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The 9th Graders' Relation of Futuristic Thinking Factors Study

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Abstract

The objectives of this study are to study the relation of futuristic thinking and to create the prediction equation of the 9th graders' relation of futuristic thinking. The subjects of this study are 860, 9th graders, studying in their second term in 2019 in Srisaket province, Thailand. The sujects of this study are from 12 schools from Multi-Stage Random Sampling. The study uses 216 students in especially big-size school, 160 students in big-size school, 302 students in medium-size school and 182 students in small-size school. The research instrument used are Futuristic Thinking form, Emotional Intelligence (EQ), Motivation (MO), Self-Directed Learning (SD) and Attitude towards learning (AT) with Likert Scale measurement (IOC), Item Total Correlation and Cronbach's Alpha Coefficient. Statistics used are Mean, Standard Deviation, Pearson's Product Moment Correlation (r_{xy}), and Stepwise Multiple Regression Analysis. The study found that:

1) All the five factors has relational statistics of .05 with Coefficient of Correlation from .673-.791
2) Prediction equation both in the form of unstandardized scores and standardized scores are
   $FT' = .180 + .483EQ + .179MO + .172SD + .148AT$
   $Z_{FT'} = .441Z_{EQ} + .172Z_{MO} + .179Z_{SD} + .148Z_{AT}$

All five prediction factors and variance factors can be used to explain 70.7% of futuristic thinking.

Keywords: futuristic thinking, prediction equation, 9th graders students

1. Introduction

Nowadays, the society is changing rapidly which effects everyday life. This, combined with the progress of sciences and technologies, make every country prepare development in the ever-changing situations with important factors such as human resources, especially young students who are the future developers of the country in the near future.

In educational management, besides becoming excel in the appointed curriculum, there should be the support of prediction thinking. Prediction thinking will guide the students to handle the ever-changing world which is called Futuristic Thinking. It trains the learners to think about the future which will help them focus on the present and plan for the future. It is the important key to open many opportunities in the rapid changing world which will never be static and competitive in nature. People who survived the race in futuristic world need this key to pave their way to stay away from harm, futuristic risk, and withstand the coming future (Jarernwongsak, 2019: 182). Thinking in the future process will expand the capacity of the brain in predicting what might happen in the future. This will help in order to make the right decision by developing two skills which are the knowledge of thinking in the future principle and using instrument to predict the future. Using futuristic thinking will help clear up the obscure nature of the future and use the prediction to its full potential (Jarernwongsak, 2019: 26). Furthermore, thinking this way will help us become more self-adaptable, make today's decision for a better future, realize more on how to self-adapt, not to be shallow, look far more in the future and help us to connect the rapid ever-changing world. If the learner think this way contently, it will make them become futurist – that is, have the appropriate reaction to what holds in the future. Futuristic thinking needs support on knowing how to think appropriately and the intelligence of the brain because those who could predict the future have to be able to make a reasonable guess in what will happen in the future and predict the high possibility.

All in all, we can see that thinking into the future is an important factor that every student should be urge to train

on in every way. However, prior in doing so, we need to know the factors involved or know how much thinking is involved from which factors in order for us to understand factor relation and design the strategies working frameworks to promote futuristic thinking. In this study, the researchers want to study factors relating to futuristic thinking and create futuristic thinking prediction equation of the 9th graders which is considered to be the turning point and can appoint the future. The study wants to pioneer the support of the students' futuristic thinking so that they can achieve academically to their full potential.

2. Objectives of the Study

To study the factors' relationship of futuristic thinking and to create prediction equation of the 9th graders' futuristic thinking.

3. Literature Review

Futuristic thinking is a kind of thinking that needs prediction with reasoning and the use of reliable information in order to make the best choices. Mischel (1974) has identified futuristic thinking as it can predict long term futuristic success, consider about the pros and cons in each and every decision making, and boost the feeling for a better future. The process creates strategies planning to achieve the appointed goal. Cornish (1993: 27) says that futuristic thinking is like radar that swept the world to make it a better place and warns what will happen, what are the unexpected circumstance, and what is or is not a big deal. Futuristic thinking creates prediction and strategies planning, including the norm goal and value which concern the future with critical thinking. Futuristic thinking can be prediction, scientific imagery, finding probability of what will happen in the future by using information from the past and the present. Raynor (1982) states the importance of futuristic thinking that it is the force behind hard work to the fullest which comprise of benefits in the long run. Crabbe (1989) identifies futuristic thinking as it 1) boost the students' interest in thinking about their future 2) boost problem solving ability 3) boost communication ability 4) boost creative thinking 5) boost the ability to work as a team and 6) boost analytic thinking.

From studying the factors concerning and relating to futuristic thinking, it is found that the number of factors have massive impact to which the researchers study only those that played important roles which are emotional intelligence, motivation, self-directed learning and attitude towards learning.

4. Method

4.1 Population and Sample

The population are 6,798, 9th graders, studying in their second term in 2019 in Srisaket province, the office of Matayom educational service area Srisaket province and Yasotorn province of 56 schools.

The sample are 860, 9th graders, studying in their second term in 2019 in Srisaket province, the office of Matayom educational service area Srisaket province and Yasotorn province of 12 schools, studying in regular classroom selected by using multi-stage random sampling. There are 216 students from especially big-sized school, 160 from big-size school, 302 from medium-size school and 182 small-size school.

4.2 Research Instruments

This study uses Likert type scale. They are: 15 items of measurement of futuristic thinking, 15 items of Emotional Intelligence, 9 items of Motivation, 9 items of Self-Directed Learning and 9 items of Attitude towards learning.

Checking criteria : This study uses 5 level rating scale like the one used in Srisa-ard (1999: 103) ; 5 means the message most related to the student, 4 means the message is very related to the student, 3 means the message is mildly related to the student, 2 means the message is not so related to the student, 1 means the message is not at all related to the student. In translating these levels, the researchers put the meaning of the score into ranges: score 4.51-5.00 means the student has this factor the most, score 3.51-4.50 means the student has this factor very much, score 2.51-3.50 means the student has this factor in medium level, score 1.51-2.50 means the student has this factor in small level, score 1.00-1.50 means the student has this factor in the least level,

Steps in creating and quality checking of the measurement

1) pinpoint the aim in creating **2)** the way of thinking, theories and research related to assign the practice definition **3)** from the practice definition, translates into creating the questions in Likert scale **4)** the researchers have 5 experts evaluate the questionnaire to find the Likert Scale measurement meaing **5)** improve the questions according to the experts' comments **6)** try out the improved questionnaire with 30 students who are not the subjects of the study **7)** analyze the discrimination by using item total correlation to find positive correlation with the total score with statistical significance of .05 **8)** analyze the reliability by using Cronbach's alpha coefficient

9) print out the actual questionnaire to collect the data. The quality of the research instrument is presented in table 1

Table 1. Shows the quality of the research instruments

Variables	Validity (IOC) from Experts (n=5)	Discrimination (Item Total Correlation)	Reliability (Cronbach's Alpha Coefficient)
Future Thinking: FT (15 items)	06.0 - 1.00	7..0 -7.0.	7..0
Emotional Intelligence :EQ (15 items)	06.0 - 1.00	7.06-7.. 0	7..0
Motivation: MO (9 items)	06.0 - 1.00	7.0. -7.. 0	7..0
Self-Directed Learning: SD (9 items)	06.0 - 1.00	7.60-7.. 0	7..0
Attitude toward Learning: AT (9 items)	06.0 - 1.00	7..7 -7.00	7..7

From table 1, all the 5 items in the instruments are valid by considering the index of congruence, the discrimination factors are valid by considering the corrected item total correlation and the reliability is valid by considering Cronbach's alpha coefficient.

4.4 Data Collection

1) send out official letters for doing the research from the faculty of Education, Mahasarakham University to the school director in order to collect the research data from sample school, including the steps to collect the data **2)** communicate with the head of the academic affair of each sample school to appoint for the time and date to self-collected the data and ask for the teachers to collect the data according to the steps given **3)** prepare the questionnaires according to the number of sample students **4)** travel to collect the data according to the appointed time and date **5)** screen the data collected if they are usable to the research study by putting code on them in order to analyze

4.5 Data Analysis

The data are analyzed with mean, standard deviation, Pearson's product moment correlation and stepwise multiple regression analysis

5. Results

5.1 Part I: The Results of A Study on the Relationship of Factors Related to Futuristic Thinking Present in Tables 2 and 3

Table 2. Mean and Standard deviation of the variables studied

Variables	Mean	Std. Deviation	Level
FTT	4.1951	.54369	High
EQT	4.0872	.49673	High
ACT	4.0280	.52232	High
SET	3.9868	.56370	High
ATT	3.9978	.50615	High

From Table 2, it was found that the sample group of Grade 9 students had the level of 5 variables: Future Thinking, Emotional Intelligence, Motivation Self-Directed Learning and Attitude toward learning is at a high level.

Table 3. Correlation Matrix of variables

Variables	FTT	EQT	ACT	SET	ATT
FTT	1.000				
EQT	.791*	1.000			
ACT	.714*	.682*	1.000		
SET	.735*	.748*	.720*	1.000	
ATT	.701*	.673*	.767*	.695*	1.000

From Table 3, it was found that all 5 variables were statistically related at the .05 level with correlation coefficients ranging from .673 - .791. The variables with the lowest correlation coefficient were attitude towards learning and emotional intelligence (r_{xy} = .673), while the variable with the highest correlation coefficient (r_{xy} = .791) was future thinking and emotional intelligence.

5.2 Part II: The Results of the Equation for Predicting Future Thinking of Grade 9 Students are Shown in Table 4-5

Table 4. Shows the Multiple Correlation Analysis and R-Square

Model	R	R Square	Adjusted R Square	Change Statistics		
				R Square Change	F Change	Sig. F Change
1	.791[a]	.626	.626	.626	1438.400	<.001
2	.827[b]	.684	.683	.057	155.033	<.001
3	.836[c]	.699	.698	.015	43.881	<.001
4	.841[d]	.707	.705	.008	22.599	<.001

a. Predictors: (Constant), EQT
b. Predictors: (Constant), EQT, ACT
c. Predictors: (Constant), EQT, ACT, SET
d. Predictors: (Constant), EQT, ACT, SET, ATT
e. Dependent Variable: FTT

From Table 4, it was found that all 5 predictors could jointly explain the variance of the criteria variable (Future Thinking) by 70.7%.

Table 5. Shows unstandardized coefficients and standardized coefficients

Variables	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	.180	.090	-	1.987	.047
EQT	.483	.033	.441	14.743	<.001
ACT	.179	.033	.172	5.364	<.001
SET	.172	.030	.179	5.661	<.001
ATT	.159	.033	.148	4.754	<.001

From Table 5, the forecast equation can be written in the form of the raw score equation and standard scores as follows

Unstandardized Equation : $FT' = .180 + .483EQ + .179MO + .172SD + .148AT$

Standardized Equation : $Z_{FT'} = .441Z_{EQ} + .172Z_{MO} + .179Z_{SD} + .148Z_{AT}$

6. Discussion

The research results found that all the 5 predictive factors can explain 70.7% variance of criterion variable ranging from the least to the most which are emotional intelligence, motivation, self-directed learning and attitude toward learning. The details are explained as follows.

Emotional intelligence: From reviewing the thinking, theory and research related to the study, it is found that Emotional intelligence means the ability to realize both themselves and other's emotion. This emotional intelligence help with handling one's own emotion and can live a happy life. This factor ought to be the factor that effects futuristic thinking (Mayer and Salovey, 1990; Bar-On, 1997; Mayer and Salovey, 1997; Cooper and Sawaf, 1997; and Goleman, 1998). The intelligence involves 5 dimensions which are realizing of oneself, the ability to control oneself, inspiring oneself, being considered of others and social skills. All of this needs futuristic thinking.

Motivation: It can be concluded that the ability to be inspired are those who are eager and work hard to achieve what they aim for.

From studying the way of thinking, theory and research studies on motivation, it was found that motivation makes higher futuristic thinking. Motivation means the longing to achieve something so this study applied the meaning and create 3 measurement factors (Atkinsion, 1964; Gullford, 1967; McClelland, 1969; herman, 1970 and Wiener, 1972). They are the longing to achieve, the feeling of wanting to be accepted and responsibility by using Likert scale. Students who have high level of motivation are brave, ambitious, work on their strategies to meet the goal and overcome obstacles. These people who have futuristic mindset are people who want success. Therefore, they have hope for the future.

Self-Directed Learning: From studying the way of thinking, theory and research studies on Self-Directed

Learning, it is found that they are those students who can sustain themselves from temptations suitably in different situations. Self-Directed Learning affects futuristic thinking immensely which the researchers found that Zimmerman and Martinez-Pons (1986) and Pintrich and De Groot (1990) have divided into 3 observable aspects which are self-control, self-adaptation and the ability to reform oneself. Being able to do these things bring success to one's life. Likewise, students who can achieve these qualities are those who work hard at school and make impressive marks. Success comes from the ability to enhance oneself to change their behavior which comprised of intelligence, behavior and personal traits.

Attitude towards learning: From studying the way of thinking, theory and research studies on Attitude towards learning, it can be concluded that this means the feelings and thinking that show both positive and negative outcome of learning. According to McGuire (1969), Triandis (1971) and Freeman (1975), they divide 3 factors in making the measurement which are knowledge, feelings, and behavior. If the students have good attitude towards learning, they will behave appropriately which will reflect on their success in school and other aspects in the future.

7. Research Suggestions

7.1 These are the Suggestions from the Study

1) School/class should add in the curriculum which promote Emotional intelligence because it help predict their futuristic think **2)** In classroom management, teachers should focus also on motivation, self-directed learning and good attitude towards learning **2.1** The study results show that the most influential factor in futuristic thinking is Emotional intelligence which signifies that students with this quality are more successful than those who is not. Therefore, stakeholders should support institute to develop the curriculum which boost the learners' Emotional intelligence so that they can make the right choices in life. This apply especially to counselling teachers and parents who can guide, enhance and advice the students. **2.2** The other factor that influence futuristic thinking in both direct and indirect ways is having the students react appropriately to problems and plan for the future which involve self-direct, personality, attitude towards learning, urges to strive to be the best they can be, and democratic upbringing.

7.2 Future Research Recommendation

1) Develop programs that enhance futuristic thinking by focusing on emotional intelligence first and foremost. **2)** There should be studies on how to enhance students' emotional intelligence in many different ways which signifies futuristic the most.

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