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Procedia - Social and Behavioral Sciences 116 (2014) 3519 – 3523

Procedia
Social and Behavioral Sciences

5th World Conference on Educational Sciences - WCES 2013

Korean vocational secondary school students' metacognition and lifelong learning

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Abstract

The aim of this research is to analyze Korean Vocational Secondary School Students' metacognition, attitude toward lifelong learning, and motivation factor to lifelong learning, and investigate whether these had an effect on their lifelong learning. This research analyzed after-school deeply as one of lifelong learning activities. I conduct frequency analysis, latent class analysis, and multiple regression analysis as methodology. The results were following: a) 75% of respondents have ever experienced the after-school learning; b) only 23% of the surveyed considered after-school learning is needed; c) the critical obstacles to after-school learning were deficiency of time(32.5%) and finance obstacle(28.2%); d) four underlying types of motivation to after-school learning were identified, namely, Class I (job Search), Class II (leisure centered job skill), Class III(civic competency), and Class IV(lack of motivation); e) Based on multiple regression analysis, as a predictor of effect on lifelong learning, variables including experience of after -school learning were significant.

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Selection and/or peer-review under responsibility of Academic World Education and Research Center.

Keywords: vocational secondary school students, metacognition, attitude about lifelong learning, motivation to lifelong learning, after-school learning, latent class analysis

1. Introduction

Everyone should be able, motivated and actively encouraged to learn throughout life(McKenzie & Wurzburg, 1997: 13). Characterization of lifelong learning is as a pedagogical framework which foregrounds the attributes of the 'lifelong learner'(Tennant, M. & Yates, L., 2005: 214).

Vocational secondary school students(VSSS)' individual abilities in lifelong learning influence how they enact learning. Vocational Secondary Schools(VSS) conduct their educational mandate to learning between high school graduation and career entry. VSS are being faced with serving the lifelong learning needs of VSSS. VSSS are hoped to become part of and contribute to the new learning society, students need to possess a number of characteristics in

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order to be lifelong learners. In order to be members of the learning society, students must have a higher order metacognitive thinking skill about learning and themselves as learners, be motivated to learn.

VSSS had the formal qualifications to progress to higher education if they had wanted to, but most of them tend to opt for job market. For satisfying this need, they have taken 'After School Learning'(ASL) with regular school class. Therefore VSSSS' attitude toward ASL is very important in information society. We try to understand investigate Korean VSSSS' metacognition, attitude toward lifelong learning, and motivation to lifelong learning and analyze whether these had an effect on their lifelong learning.

2. Background

Lifelong learning is the process of knowledge acquirement and reorganization, which continues throughout the entire life. Lifelong learning is life-long, life-wide and centered on learning rather than on education and on educational institutions(Schuetze, H.G.,& Casey, C., 2006). Lifelong learning embraces all learning, including that which takes place both formally and informally within organizations. Lifewide learning experiences range from formal education to active engagement in after- school activities for secondary school students.

Students need to possess a number of characteristics in order to be lifelong learners. These include lifelong learning literacy, positive motivation toward lifelong learning, self awareness and so on. Lifelong learning literacy is defined as having the abilities to continue learning throughout the life span-knowledge, skills and attitudes we need to be developing from childhood. Students need to possess a number of lifelong learning literacy in order to be lifelong learners. These include self-management skills, know how to search data and information, set of cognitive learning strategies such as memorising, taking note, summarising, identifying main ideas and categorising information. It also include metacognition often referred to as 'thinking about thinking. Although metacognition is often referred to as 'thinking about thinking' that is just a quick definition, metacognition is a regulatory system that helps a person understand and control his or her own cognitive performance.

Metacognition allows people to take charge of their own learning. It involves awareness of how they learn, an evaluation of their learning needs, generating strategies to meet these needs and then implementing the strategies(Hacker, 2009). Anderson's (2001) model of metacognition consists of four aspects: (a) Preparing and planning for effective learning (b) Evaluating strategy use and learning various strategies(c) Monitoring strategy use (d) Selecting and using particular strategies. It is evident that different fields and researchers have defined metacognition differently. Metacognition is the study of memory-monitoring and self-regulation, meta-reasoning, awareness and auto-consciousness. Metacognition is crucial for efficient independent learning because it fosters forethought and self-reflection. Metacognition and motivation may play an important part in as after-school learning as regular school learning.

3. Participants And Methodology

Sample was collected from Vocational Secondary School in the region of Daegu Metropolitan, Ulsan Metropolitan, and Gyeongsangbuk-do, Korea. The respondents consists of 471 VSSS(60% male, 40% female; 42.5% freshmen. 43.0% juniors, 28.2% 14.5% seniors; low income 13.5%, median income 64.7%, high income 21.9%).

The questionnaire consists of demographic and socioeconomic characteristics of participants(sex, year, income, GPA), metacognition, motivation to lifelong learning, and participate effect on lifelong learning. To measure metacognition, in this research Anderson's (2001) model of metacognition is used. Metacognition scale' alphas is .96 and all four scales displayed adequate internal reliability with alphas being .84, .92, .74, .92 respectively.

In this article frequency analysis, regression analysis, and latent class analysis were conducted as methodology. Latent class analysis (LCA) is a statistical method used to identify a set of discrete, mutually exclusive latent classes of individuals based on their responses to a set of observed categorical variables(Lanza, S. T., et al., 2007). LCA is used to identify latent groups in the population underlying a sample of responses to categorical observed variables.

The frequency analysis and regression analysis were calculated using SPSS 18.0, and Milsa was used to analyze latent class of motivation to lifelong learning.

4. Results

4.1. Experience of after- school learning & attitude toward and motivation to after- school learning

I conduct a survey to analyze whether VSSS have ever experienced the after-school learning, and how attitude toward and motivation to after-school are. Respondents’ experience, attitude toward and motivation to after - school are shown in Table 1 below.

Table 1. VSSSs' experience of after -school learning & attitude toward and motivation to ASL

		Unit : %	
Have you ever experienced the after-school learning?	yes	75.2	
	no	24.8	
Do you think after-school learning is needed?	very much	5.6	
	much	17.4	
	neutral	41.6	
	not	15.4	
	never	20.0	
What is obstacle to after-school learning?	lack of awareness	26.0	
	deficiency of time	32.5	
	parents' opposition	.2	
	shortage of program	.5	
	scarcity of educational institution in a nearby	12.5	
	finance obstacle	28.2	
Select all motivation you participate 'after-school learning' among following item.			
obtaining certification	60.7	stress relaxation from everyday life	24.4
upgrade job skills	64.8	supplementary lessons for regular school classes	41.9
spending leisure time worthy	37.0	the pursuit of self-fulfillment	49.2

4.2 Metacognition

Also, I conduct a survey to investigate VSSS' metacognition. Respondents’ metaconition and four aspects of metacognition are shown in Table 2 below.

Table 2. VSSS' metaconition and four aspects of metacognition

aspect	M	SD
Preparing and planning for effective learning	2.4613	.92460
Evaluating strategy use and learning various strategies	2.3525	.90726
Monitoring strategy use	2.1826	.79361
Selecting and using particular strategies	2.2305	.81449
Metacognition	2.2995	.78134

4.3 Latent class of motivation to after-school learning

To identify whether there a latent class structure that adequately represents the heterogeneity in motivation to lifelong learning, I carried out latent classes. The drop in G^2 relative to the drop in degrees of freedom is substantial with each additional class up to the five-class model; the addition of classes beyond fourth provides essentially no improvement in fit, so based on the G^2 statistic the fourth-class model appears best. Analysis of the item-response probabilities for endorsing each item revealed 32.86% of respondents are expected to belong to the Job Search class.

Similarly, 26.1% are expected to belong to the Leisure centered job skill class. The remaining classes are the Civic-competency(15.58%), and Lack of motivation(25.46%).

Table 3. Item-Response Probabilities for Four-Class Model: Probability of Endorsing Item Given Latent Class

Item	Latent Class			
	Class I	Class II	Class III	Class IV
	Job Search	Leisure centered job skill	Civic competency	Lack of motivation
	32.86%	26.10%	15.58%	25.46%
obtaining certification	0.9999	0.4804	1.0000	0.0000
upgrade job skills	0.7652	0.6614	1.0000	0.2784
spending leisure time worthy	0.1464	0.7017	0.9334	0.0000
stress relaxation from everyday life	0.0000	0.5369	0.6932	0.0000
supplementary lessons for regular school classes	0.2600	0.4186	0.7650	0.4219
the pursuit of self-fulfillment	0.3630	0.5782	0.9335	0.3125

4.4 Effect of after school learning

We try to understand VSSSs' metacognition, attitude toward lifelong learning and motivation to lifelong learning have an effect on their lifelong learning based on regression analysis. Result is shown in Table 4 below.

Table 4. Result of Regression analysis

Item	B	SE	Beta	t	Sig.
Constant	10.832	.570		19.016	.000
experience of after school learning	.664	.261	.113	2.544	.011
attitude toward after school learning	.280	.099	.126	2.839	.005
metacognition	.038	.017	.100	2.276	.023
dummy variable for motivation(Class II: 1, else: 0)	1.671	.369	.216	4.527	.000
dummy variable for motivation(Class III: 1, else: 0)	1.666	.310	.267	5.376	.000
dummy variable for motivation(Class IV: 1, else: 0)	2.920	.261	.572	11.181	.000
R ² .288	Adj. R ² .277	df: 6	F 25.648	Sig. .000	

In a multiple regression analysis, as a predictor of effect on lifelong learning, all variables including experience of after school learning($\beta = .113, p < .01$), attitude toward after school learning($\beta = .126, p < .01$), meta cognition($\beta = .10, p < .05$), dummy variable for motivation($\beta = .216, p < .001$), dummy variable for motivation($\beta = .267, p < .001$), and dummy variable for motivation($\beta = .572, p < .001$) were significant.

5. Implication

Based on the results, we are willing to suggest ways of helping vocational secondary school students develop positive attitude, intrinsic motivation such as Civic competency and extrinsic motivation as Job Search, in the belief that such an approach will encourage young people to keep learning throughout their lives. Firstly, teachers try to design different teaching methods and contents to respond to the diverse learning need so that VSSS can develop metacognition. It is difficult for learners to become self-directed when learning is planned and monitored by someone else. Students can be taught to make plans for learning activities including estimating time requirements, organizing materials, and scheduling procedures necessary to complete an activity. Guided self-evaluation experiences can be introduced through checklists focusing on thinking processes in teaching and learning process. Gradually self-evaluation will be applied more independently. Teachers have to try to create a metacognitive

environment which fosters the development of good thinkers who are successful problem-solvers and lifelong learners. Additionally, teachers need to identify what motivation factors to lifelong learning are.

Acknowledgements

This research was supported by Kyungpook National University Research Fund, 2012.

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