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**A DEVELOPMENT OF THE CAUSAL MODEL FOR READINESS
PREPARATION TOWARD ESSENTIAL 21ST CENTURY KEY SKILLS
ASPECT OF STUDENTS AT EDUCATIONAL FACULTY: LOEI
RAJABHAT UNIVERSITY IN THAILAND**

Abstract:

The purposes of this research were 1) to develop a causal model for readiness preparation toward essential 21st century key skills aspect of students at Loei Rajabhat University and 2) to examine the goodness of fit of the model with empirical data. The research samples were 600 of the second – fourth year students at educational faculty: Loei Rajabhat University selected by two-stage random sampling. Variables consisted of 5 latent variables: readiness preparation toward essential 21st century key skills aspect, role of advisor, media influence, achievement motive, and future orientation. These latent variables were measured by 15 observed variables. The research instruments were questionnaires, which had reliability coefficient 0.89 to 0.95. Data were analyzed to obtain mean, standard deviation, coefficient of variation, skewness, kurtosis, Pearson's product moment correlation, and checking the consistency of hypothesis model the empirical data and casual influence.

The research findings were as follows:

1. The causal model for readiness preparation toward essential 21st century key skills aspect of students at Loei Rajabhat University was fitted the empirical data. ($\chi^2 = 21.53$, $df = 55$, $p\text{-value} = .99$, $GFI = 1.00$, $AGFI = 0.99$, $RMR = 0.01$, $RMSEA = 0.01$, $CN = 2287.87$)

The variables in the model could describe the readiness preparation toward essential 21st century key skills aspect of students at Loei Rajabhat University variance with 89 percent.

2. The direct and indirect effects of variables on had the standardized influence coefficient respectively as follows:

2.1) There were 3 variables which directly effected on readiness preparation toward essential 21st century key skills aspect of students at Loei Rajabhat University: media influence with the influence coefficient = 0.35; role of advisor = 0.14 with the statistics at .01 level, and achievement motive = 0.17 with the statistics at .05 level.

2.2) There were variables which the indirect effects on readiness preparation toward essential 21st century key skills aspect of students at Loei Rajabhat University as media influence with the influence coefficient = 0.43 with the statistics at .01 level and achievement motive with the influence coefficient = 0.14 with the statistics at .05 level.

Keywords:

Development ,Causal Model ,Readiness Preparation,

JEL Classification: I23

Introduction

There is a general consensus among educators, business and other interested parties that a significant gap exists between the knowledge and skill needed for success in life and the current state of education in primary, secondary education schools (The Conference Board, et al., 2006 cited in Moylan, et al., 2008) and highest education throughout the world.

The Partnership for 21st Century Skills has created a way of looking at teaching and learning today. Almost ten years into the 21st century, schools try promoting new ways of teaching and learning and then evaluating how well their efforts have led to results. New insights emerge from research from research and observation all the time. (Solomon, n.d.). Key (2010) believed we are on the threshold of a tipping point in public education. The moment is at hand for a 21st century model for education that will better prepare students for the demands of citizenship, college, and careers.

Twenty-First century skills (Metiri group in partnership with the north central regional educational laboratory, n.d.) is important for the educational system to make parallel changes in order to fulfill its mission in society, namely the preparation of students for the world beyond the classroom. Therefore, the educational system must understand and embrace the following 21st century skills within the context of rigorous academic standards. The 21st century skills must focus on: 1) Digital age literacy is composed of 1.1) basic, scientific, and technological literacy 1.2) visual and information literacy 1.3) cultural literacy and global awareness 2) Inventive thinking- intellectual capital 2.1) adaptability/Managing complexity and self-direction 2.2) curiosity, creativity and risk-taking 2.3) higher order thinking and sound reasoning 3) Interactive communication-social and personal skills 3.1) teaming and collaboration 3.2) personal and social responsibility 3.3) interactive communication 4) Quality, state-of-the-art results 4.1) prioritizing, planning, and managing for results 4.2) effective use of real-world tools 4.3) high quality results with real-world application.

To succeed in college, career and life in the 21st century, The Partnership recognizes that taking an aligned, comprehensive approach across all five support systems is a significant challenge for all educators. The implementation guides have been developed to help support this difficult work. While not every recommendation and example will apply to every state, they hope the resources will help jumpstart efforts to produce more capable, successful 21st century students and citizens. (Partnership for 21st century skills, 2009a)

Learning and innovation skills increasingly are being recognized as those that separate students who are prepared for a more and more complex life and work environments in the 21st century, and those who are not. A focus on creativity, critical thinking, communication and collaboration is essential to prepare students for the future. People in the 21st century live in a technology and media-suffused environment, marked by various characteristics, including: 1) access to an abundance of information, 2) rapid changes in technology tools, and 3) the ability to collaborate and make individual contribution on an unprecedented scale. To be effective in the 21st century, citizens and workers must be able to exhibit a range of functional and critical thinking skills related to information, media and technology. Today's and work environments require far more than thinking skills and content knowledge. The ability to navigate the complex life and work environment in the globally competitive information age requires students to pay rigorous attention to developing adequate life and career skills. (Partnership for 21st century skills, 2009b) Which, this research was studied essential 21st century key skills aspect in 3 aspects compose 1) learning and

innovation skills 2) information, media and technology skills, and 3) life and career skills.

Today, in an effort to improved students learning and better prepared them for future in the 21st century. There for, looking for the causal model of readiness preparation toward essential in 21st century key skills aspect of students will help to explain how factors affected toward readiness prepares. While, Malinil (2009) found that the forecast in situational condition group, the psychological states group was combined affect toward saving behavior. Further, Phasuk (2011) factors affecting the self-directed learning readiness on openness to learning opportunities of the first-year student were future oriented character and self-discipline which contributed positively. Such as Kessung (2010) indicated that media influence, future orientation , and achievement motive can directly affect sufficiency behavior of students Loei Rajabhat University, and Kessung (2012) founded that media influence, achievement motive, future orientation and role of advisor can direct effect on readiness preparation toward ASEAN Community of students.

Besides, variables effected on self-directed learning abilities of students were future orientation, achievement motive and relationship between students with teacher or advisor (Jaiyen, 2002) and Muadin (2003) founded future orientation and instructors' teaching behavior were factors related to self-directed learning behavior of certificate vocational level students together.

A structural theory is a conceptual representation of relation between constructs. It can be expressed in terms of a structural model. Structural model are refereed to by several terms, including a theoretical model or occasionally a causal model. A causal model infers that the relationships meet the conditions necessary for causation. (Hair and others, 2006) This paper has used the theory and results research for selected latent variables in model. There for, researcher created a structure equation model in an attempt to explain readiness preparation toward essential 21st century key skills. The affect factors included media influence, role of advisor, achievement motive and future orientation. The research was interest do research about the causal model of readiness preparation toward essential 21st century key skills aspect of students.

Objective

The purposes of this research were :

1. to develop a causal model of readiness preparation toward essential 21st century key skills aspect of students at Loei Rajabhat University.
2. to examine the direct and indirect effects of the model of readiness preparation toward essential 21st century key skills aspect of students at Loei Rajabhat University.

Method

Data collection

The research samples were 600 of the second – fourth year student's educational faculty at Loei Rajabhat University in Thailand, which them selected by two stage random sampling. The proportion stratified random sampling was applied based on their level year, as: 2 level, 3 level and 4 level, follow by the simple random sampling. There are a total of 153 as level 2, 244 as level 3, and 203 as level 4. After follow up a total of 600 completed questionnaires were returned yielding a 100 percent response rate.

Data collection instrument were a rating scale questionnaires, which used measure 5 latent variables: 1) readiness preparation 2) media influence 3) role of

advisor 4) future orientation and 5) achievement motive. Item are rated with a five – point scale that ranges from (1) not true to (5) very true. The tools have been validated. Reliability coefficients were determined to be high for each one of the latent variables ranging from 0.89 to 0.95.

Data analysis

The analysis of this study was carried out in three phases: assumption checking, examine the goodness of fit of the model with empirical data, and structure equation model estimates. Data were analyzed to obtain mean, standard deviation, coefficient of variation, skewness, kurtosis, Pearson's product moment correlation, influence coefficient, and checking the consistency of hypothesis model the empirical data and casual influence. The structure equation model was estimated for a combined by using LISREL 3.8 software, developed by JÖreskog, K., and SÖrbom, D. (1993).

Results

The research findings were as follows:

1. The results revealed that the fit model of causal model of readiness preparation toward essential 21st century key skills aspect of students showed the empirical data with Chi-square (χ^2) of 21.53, degrees of freedom at 55, probability of .99, goodness of fit index (GFI) 1.00, adjusted goodness of fit index (AGFI) 0.99, root mean square residual (RMR) 0.01, root mean squared error of approximation (RMSEA) 0.01, critical number (CN) 2287.87 The variables in the model could describe the readiness preparation toward essential 21st century key skills aspect of students at Loei Rajabhat University variance with 89 percent.

2. The direct and indirect effects of variables on had the standardized influence coefficient respectively as follows:

2.1) There were 3 variables which directly effected on readiness preparation toward essential 21st century key skills aspect of students at Loei Rajabhat University: media influence with the influence coefficient = 0.35; role of advisor = 0.17 with the statistics at .01 level, and future orientation = 0.30 with the statistics at .05 level.

2.2) There were variables which the indirect effects on readiness preparation toward essential 21st century key skills aspect of students at Loei Rajabhat University as media influence with the influence coefficient = 0.43 with the statistics at .01 level and achievement motive with the influence coefficient = 0.14 with the statistics at .05 level. The influence coefficient values, the goodness of fit of the model and associated descriptions used in structure equation model are presented in table 1.

Table 1 Total effects, indirect effects, and direct effects in factors influencing readiness preparation toward essential 21st century key skills model

Dependent var.	FUTURE			MOTIVE			SKILL		
	TE	IE	DE	TE	IE	DE	TE	IE	DE
INDEPENDENT var.									
ADVISOR (SE) (t-test)							0.17** (0.06) (2.74)	-	0.17** (0.06) (2.74)
MEDIA (SE) (t-test)	0.90** (0.04) (20.51)	0.41** (0.07) (6.06)	0.49** (0.08) (6.36)	0.86** (0.04) (20.04)	-	0.86** (0.04) (20.04)	0.78** (0.07) (11.32)	0.43** (0.09) 4.59	0.35** (0.13) (2.66)
FUTURE (SE)							0.30* (0.14)	-	0.30* (0.14)

(t-test)						2.21		(2.21)	
MOTIVE	0.48**	-	0.48**			0.33**	0.14*	0.19	
(SE)	(0.08)		(0.08)			(0.08)	(0.07)	(0.10)	
(t-test)	6.11		6.11			4.11	(2.04)	(1.86)	
$\chi^2 = 21.53$ df = 55 p-Value = 0.99 GFI = 1.00 AGFI = 0.99 RMSEA = 0.01 CN = 2287.87									
Structure equation of variables				FUTURE	MOTIVE	SKILL			
R Square				0.87	0.74	0.89			
	FUTURE	MOTIVE	ADVISOR	MEDIA	SKILL				
FUTURE	1.00								
MOTIVE	0.90	1.00							
ADVISOR	0.73	0.69	1.00						
MEDIA	0.90	0.86	0.81	1.00					
SKILL	0.90	0.87	0.80	0.91	1.00				

*p < .05, **p < .01

Discussion

The causal model of readiness preparation toward essential 21st century key skills aspect of students at Loei Rajabhat University was fitted the empirical data. The variables in the model could describe the readiness preparation toward essential 21st century key skills aspect of students at Loei Rajabhat University variance with 89 percent. In support of the researcher wanted for the estimation process to explain at least 50 percent of variation, then a correlation of 0.71 is required. (Hair and others, 2006) Then, the causal model of readiness preparation toward essential 21st century key skills aspect of students was follow a structural theory is a conceptual representation of relation between constructs. It can be expressed in terms of a structural model. Structural model are refereed to by several terms, including a theoretical model or occasionally a causal model. A causal model infers that the relationships meet the conditions necessary for causation (Hair and others, 2006).

The direct effects on readiness preparation toward essential 21st century key skills aspect of students at Loei Rajabhat University had the standardized influence coefficient respectively were media influence, role of advisor and future orientation. There were variables which the indirect effects on them as media influence and achievement motive. Previous research provides similar findings (Kessung, 2010) indicated that media influence, future orientation, and achievement motive can directly affect of students. Specifically, Media influence has a massive effect on your life (Media influence, n.d.). Furthermore, Pearce and Contributor (n.d.) indicated that media content and its influence on behavior include the theory that the media provides models of behavior. Further, role of advisor yet help students to learn and a desirable behavior.

In regard to the theory of achievement motivation is a miniature system applied to a specific context, the domain of achievement-oriented activities, which is characterized by the fact that the individual is responsible for the outcome (success or failure) (McClelland, 1961). An individual's goal-directed tendency as jointly determined by his motives, by his expectation about the consequences of his actions, and by the incentive values of expected consequences will have wider utility when those concepts are applied toward other goals (Atkinson, 1966). In regard to media influence, role of advisor and future orientation, this study partially supported Kessung (2012) structure equation model, which indicated that the media influence, role of advisor and future orientation can directly affect readiness preparation toward ASEAN community of students Rajabhat University in Northeastern, and achievement motive can influence them indirectly. Correspond, Muadin (2003) founded future orientation and instructors'

teaching behavior were factors related to self-directed learning behavior of certificate vocational level students together. Further, Phasuk (2011) factors affecting the self-directed learning readiness on openness to learning opportunities of the first-year student were future oriented character and self-discipline which contributed positively. And variables affected on self-directed learning abilities of students were future orientation, achievement motive and relationship between students with teacher or advisor (Jaiyen, 2002). According to Luankatin (2006) founded the canonical of the first independent variable group was the most contribution to dependent variable group and first structure coefficient, self-concept, relation with teacher and futures orientation made a significant contribution to adjustment ability: study, relation with another person, and anxiety about one self respectively.

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