of student self-directed learning preparedness in the training plans. Furthermore, it could be a valuable reference to students, educators and curriculum designers in learning and teaching or in development of training programs and curriculum.

The limitations of this study include the scope of survey conducted only in a university of education where students are provided supports from the university and the government in tuition fees, scholarships and opportunities.

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Contact email: thuydang.cen@gmail.com