



Life and career skills of student teachers in Thailand: A factor analysis

Chaiyos Paiwithayasiritham, Yuwaree Yanprechaset*

Department of Educational Foundation, Faculty of Education, Silpakorn University, NakhonPathom 73000, Thailand

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Abstract

Life and career skills are personal abilities comprising adaptability, flexibility, self-directness, leadership, good interpretation, and responsibility. If teachers have well-adapted and suitable life and career skills, they will be able to apply their knowledge and abilities to perform their duties in learning management to achieve the objectives of the curriculum. This study performs an exploratory factor analysis and confirmatory factor analysis of life and career skills. A sample of 550 student teachers in Thailand was obtained using a multi-stage random sampling method. The tool used was a questionnaire on life and career skills, which included 55, 5-level scale questions. Data were analyzed using descriptive statistics, exploratory factor analysis, and confirmatory factor analysis. The results of the exploratory factor analysis of student teacher life and career skills consisted of five components: (1) leadership and teamwork; (2) social skills and cross-cultural learning; (3) well-planning and studiousness; (4) responsibility; and (5) flexibility. The results of the confirmatory factor analysis showed that the model was consistent with the empirical data. The results can be used to formulate a policy to develop teacher competency, as well as improve the student teacher training course to enable student teachers to develop competencies in accordance with the changing future world.

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Introduction

The teaching profession is important because it cultivates, trains, and teaches students. It helps create and sustain society in a desirable way; therefore, professional teachers must have a high level of social responsibility. The more a society respects and trusts a teacher, the more professional teachers must behave in a way that is appropriate and

worthy of that respect and trust. If a person focuses only on making a living, society becomes a selfish one with no sacrifice, a focus on personal interests, and a lack of morality and professional ethics (Law, 2015). “Life and career skills” are one of the three most important skill sets that are essential for student teachers to live their lives well in a global society that is changing rapidly. To assist student teachers in being successful in their careers, it is important to cultivate life and career skills, which are essential for the 21st century. They are essential for survival in a rapidly changing global society amidst the tide of competition. People who have life and career skills

* Corresponding author.

E-mail address: Yu_biglegs_9@hotmail.com (Y. Yanprechaset).

will be able to flourish in society (Langford & Badeau, 2015; Watermeyer et al., 2016), as they will be adaptable, flexible, self-directed and responsible toward work (Gerami et al., 2015; Marjan, 2017). They can be leaders who are fully accountable. Similarly, it is important for teachers to have life and career skills so that knowledge and competence can be transferred to students (Mittendorff, 2010; Winters et al., 2012). Therefore, the researcher was interested in developing guidelines to enhance the life and career skills of student teachers. The researcher started by studying the components of the life and career skills of student teachers and then assessed their life and career needs according to the obtained components. Before this, there has not been a previous analysis specifically about the components of the life and career skills of student teachers. When these components are studied more thoroughly, it will provide the background knowledge and become the basis for guidelines to develop the skills that student teachers most need for their careers in the 21st century.

Literature Review

The 21st century is a dynamic, digital age that needs people who are adaptable, creative, self-directed, and responsible, and who demonstrate good leadership. In particular, student teachers must have learning management skills and a good attitude toward the teaching profession. There are two important skills for student teachers in the 21st century (Law, 2015; Veugelers, 2009): (1) life skills, which are abilities to adapt well to changing or threatening environments; and (2) career skills, which are powerful tools for empowering one's self-awareness and creativity. It is the ability to adapt and display positive behavior that enables one to deal with critical needs and obstacles. Life skills are internal skills that help to cope effectively with different situations that occur in daily life and prepare for adaptations in the future. It is the ability to solve problems faced in daily life to protect oneself from harassment and exploitation, and live with other people harmoniously (Jones & Lavalley, 2009; Nasheeda et al., 2018; The United Nations International Children's Emergency Fund [UNICEF], 2012). You can see that the development of good life and career skills is very important for the advancement of every student teacher. Analyzing the components of life and career skills will provide a basis for seeking the most suitable approaches to developing these essential skills that will equip student teachers for working and living in the 21st century. This is reflected in the research by Kase et al. (2019), who studied the causal relationship between emotions and life skills of 248 university students. They found that effective development of life skills could help build theoretical models

and enhance students' strength and ability for learning other related skills. Similarly, when Singla et al. (2020) analyzed the causal factors in adolescents' development of life and career skills, they found that family relationships, interpersonal relationships and stress management were the main factors that had an influence. They also noted that for adolescents, the school environment and community environment likely impacted family relationships, psychological status and various kinds of health problems.

Methodology

Through an analysis of concept papers and related research, the researcher used exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) to identify the components of life and career skills of student teachers.

Participants

The research sample consisted of 550 student teachers from the Faculty of Education in public universities and autonomous universities in Thailand from the academic year 2019. The sample was obtained using a multistage random sampling method. The first step was conducted using a cluster random sampling method with regions as random units, including the northern, central, northeastern, and southern regions. The second step was conducted using a simple random sampling method to randomly select universities in each region. The researcher considered using the sample size based on the determination of the appropriate sample size in the factor analysis that requires a large sample size. Hair et al. (2010) proposed that the sample size for the composition analysis would be five units per variable. In this study, there were 55 variables; therefore, a minimum sample size of 275 was determined. This study had two parts. The first part was the EFA, and the second part was the CFA. Therefore, the researcher set a sample size of 550 people (double of 275) in this study, and the individuals who were samples for the EFA survey part were not the same as those who were samples for the CFA part.

Research Tools

The tool for the CFA was a questionnaire on the life and career skills of student teachers with 55 items to be rated on a 5-level scale from "agree the most" to "strongly agree" "medium," "agree little" to "agree the least." The content validity of the questionnaire was evaluated by 5 experts and was rated 0.80–1.00. The questionnaire was pre-tested on a separate group of 30 students in the Faculty of Education of Silpakorn University, who were not among

the students in the sample population for the research, in order to test the questionnaire reliability. It was found that the Cronbach's alpha was .97.

Data Collection

The researcher collected data from sample student teachers using a questionnaire on life and career skills.

Data Analysis

The data were analyzed by EFA using the varimax rotation method and selecting components with an eigen value greater than .50. CFA was performed using the Lisrel program (student version) and the model compatibilities were set as chi square critical value $> .05$, $\chi^2/df < 2.00$, GFI $> .95$, AGFI $> .95$, and RMR $< .05$.

Results

Results of EFA of Life and Career Skills of Student Teachers

The results of the preliminary agreement test before the EFA showed (Table 1) that the KMO value was .95 (which is greater than .50), and Bartlett's test was statistically significant at the .00 level (which is less than .05). The data obtained from the sample collection were suitable for analyzing the components of the life and career skills of student teachers. An exploratory component analysis was then performed. When considering components with an Eigen value of 1.00 or higher, a factor loading greater than .50, and including at least three variables in the component, there were five prominent components with a total of 34 variables.

Table 1 Results of Exploratory Factor Analysis of life and career skills of student teachers

Factor	Eigen Value	Percent of Variance	Variable	Factor Loading
1. Leadership and teamwork (10 variables)	21.44	38.99	I have the ability to successfully manage projects.	.50
			I can design workflows to make the project successful.	.61
			I can prioritize workflows to make the project successful.	.52
			I know how to make a project successful.	.67
			I know all my colleagues very well.	.63
			I can use my friend's strengths to benefit work.	.67
			I can guide my friends on how to finish work successfully.	.68
			I encourage others to be successful.	.69
			I am a good role model in working for other people.	.57
2. Social skills and cross-cultural learning (7 variables)	3.04	5.53	I can allocate tasks that match my colleagues' abilities.	.72
			I am a person with respect.	.59
			I am always open to accepting the opinions of others.	.75
			I am open to different opinions.	.79
			I understand and accept differences between people.	.77
			I understand and accept cultural differences.	.72
			I am a good listener.	.65
3. Well-planning and studiousness (7 variables)	2.48	4.50	I listen to my friends' suggestions to adjust my work method.	.53
			I have a work schedule.	.55
			I have a plan for studying and working.	.76
			I have set goals for my future academic and professional life as a teacher.	.69
			I have a plan to achieve my goals.	.75
			I know the methods/procedures to follow in order to achieve my goals.	.59
			I am always trying to improve/develop myself.	.62
4. Responsibility (7 variables)	1.79	3.25	I'm always trying to learn new things.	.55
			I am able to complete my assignments within my assigned deadlines.	.64
			I have a responsibility to finish the work.	.55
			I have the intention to finish the work.	.62
5. Flexibility (6 variables)	1.66	3.01	I am a responsible person to finish the work.	.66
			I can adapt to my role as a teacher.	.52
			I can adapt very well to the ambiguous atmosphere.	.51
			I can use the information from my self-assessment to improve myself.	.62
			I am always open to suggestions from others.	.61
			I am open to the criticism of others in order to improve myself.	.63
			I take compliments from others as a force in my teaching profession.	.52

Results of CFA of Life and Career Skills of Student Teachers

The results of the CFA of life and career skills of student teachers showed (Table 2) that the model Figure 1 was consistent with the empirical data determined by the chi-square values ($\chi^2 = 7.66$, $df = 4$, $p = .105$). This was significantly different from zero. The goodness of fit index (GFI) was .989, the adjusted goodness of fit index (AGFI) was .959 and the root of the mean square residual (RMR) was .005. This shows that the model is consistent with empirical data.

The standard score factor loading (B) of all the variables was positive. The sizes ranged from .767 to .874. When considering the factor loading (b) of the variables, it was found that the factor loading of all observed variables was statistically significant at the .01 level. The variable with the highest factor loading was well-planning and studiousness (WPS), which had a standard score factor loading of .874 and a variance with student teachers' life and career skills at 76.4 percent. This was followed by social skills and cross-cultural learning (SSCC), which had a standard score factor loading of .797 and a variance with student

teachers' life and career skills at 63.6 percent. The variable with the lowest factor loading was responsibility (RES), which had a standard score factor loading of .767 and a variance with student teachers' life and career skills at 58.9 percent. This indicated that these variables were important variables for student teachers' life and career skills, as shown in Figure 1.

Discussion

1. The CFA and EFA found that there were 5 major components of student teachers' life and career skills: (1) leadership and teamwork; (2) social skills and cross-cultural learning; (3) well-planning and studiousness; (4) responsibility; and (5) flexibility. This is consistent with the findings of Sulistyaningsih et al (2019), who also found that there were 5 main components of life and career skills that they identified as: (1) flexibility and adaptability; (2) initiative and self-direction; (3) social and cross-cultural skills; (4) productivity and accountability; and (5) leadership and responsibility. This may be because after they graduate, education majors or student teachers have to go out and work at organizations such as government- or private-sector schools and educational institutions, so they all have to be equipped with appropriate aptitudes and abilities, knowledge, attitudes and skills so that they can solve problems. They should be well prepared to adapt to difficult situations in the future. The five components of life and career skills that we identified can meet the needs of student teachers for their work in different organizations.

2. The component of life and career skills of student teachers with the highest factor loading was well-planning and studiousness. This was in line with Trilling and Fadel's study (2009), who mentioned that the skills necessary for learners in the 21st century are learning and planning. These are potential educational challenges that

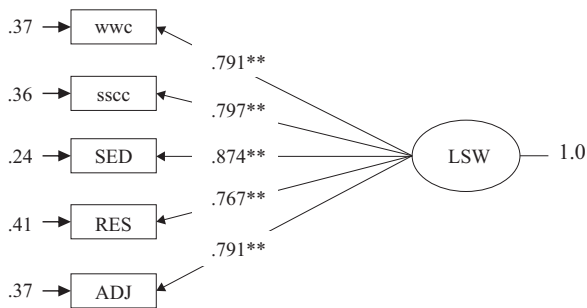


Figure 1 Results of Confirmatory Factor Analysis of life and career skills of student teachers

Note: Chi-square = 7.66, $df = 4$, p value = .105, GFI = .989, AGFI = .959, RMR = .005, RMSEA = .058.

Table 2 Results of Confirmatory Factor Analysis of life and career skills of student teachers

Variable	Factor Loading		t	R^2	Factor Coefficient
	b (SE)	B			
LT	.470 (.031)	.791	15.340**	.626	.221
SSCC	.449 (.030)	.797	14.946**	.636	.571
WPS	.482 (.028)	.874	17.382**	.764	.797
RES	.491 (.033)	.767	14.689**	.589	.181
FLEX	.397 (.026)	.791	15.329**	.625	.261

Note: Chi-square = 7.66, $df = 4$, p -value = .105, GFI = .989, AGFI = .959, RMR = .005, RMSEA = .058

** $p < .01$.

should be addressed because planning will lead to effective steps toward future goals. If student teachers have the ability to plan work, it will help students become more competitive and adaptable to upcoming changes. Abdullah et al. (2020) and Hassan (2010) also stated that planning helps to set a schedule to work and work flow, and leads to prioritization of tasks that contribute to achievement of goals. This is a necessary attribute and requires sufficient skills and a love for learning. In addition, Abdullah et al. (2020) and Yunus et al. (2019) mentioned that life and career skills create a new learning paradigm. Student teachers should have a love for learning, try to develop themselves into individuals who can cope with changing situations, have the ability to search for various learning resources, have exposure to knowledge, try to learn new things all the time, and use knowledge to develop their own work to be successful in their career.

Conclusion and Recommendation

The results of the exploratory factor analysis of student teacher life and career skills consisted of five components: (1) leadership and teamwork; (2) social skills and cross-cultural learning; (3) well-planning and studiousness; (4) responsibility; and (5) flexibility. The results of the confirmatory factor analysis showed that the model was consistent with the empirical data. The outcome of this research may help raise awareness about the significance of life and career skills of student teachers so they can be reinforced through student activities. Higher learning administrators can integrate activities aimed at the enhancement of life and career skills of student teachers through curriculum subjects or extra-curricular activities, as well as supporting life and career skills development through direct experience and academic service projects. Future research should aim to develop even better indicators and measurement tools to evaluate student teachers' life and career skills and also study the factors of success that affect how well student teachers develop good life and career skills.

Conflict of Interest

This study was reviewed and approved by the institutional ethics committee of Silpakorn University. The patients/participants provided written informed consent to participate in the study.

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