



Teaching Career Choice As Motivations: Effects On Students' Self-Regulated Learning Skills

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ABSTRACT

For years, educators have been concerned on how to best facilitate students to become more self-regulated learners. The reasons why students will choose a professional career are widely known as significant learning motivations. This study aims to investigate how students' motivations for attending teacher education programs influences their self-regulated learning (SRL) skills. A quantitative research method was employed with data collected from a questionnaire asking students to provide information on their career choice motivations and self-assessment of SRL. Multivariate analysis of variance (MANOVA) data analysis techniques were used to analyze whether the students' reasons for attending their current teacher education programs affected their SLR skills. With 365 observations sampled from two universities teacher education programs in Vietnam, the findings show a significant difference in SRL between Yes and No responding groups who selected their major based on these 3 factors - their interest, their parents' expectations, or their last choice. Students who decided to matriculate in a teacher education program because they were interested in teaching careers and felt that their selected program was relevant to becoming a teacher had higher measurements for academic self-regulation than the two other groups. This finding may enhance the conclusion that motives for selecting a teaching career should be originated and developed in high schools because SLR is vital for teachers to sustain good teaching.

Keywords: Metacognition, motivation, self-regulated learning, teaching career choice, teacher education.

Introduction

Nowadays, students' demand for being supported to become self-regulated, lifelong learners is increasing because contemporary students are exposed to much greater volumes of information than in the past, which is further beyond the intended knowledge and skills included in their programs at university, and they need certain learning skills to smartly and effectively handle information intake, analysis, and learning. Self-regulated learning (SRL) strategies would help learners individualize their learning process, in which they plan, monitor, control and regulate their learning to be most relevant to their ability and resources (Pintrich, 2004; Zimmerman, 2008). Students do not perform their learning effectively without learning motivations, which Ryan and Deci defined into intrinsic and extrinsic factors (Ryan & Deci, 2000). Learning motives are vital in determining learners' academic performance, including learning behaviors and academic achievement. Among the learning motivations of pre-service teacher students, those motivations for choosing to enter a teacher education program do have considerable influence on their pedagogical knowledge (König & Rothland, 2012) and a correlation exists of these motivations with burnout and low career optimism in their first year of working (McLean et al., 2019). There have been various research works confirming the importance of SRL in improving students' academic performance and learning outcomes. The work of Mega and Zheng (Mega et al., 2014; Zheng, 2016) and work of Panadero on clarifying the position of affective factors in SLR strategies (Panadero, 2017) are noteworthy. There is now a great need to further investigate SRL of certain groups of students in order to better understand, in the present and future society, learners and find more relevant approaches to

enhance their learning. In addition, patterns of motivation for Vietnamese high school students to attend undergraduate teacher training programs are quite varied, as we have observed through our quick surveys conducted at the beginning for each cohort. This fact raises the question of whether this kind of motivation plays a certain and significant role in facilitating students to self-regulate their learning.

Teachers in Vietnam are highly respected and have a special social status (Pereir, 2022), and many want to become teachers. However, it is hard for graduates to find a job as a teacher after graduation. Many students do not wish to study teacher education except mathematics and literature teacher education programs. Students get into teacher education programs with different motivations, they learn with different attitudes that affect student academic achievement (Tokan & Imakulata, 2019; Akhtar, Tatlah & Tatlah, 2017).

Applying previous well-known models of SRL, as discussed in Panadero (2017), this study investigated SRL strategies of undergraduate teacher education students who were studying in two universities in Vietnam. The SRL construct was conceptualized into five sub-scales, belonging to two components, namely metacognition and self-efficacy. To understand the dynamics of SRL skills of the students and to examine whether and how their career-choice motivations affect their SRL skills, a questionnaire was designed to collect the data on the students' self-assessment of their SRL and what had led them to choose and matriculate into the university program which they did.

Literature Review

Learners' SRL in the classroom contexts, according to (Pintrich, 2000) is a process in which learners actively set goals for their own learning, then make every effort to monitor, control and regulate their cognition, affect and behavior to achieve the goals. This process is always moderated by both the personal characteristics of the learners and the typical features of the learning environment. This definition of SRL seems simple compared to others, like the three models of Zimmerman or the four-phase model of Winne & Hadwin (Panadero, 2017), but it gives us a comprehensive image of SRL with all key phases and components pointed out. To answer the question: what learning skills develop underneath the term SRL, Pintrich & Zusho (Pintrich & Zusho, 2002) created a table as a conceptual framework of SRL with the columns representing four phases in which learners regulated their forethought and planning, monitoring, control, and reflection; and the rows being filled with four psychological areas as the objects of regulation, i.e., cognition, motivation, behavior, and context. At each phase, academic self-regulated learners use various strategies to regulate their cognition, affect and behavior. Besides that, learners also try to regulate the context where they perform learning, seeking benefits from it in the process of approaching their goals. Also, in this work, Pintrich & Zusho emphasized and thoroughly examined the role of learning motivations in the development of SRL, seeking the answer to the question if there is any moderator who could have an influence on the development of academic self-regulation in college and university students. As extracted from these authors' models, the development of SRL may be positively and negatively affected by cognitive and affective factors. Besides cognition, behavior and context, self-regulated students conduct different strategies at each regulation phase that is appropriate to their motivation stage. Being different from Zimmerman's models, which were soundly grounded on a social-cognitive perspective and Pintrich's four-phase framework, which highlighted learners' motivations in SRL, Winne & Hadwin's SRL model in Winne & Perry (2000) paid much attention to metacognition with four connected and recursive phases: task definition, goal setting and planning, enacting study tactics and strategies, and metacognitively adapting studying.

Although the reviewed SRL models differed from one another in terms of the components being interested, motivation and emotional stages of learners were positioned as central factors of SRL to the extent it could direct cognitive and metacognitive behaviors (Pintrich, 2000). Among learning motivations, those for choosing to enter the teaching profession are quite special because teaching work, together with health care, are two professions that are so far different from the rest in society. A teaching career is often characterized by several typical aspects like frequent social interaction, an opportunity to work with children, being often judged by society as a notable profession with low stable income, and so on. And surely every student entering teacher education programs has their reasons, which are predicted to influence their future performance on campus and at work.

A review of the literature on motivations for choosing a teaching career showed that the foundations for this field of research are (Ryan & Deci, 2000), in which the human motivations for taking a job were classified into intrinsic (you are doing something because you are interested in it), altruistic (those oriented to the service), and extrinsic (you doing an activity to gain an outcome that has been defined such as a high income or a reward). Later, many tools for measuring teachers' career choice motivations were developed and validated, in a self-report questionnaire (Nesje et al., 2018; Tomšik, 2019; Watt et al., 2012; Watt & Richardson, 2007, 2012). The Factors Influencing Teaching Choice scale (FIT-Choice) proposed by (Watt & Richardson, 2007) has been widely validated for different contexts. This scale mentioned seven factors as teaching motivations, i.e., personal capacity, intrinsic values that the career can bring about, extrinsic values of teaching job, teaching as a "fallback" career or second choice, prior experience in teaching and learning, social influences, and positive contribution to community and society. In short, the motives for entering teacher education of students are diverse. They may belong to students, their prior teaching and learning experience, or some values belonging to the teaching job.

To make the survey relevant to the Vietnamese context, based on what we have observed through quick survey at the beginning of every course we have taught, three kinds of teaching career choice motivation have been defined, i.e., intrinsic (they chose because they are interested in the teaching profession), influences from others (they entered the training programs to meet their family's expectation), and "fallback" career (this was their last option). Then, the research question would be whether and how these three kinds of motivation influence the students' SRL skills.

Methodology

The presented study was designed to identify pre-service teachers' motivations for career choice and measure how they perform self-regulated learning strategies, then explore causal relations between these two elements. For this purpose, the quantitative causal-comparative method was employed, with a questionnaire survey conducted to collect data from volunteer students attending two universities, one in the north and the other in central Vietnam.

Participants and Procedure

The participants were 365 undergraduate students from two universities. Convenience sampling was used for this study. A paper questionnaire was distributed to students in two universities. Before filling out the survey, the purpose of this study was introduced to students who agreed to participate in this study voluntarily. Students spent 10 to 15 minutes completing the questionnaire. Table 1 shows the demographic information of participants in this study.

Table 1. Participants' Demographic Information

Gender	Frequency	%
Female	66	18
Male	299	82
Total	365	100
Year of Study	Frequency	%
Freshman	23	6.3
Sophomore	65	17.8
Junior	145	39.7
Senior	132	36.2
Total	365	100
Major	Frequency	%
Mathematics	156	42.7
Physics	31	8.5
Chemistry	27	7.4
Biology	25	6.8
Literature	109	29.9
History	17	4.7
Total	365	100

Note. The frequency is the number of students.

Thirty-six percent of the students were in fourth year, 40% were third year, 18% were second year and 6% were first year. 43% of the students were in Mathematics, 8.5% were in Biology, 7.4% were in Chemistry, 6.8% were in Biology, 29.9% were in literature, and 4.7% were in History.

Instruments

Selected components and items from The Motivated Strategies for Learning Questionnaire (MSLQ) (Pintrich et al., 1991) were adapted to capture a measure of their self-regulated learning strategies and motivation. The students were instructed to respond using a 5-point scale (1= = totally disagree to 5= = totally agree). The questionnaire consists of demographic information, motivation scales (intrinsic and extrinsic motivations), and five self-regulated learning subscales, as detailed in Table 2.

Table 2. *Investigated SRL variables and item allocation*

Code	Factor (Cronbach's Alpha)	Item
SE_A	Ambition (0.886)	I believe that I will get a good result
		I think that I will study well in most of the courses
		I am sure that I have mastered the knowledge and skills
		I am confident that I understand basic concepts in courses
		I believe that I will get goods mark when I do assignments or tests
		I am reliable and I can comprehend the complex problems
		I will get good results in the whole program in which I was trained
		I believe that I will get a good result
SE_E	Effort (0.752)	I find a quiet place to study after school
		I discuss with my friends or my teacher when I get problems
		I take teamwork seriously
		I make an effort to complete my assignments on time
ME_P	Planning (0.796)	I select a course based on my schedule
		Before the semester begins, I seek for syllabus which I will take part in
		I have a timetable for activities in each semester
		I set up some objects for myself to direct my learning
ME_M	Monitoring (0.744)	I miss some important parts of the lesson because I am thinking about something
		I cannot catch up on knowledge in materials which is required to read
		I concentrate on reviewing knowledge before the exam
		I follow what my teachers instruct/ require
ME_R	Regulation (0.820)	If materials are difficult, I think I should change learning strategies
		I try to modify learning strategies to fit the requirements of each course
		I give some questions to help me concentrate while I am reading materials
		When I read the material, if I get some complex problems, I will read more detail
		I try to think about a topic to determine what I need to learn from the topic
		If I cannot catch up with lectures, I will find the solutions to understand clearly later

Data Analysis

Fundamental frequencies and descriptive analyses were run on all scales and demographic data to inspect the distribution of responses and check for outliers. There was no missing or invalid data on any of the primary measures. There was no indication that the format of any other questions in the survey was problematic. Cronbach's alpha was calculated to check the internal consistency of the scales. Further, descriptive statistics for motivation sub-factors and learning strategies sub-factors were given. Then, two-way MANOVA was used to test if students responded "Yes" or "No" on their motivation to determine their major and self-regulated learning. Univariate ANOVAs were conducted on each dependent variable as a follow-up test for MANOVA. In addition, Box's M was used to test for the assumption of homogeneity of variance-covariance and Scheffe's test was used as the follow-up procedure (Tabachnick & Fidell, 2007). This study significance level was set at .05.

Results

After checking the reliability coefficient of the items included in the survey instrument, all of the 26 items related to SRL were selected for exploratory factor analysis (EFA). Exploratory factor analysis is a mathematically complicated method used to condense many variables into a shorter group of correlated variables by extracting and rotating these variables with principal component analysis and the varimax method. A principal component analysis is suitable for this research because it is most commonly used to condense the information in many original variables into a smaller set of new composite dimensions with a minimum loss of data. EFA showed that 26 variables were packed into five components, namely Ambition, Effort, Planning, Monitoring, and Regulating, with item factor loading as shown in Table 3.

Table 3. Exploratory factor analysis for SRL variables

	1	2	3	4	5
SE_A7	.803				
SE_A8	.747				
SE_A4	.723				
SE_A2	.707				
SE_A6	.661				
SE_A1	.651				
SE_A3	.631				
SE_A5	.551				
SE_E2		.739			
SE_E4		.725			
SE_E3		.689			
SE_E1		.582			
MC_P1			.747		
MC_P2			.731		
MC_P3			.681		
MC_P4			.664		
MC_M1				.767	
MC_M2				.764	
MC_M3				.726	
MC_M4				.710	
MC_R1					.772
MC_R2					.662
MC_R3					.626
MC_R4					.606
MC_R5					.604
MC_R6					.521

1. The correlation coefficient between individual variable and factor loading coefficient in the study was greater than 0.5, meaning that the relationship between variables is tied and EFA is an appropriate statistical method. If the correlation coefficients are smaller than 0.3, then using EFA is inappropriate (Hair et al., 2014).
2. The Kaiser-Meyer-Olkin measure of sampling adequacy in the model was 0.891, indicating that the sample size was large enough for exploratory factor analysis. According to Kaiser (Keiser, 1974), KMO ranges from 0 to 1 and the sample is adequate if KMO is greater than 0.5.
3. The result of Bartlett's test (P value = 0.000 < 0.05) indicated that the sample was valid and suitable for EFA (Tabachnick & Fidell, 2007).

Table 4. Arithmetic means of the sub-factors of SRL

Sub factors	N	Mean	SD
Ambition	365	3.26	.705
Effort	365	3.72	.719
Planning	365	3.56	.757
Monitoring	366	3.13	.822
Regulation	366	3.51	.661

According to Table 4, students' mean scores at "Ambition", "Effort", "Planning", "Monitoring", "Regulation" are 3.26, 3.72, 3.56, 3.13, and 3.51, respectively. Students have the highest score ($M=3.72$, $SD=.791$) on the "Effort" scale and the lowest score ($M=3.13$, $SD=.822$) on the "Monitoring" scale. Both "Effort" and "Monitoring" scales are part of self-regulated learning. It can be said students assess their efforts highly, but they get low monitoring in SRL.

Table 5 shows the description of the independent variable. Students' highest motivation is an intrinsic motivation for their interest (MOT1, $N=211$). The second one is extrinsic, and students choose the program because of their parents' expectations (MOT2, $N=106$). The last one is also final choice to attend the program is extrinsic motivation also (MOT3, $N=59$).

Table 5. Descriptive statistics of motivation variables

Variables	N	Rank
MOT1 I choose this teacher education program because of my interest	211	1
MOT2 I choose this teacher education program because of my parents' expectation	106	2
MOT3 I choose this teacher education program because it is my last choice	59	3

Before employing MANOVA, it is necessary to test the correlation between independent and dependent variables. In this study, Motivation is IVs and Self-regulated learning is DVs. Table 6 shows the relationship between students' motivation for attending teacher education programs and their self-regulated learning skills.

Table 6. Correlations between Motivation and SRL variables

	1	2	3	4	5	6	7	8
1 MOT1								
2 MOT2	-.647**							
3 MOT3	-.481**	-.231**						
4 Ambition	.199**	-.104*	-.119*					
5 Effort	.111*	-.068	-.076	.402**				
6 Planning	.153**	-.132*	-.102	.485**	.436**			
7 Monitoring	-.129*	.083	.063	.172**	.036	.126*		
8 Regulation	.188**	-.064	-.206**	.581**	.528**	.548**	.219**	

Note: * $p < .05$; ** $p < .01$

Table 6 shows positive and significant relationships between student intrinsic motivation (MOT1) and four components of self-regulated learning skills ($p < 0.05$). This table shows a negative relationship with Monitoring ($r = -.129$). It also shows negative and significant relationships between extrinsic motivation (MOT2) and two components of SRL (Ambition and Planning) with $r = -.104$ and $r = -.132$, respectively. The relationship between the motivation for choosing a teacher education program as the last choice (MOT3) and the Ambition and Regulation components of SRL is negative and significant, with $r = -.119$ and $r = -.200$, respectively. Most of the relationships between factors are weak.

Are SRL variables differentiated by students' motivation to attend teacher education programs based on their interests?

MANOVA was used to compare SRL variables between the group choosing their major because of their interest and the other, not because of their interest (see Table 7). There was a significant main effect for the groups

(Wilks's $\lambda = .916$, $F = 6.583$, $p < .001$, partial $\eta^2 = .84$). The univariate ANOVAs revealed significant differences between the "Yes" and "No" on Ambition ($d = .414$), Effort ($d = .430$), planning ($d = .232$), monitoring ($d = .320$) and regulation ($d = .381$). In all cases, the students who enrolled in their major because of their interest likely had better Ambition, Planning and Regulating strategies. Still, they rated their Effort and Monitoring skills not as good as the rest.

Table 7. Univariate results from MANOVA comparing SRL variables by MOT1

Factor	MOT1		F	Cohen's d
	Yes	No		
Ambition	3.380 (.722)	3.096 (.648)	16.076**	.414
Effort	3.380 (.722)	3.788 (.718)	4.778*	.430
Planning	3.668 (.750)	3.433 (.749)	9.007*	.232
Monitoring	3.040 (.878)	3.255 (.725)	6.545*	.320
Regulating	3.620 (.641)	3.370 (.641)	12.818**	.381

Note: * $p < .05$; *** $p < .001$

Are SRL variables differentiated by students' motivation for attending teacher education programs based on their parents' expectations?

MANOVA was used to examine differences in Yes-No choosing the motivation to select their major based on their parents' expectation and their self-regulated learning during their studying process in the teacher education program (see Table 8). There was a significant main effect for groups (Wilks's $\lambda = .965$, $F = 2.626$ $p < .05$, partial $\eta^2 = .35$). Univariate results show a significant difference between the Yes- No responding groups on their determination to select their major based on their parent's expectation on Ambition and Planning ($d = .257$, $d = .304$). The two groups had no significant difference in Effort, Monitoring, and Regulation. In this case, the "No" responding group rated their Ambition and Planning in study higher than the "Yes" group.

Table 8. Univariate results from MANOVA comparing SRL variables by MOT2

Factor	MOT2		F	Cohen's d
	Yes	No		
Ambition	3.145 (.631)	3.306 (.729)	4.605*	.257
Effort	3.644 (.715)	3.751 (.720)	1.864	.158
Planning	3.412 (.755)	3.632 (.750)	6.866*	.304
Monitoring	3.238 (.718)	3.087 (.859)	2.776	.201
Regulating	3.448 (.586)	3.541 (.689)	1.242	.134

Note: * $p < .05$; *** $p < .001$

Are SRL variables differentiated by students' motivation for attending teacher education programs as this is their last choice?

MANOVA was used to compare SRL factors between the two groups who responded Yes and No to the survey item "I choose this teacher education program because it is my last choice" (see Table 9). There was a significant main effect for the groups (Wilks's $\lambda = .941$, $F = 4.497$ $p < .05$, partial $\eta^2 = .59$). The univariate ANOVAs revealed significant differences between Yes and No responding groups' empowerment on their Ambition ($d = .333$), and regulation ($d = .582$). There was no significant difference between the two groups in their Effort, Planning, and Monitoring skills. The "No" group rated their Ambition and Regulation in university study higher than the "Yes" group.

Table 9. Univariate results from MANOVA comparing SRL variables by MOT3

Factor	MOT3		F	Cohen's d
	Yes	No		
Ambition	3.070 (.622)	3.297 (.715)	5.020*	.333
Effort	3.600 (.703)	3.744 (.722)	2.038	.250
Planning	3.394 (.695)	3.603 (.765)	3.698	.282
Monitoring	3.250 (.744)	3.108 (.744)	1.434	.177
Regulating	3.203 (.643)	3.574 (.648)	16.721**	.582

Note: * $p < .05$; *** $p < .001$.

Discussion

Employing MANOVA analysis, this causal-comparative research sought the answers to three research questions on how three kinds of teaching career choice motivations affect various aspects of the students' SRL. Data was collected by asking the sampled students to answer a questionnaire on why they attend their

undergraduate programs and how they self-assess their SRL strategies. This research discovered significant findings and thus provides certain contributions to the literature for education research.

Although there were three research questions as presented in the result section, the findings of the two later questions enhanced the findings of the first one, of which all related to a major difference of influence between intrinsic and extrinsic motivations. This explains why the following discussion is a comprehensive integration of these three research questions.

To Vietnamese undergraduate teacher training students, why they chose to become teachers did have some effects on how they performed their SRL. In general, this pattern of relations is consistent with how Pintrich and his colleagues developed the model of SRL, in which the area of motivation or effect was one of four components constructing the self-regulation of learners (Pintrich, 2000; Pintrich & Zusho, 2002). This area includes learners' adoption of learning goals, a judgment of their self-efficacy, activating and regulating their interests, etc. Specifically, the study found: (i) Those students with intrinsic motivation for learning (attending the program because of their interest in a teaching career or the subject itself) had better Ambition, Planning and Regulating strategies; (ii) Those NOT choosing the teaching career to meet their parents' expectation rated their learning Ambition and Planning skill higher than the "Yes" group; (iii) Those NOT attending the teacher training programs because this was their last option or they could not find any other better choice for further study perceived higher Ambition and better Regulation skill than the "Yes" group. Altogether, we can see the importance of intrinsic motivations in determining the performance of SRL in students. Learning ambition, planning, and regulation were self-assessed by students higher when they were self-determined to choose the study majors. We could find comparable results in the literature; for example, in Neuville et al., (2007), task value, learning goals, and self-efficacy positively affected metacognitive strategies. Students who perceived the value of their learning and who believed in their ability to reach the goals reported using greater cognitive and metacognitive skills, in which regulation appeared as a significant phase. Furthermore, in a significantly updated publication reporting the role of motivation in various aspects of the learning process in massive open online courses (MOOCs), they found a significant difference in cognitive and metacognitive skills between the group of students with so-called autonomous motivation for learning (including intrinsic and well-internalized extrinsic motivation) and the group with controlled motivation (comprising introjected and external regulation), or also with the group with the combination of autonomous and controlled ones (Wei et al., 2023).

Conclusion

In conclusion, students with different motivations for attending teacher education programs performed their self-regulated learning skills differently. Those with intrinsic motivations were likely to be more ambitious in academic performance and better at setting goals, planning, and adjusting their study methods. In contrast, those choosing teaching careers for extrinsic motivations did not evaluate their metacognition skills or other important factors as much. Specifically, those studying to become teachers to meet their parents' expectations were worse in study ambition and planning. The significant test with the last motivation variable (teaching career selection as the last choice) showed that only the "No" group rated themselves as more ambitious and regulated in learning.

The study brings about some implications for students' career orientation. Because career-choice motivation influences students' SRL skills, which is widely recognized as being crucial for people's lifelong learning, it is necessary to develop relevant programs to support high school students in exploring, understanding themselves, and choosing their future careers with their intrinsic motivations prioritized.

There are several limitations to this study. Firstly, the study used the convenient sampling method. Consequently, there is an imbalance between gender groups and year of study for the groups sampled. Secondly, only quantitative data was collected by survey questionnaire. As a result, the study fails to give more insights into students' aspects of SRL. Further studies should employ interviews as an additional method for collecting qualitative data and a more well-structured sampling procedure for both quantitative and qualitative data collection.

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