Relationship Domain of Form Six Teachers Thinking in Teaching with External Factors of Form Six Teachers

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Article Info	ABSTRACT
	This study aims to examine the external factors of form six teachers who can influence thinking domain form six teachers in their teaching. This study was conducted using a quantitative approach using questionnaires. A total of 300 form six teacher schools in Johor were chosen as respondents. The findings were obtained as student background factors are the most important factors that influence the thinking domain of form six teachers with a mean value of 4.54 and the domain of thinking is that teachers' expectations domain is the most important with the 4:54. Relation to external factors form six teachers with thinking domain form six teachers in the teaching of significant positive classroom atmosphere factors with $r = .524$, school goals with $r = .405$, needs of students with $r = .454$ and students background with $r = .423$. This study will help the Ministry of Education to raise the standards of form six education. *Copyright © 2015 Institute of Advanced Engineering and Science.* *All rights reserved.*

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1. INTRODUCTION

Form six is a continuity of learning for students who have a Certificate of Education (SPM) and may be an option for students to pursue pre-university level. Form six at government school is fully managed by the Ministry of Education (KPM). At the end of the form six, students sit for the Malaysian Higher School Certificate (STPM), which is controlled by the Malaysian Examinations Council (MPM). Form six offers two majors of science and arts with the availability of 24 subjects. Teachers who teach form six which consists of three categories as excellent teachers, academic form six teachers and teacher assistants (teachers who teach secondary education level).

1.1. Background

Efforts to transform the form six by KPM [1], taken the initiative by the Bahagian Pengurusan Sekolah Harian [2] to create a new management in the form six as curriculum, student affairs and research, including the appointment of new posts of assistant senior form six who manage all affairs of the form six. The new management of the form six this can bring a positive change in the aspect of teaching in form six.

The new management of the form six created in keeping with post-secondary education system (pre-university education) which is using lectures, lecture-discussions, tutorials and projects (Abdull Sukor Shaari [3]; Kauchak, D., & Eggen, P., [4]), parallel efforts to transform the form six by KPM. MPM is a statutory body which operates STPM undertook a new assessment system. Assessment for form six students are the

assessment through a centralized examination conducted by MPM each end of the term and the assessment made by the subject teacher at the school through course work [5].

1.2. Statement of Problem

Appropriate teaching approach with form six students as pre-university students can encourage SPM students continue form six in accordance with the views of Pascarella [6] emphasized the teaching of post secondary education, focusing on how students can learn and develop intellectually by expanding the use of teaching approaches innovative. Innovative teaching approaches can also change to teaching an attractive and appropriate in accordance with the emphasis of Stodolsky and Grossman [7] found that teachers need to make changes in their teaching approach for students to deal with changes.

Form six teaching process is heavily influenced by the thinking of a teacher, with the factors that affect the domain of form six teachers thinking (GT6) is very important in order to be studied as an example to other teachers in form six. Many factors can affect domain of GT6 thinking including external factors of teachers in the delivery of teaching which involves teaching the planning process, during and after teaching lessons [8].

According to the Bahagian Pengurusan Sekolah harian, KPM [2] and Bahagian Perancangan dan Penyelidikan Dasar, KPM [9], the number of SPM leavers to enroll for the form six is growing. This scenario proves that the KPM has tried to give the widest opportunity to pursue SPM form six. Data obtained from the shows the number of students studying form six students totaled 97 806 in year 2014. Number of teachers who teach form six throughout Malaysia in 2014 stood at 12 136 teachers. Number of form six students is more shows GT6 play an important role in determining the success of students after pre-university education.

Thinking of GT6 is to be important factors in influencing any plans, decisions and actions in teaching. Thinking refers to a mental process that requires knowledge in mental processing skills to solve a problem. Someone thinking would form the behavior and attitude of a person [10],[11]. Thinking of GT6 can affect domain of teachers thinking in the teaching process. Studies conducted thinking of GT6 can produce useful educational information to improve teaching effectiveness in form six students. Thinking of teachers in primary education, secondary education and form six education vary due to factors acceptance level of education of students and student characteristics.

2.   LITERATURE REVIEW

This study examines the relationship between external factors influencing domain of form six teachers in teaching. Process of GT6 teaching through three phases: planning, acting and making judgments. Teaching plans made before GT6 entered the classroom, acting pursuant to the planning of teaching in the classroom and make an evaluation is to measure the effectiveness of teaching. Symbolic Interaction Theory used in this research with the strong support given underlying models and findings related to teaching submitted by Teachers' Thinking Process and Action Clark & Peterson [8], Teachers' Planning Decision Model Myers & Myers [12], Parkay, FW, & Stanford, BH, [13] and Kauchak, D., & Eggen, P. [4].

2.1. Symbolic Interaction Theory

Hargreavas DH, [14] apply Symbolic Interaction Theory for educational purposes by emphasizing that the thinking of a teacher in action and teaching on students affected by school and community. Perspective of Symbolic Interaction Theory describes the understanding of human behavior from the perspective of a subjective view of human behavior is a process of designing and shaping behavior based on considerations other individual expectations. Individuals behave according to their interpretation, affected by environmental factors. Individual changes caused by interactions between people as individuals always think and act accordingly so that people understand; with the individual interactions are important determinants of individual behavior.

2.2. Domain of Teachers Thinking

Domain of thinking refers to thinking in the teaching field. Model of Teachers' Thinking Process and Action Clark & Peterson [8] states in the teaching process will involve the mental process of making decisions related to planning, decision and action in the teaching process (before, during and after the lesson). In producing an effective teaching process, domain of thinking is an important determinant of the effectiveness of teaching. Teachers teaching process involves the planning, during and after teaching lessons. Planning, decisions and actions of teachers rely on domain of teachers thinking. Domain of teachers thinking include teaching philosophy, instructional goals, pedagogical content knowledge (PCK), classroom management, teacher expectations, assessment, technology and research and innovative individuals.

According to Myers [12], teaching goals set by teachers and school leaders on student achievement through planning and teaching. According to Shulman [15] PCK as a knowledge that enables teachers to change their teaching methods based on the topic so that teaching becomes more interesting and understandable to students. PCK symbolizes the integration between content and pedagogy. Teachers' expectation of students is a teacher expectation on student achievement. Teaching delivered by teachers differ in terms of mastery of content, teaching methods, the school's mission and evaluation of students by level of education [4]. According Parkay, FW, & Stanford, BH [13], teachers need to master the technology in improving the professionalism of teachers, including knowledge of how the integration of technology for teaching.

Research conducted by the teachers to improve teaching effectiveness is an action research. Through action research, teachers are able to understand and critically examining is one way teachers can enhance their knowledge by studying the professionalism in the classroom [4]. Yang et al. [16] see innovative individuals can also be explained through persenolity individual characteristics such as its ability to be independent, thoughtful, able to introduce new ideas, and be able to perform tasks efficiently.

2.3. External Factors Teachers

According to Myers [12], the background of students is from different socio-cultural norms of student life. Teachers need to think about making plans and teaching techniques appropriate to the students' background as distinct and unique needs of students with each other. Those needs included physical, emotional, psychological and academic. Various student cause different student needs. Class size is the number of students in a classroom in which there are large numbers and small numbers. Number of students in the classroom requires teachers to think about planning or activities appropriate compared with the number of students a little. Classroom atmosphere refers to the situation which exists in a classroom that is the feeling of psychological and social well-constructed by a teacher. Classroom atmosphere is influenced by ecological factors, milieu, social and cultural systems. School set goals need to be implemented by the teacher, if in teaching students must achieve at a specified level. Teachers can use their autonomy as regards teaching using suitable methods in the delivery of knowledge to students.

3. METHODOLOGY
3.1. Research Design

This study was conducted through a survey to study the thinking of form six teachers in teaching. Data obtained from the form six teachers using a questionnaire. Respondent data collected using questionnaires instrument given to the respondent at a time. Data were analyzed using descriptive statistics and statistical inference. Descriptive statistics of frequency and percentages were used to determine the profile of the respondents. Descriptive statistics of mean and standard deviation were used to determine the domain of form six teachers thinking and needs external factors by form six teachers. Inferential statistics, Pearson correlation was used to determine the relationship between external factors GT6 with domain of GT6 thinking in teaching. This study used quantitative methods because only involves data that is analyzed using numbers. Babbie, [17] and correlation studies were conducted involving the measurement of the degree of relationship between two variables [18].

3.2. Conceptual Framework

The conceptual framework consists of three variables, namely external factors GT6, background GT6 and domain of GT6 thinking in teaching. External factors GT6 and background GT6 an independent variables while domain of GT6 thinking in teaching is the dependent variables. External factors GT6 consist of five components, namely students' backgrounds, students' needs, class sizes, classrooms atmosphere and school goals. Background of GT6 consists of eight components namely grade teachers, teaching experience, experience GT6, subject's form 6, specialized subject, teaching periods per week, academic qualification and attendance research courses. Variable domain of GT6 thinking in teaching consists of eight components namely teaching philosophy, teaching objectivess, pedagogical content knowledge (PCK), classroom management, teacher expectations, assessment, technology and, research and innovative individuals.

3.3. Research Sample

Data of form six teachers who teach in the state of Johor obtained from the Johor Education Department is about 1279 teachers. Referring to Table Sample Size Determination by Krejcie & Morgan [19], 300 form six teachers as respondents in this study.. This study used cluster sampling procedure based on 10 districts in the state of Johor. Number of form six teachers every area selected by 23% of the total number of form six teachers who teach each district.

3.4. Research Instruments

This study consists of three parts, part A questionnaire was related background questionnaire GT6, part B is related to external factors GT6 and part C of the questionnaire related domain of GT6 thinking in teaching. External factors GT6 questionnaire consisted of 35 items and domain of GT6 thinking in teaching consisted of 78 items. External factors GT6 questionnaire based on questionnaire by Hafidah Mohamed [20] and domain of GT6 thinking questionnaires based on questionnaire by Hafidah Mohamed [20] and Noraini Mohamed Noah [21].

The questionnaires were modified to suit the purpose of this research. The questionnaire was verifed by two experts in the field of curriculum and instruction from Universiti Teknologi Malaysia (UTM) and Universiti Putra Malaysia (UPM). The pilot study was conducted involving 30 respondents. Pilot study respondents are not used in a real study. Through the pilot study, the Cronbach Alpha for the items external factors of form six teachers between 0.770 to 0.879 and domain of GT6 thinking in teaching between 0.789 to 0.887. Based on Sekaran [22] Cronbach Alpha value between 0.6 and 0.8 is the good reliability of questionnaire items and is suitable for use in the actual survey.

4.   DATA ANALYSIS
4.1. Profile of Form Six Teachers

The GT6 involved consists of various backgrounds GT6 is 106 (35.3%) consists of GT6 men and 194 women (64.7%). From the aspect of marriage, 259 GT6 (86.3%) were married and 41 (13.7%) unmarried. GT6 who holds the first degree a total of 244 GT6 (81.3%) and 56 GT6 (18.7%) holds a post graduate (master's degree and doctorate). GT6 grade DG41, which has a total of 58 GT6 (19.3%), DG44 total of 95 GT6 (31.7%), DG48 total of 112 GT6 (37.3%), DG52 total of 20 GT6 (6.7%) and DG 54 of 15 GT6 (5.0%). Form six subjects of a total of 244 GT6 (81.3%) teaching art subjects and 56 GT6 (18.7%) teach science subjects. On an average attendance of research course GT6 is 2 days, teaching periods per week is 18 hours, teaching experience as a teacher 18 years and experience teaching as a teacher form six is 10 years.

4.2. Needs external factors by form six teachers

Referring to Table 1, there are five external factors GT6 needed in the teaching of students' backgrounds, students' needs, classrooms atmosphere, school goals and class sizes. Based on table 1, it was found that the students' backgrounds was the highest needs with a mean score of 4:58, followed by the students' needs with the 4:52, the school goals needs with a mean value of 4.50, the needs of classrooms atmosphere with a mean of 4:42 and class sizes needs with the mean value 3:35. Based on the interpretation of the score table Nunaly & Bernstein [23] it was found that the students' backgrounds, students' needs, classrooms atmosphere, school goals are classified as high-score needs and the needs of the class sizes are classified as moderate high.

Table 1. Needs external factors by form six teachers

External factors GT6	Mean	Standard Deviation	Classification
1.Students' Backgrounds	4.58	0.38	High
2.Students' Needs	4.52	0.46	High
3.Classrooms Atmosphere	4.42	0.42	High
4.School goals	4.50	0.46	High
5.Class Sizes	3.35	0.67	Moderate High

4.3. Domain of Teachers Form Six Thinking in Teaching

Refer to Table 2, there eight domains of GT6 thinking in the teaching are teaching philosophy, teaching objectivess, PCK, classroom management, teacher expectations, assessment, technology, and research and innovative individuals. Based on table 2, it was found that teachers' expectations are domain of GT6 thinking in teaching the highest mean value of 4.55, is 4.44 PCK domain thinking, assessment domain thinking is 4.30, domain of teaching philosophy thinking is 4.25, domain of teaching objectivess is 4.23, domain of thinking classroom managemant is 4.14 , domain of research and innovative individuals is 3.88 and the domain of technology is 3.82. Based on the interpretation of the score table Nunaly & Bernstein [23], found that domain of teachers' expectations, PCK, assessment, teaching philosophy, teaching objectives and classroom management were the domain of thinking GT6 in teaching classified as a high level while the domain of thinking of research and innovative individuals, and technology were classified as a moderate high level.

Table 2. Domain of Teachers Form Six Thinking in Teaching

Domain of Teachers Form Six Thinking in Teaching	Mean	Standard Deviation	Classification
1. Teaching Philosophy	4.25	0.45	High
2. Teaching Objectives	4.23	0.40	High
3. Pedagogical Content Knowledge (PCK)	4.44	0.48	High
4. Classroom Management	4.14	0.44	High
5. Teacher Expectations	4.55	0.47	High
6. Assessment	4.30	0.50	High
7. Technology	3.82	0.48	Moderate High
8. Research And Innovative Individuals	3.88	0.60	Moderete High

4.4. Relationship between external factors GT6 with domain of GT6 thinking in teaching

This study was to determine the relationship of the components external factors GT6, namely students' backgrounds, students' needs, class sizes, classrooms atmosphere and school goals with domain of GT6 thinking in teaching, Pearson correlation was used to obtain the results of a study on the relationship between external components external factors GT6 with domain of GT6 thinking in teaching. Based on table 3, the results show that all the components of the external factors GT6 that teachers have a significant relationship unless the relationship with the class sizes. Based on the size of the correlation coefficient interpretation table Gravetter and Wallnau [24], found correlation domain of GT6 thinking in teaching with external factors GT6 were significantly moderate level is correlated with classrooms atmosphere (.524) and significant relationship was on the weak level is the students' backgrounds (.423), students' needs (.454), school goals (.495) as Table 3.

Table 3. Relationship between external factors GT6 with domain of GT6 thinking in teaching

		FST	SB	SN	CS	CA	SG
1.Domain Of Teachers Form Six Thinking in Teaching (FST)	Pearson Correlation Sig. (2-tailed)	1					
2.Students' Backgrounds (SB)	Korelasi Pearson	.423**	1				
	Sig. (2-tailed)	.000					
3.Students' Needs (SN)	Korelasi Pearson	.454**	.741**	1			
	Sig. (2-tailed)	.000	.000				
4.Class Sizes (CS)	Korelasi Pearson	.097	.161**	.126*	1		
	Sig. (2-tailed)	.093	.005	.029			
5.Classrooms Atmosphere (CA)	Korelasi Pearson	.524**	.472**	.468**	.170**	1	
	Sig. (2-tailed)	.000	.000	.000	.003		
6.School Goals (SG)	Korelasi Pearson	.495**	.439**	.410**	.131*	.428**	1
	Sig. (2-tailed)	.000	.000	.000	.024	.000	

N=300
** Significant at 0.01 levels *(2-tailed)*
* Significant at 0.05 levels *(2-tailed)*

5. DISCUSSION AND CONCLUSION

The findings show external factors GT6 can affect domain GT6 thinking in teaching. The mean value obtained from analysis of the data showed students' backgrounds, students' needs, classrooms atmosphere and school goals are high-level requirements. The results showed that factors related with students namely students' backgrounds and students' needs are getting the highest mean value compared with other factors. This study was consistent with the Model of Myers and Myers [12] which states that factors related to students is very important that can affect domain of GT6 thinking in teaching. This study according to findings by the KPM [1] states the role of parents and the community to contribute significantly in student success because 73% of the time the students are out of school compared to 27% in school.

The findings related to the domain of GT6 thinking in teaching show domain related aspects of teachers thinking that teachers' expectations, PCK, assessment, teaching philosophy, teaching objectivess and classroom management gave high mean values indicating a high level of importance to the domain of GT6 thinking in teaching. For the domain of research and innovative individuals, and technology are moderately high. Domain of teachers' expectations is highest shows GT6 should determine high expectations on students because it can contribute to student success. This is consistent with Model of Myers and Myers [12], Brophy & Evertson [25] and Sahandri, Hafidah & Mohammad [26] states that the high expectations of teachers can positively impact student achievement.

The data analysis also showed GT6 must master domain PCK in teaching although student form six categorized as pre-university level students. Domain of PCK is the knowledge possessed by the teacher who

has the expertise to differentiate with the subject content experts [27]. According to Shulman [15] PCK refers is own kind of knowledge that should be known by the teacher to change the content of a subject aims to make teaching more attractive and easily understood by students. Findings indicate that domain of PCK thinking in teaching in the form six is the high level. Emphasis domain of PCK thinking consistent with the view by Peter [28] which states PCK allows teachers to plan and be able to demonstrate a difference in teaching, which contributed to the achievement of good teaching. The findings of this study there was no difference with the findings by Hinton [29] over 43 teachers and 805 students found that a high percentage given to teachers who diversify teaching methods than the teachers who make less use of teaching strategies.

Through this study, it was found domain of technology, and research and innovative individuals ranked moderately high. The findings of this study support the findings of a study conducted by the KPM [1] found that 80% of teachers use Information and Communication Technology (ICT) at least an hour a week. The importance of the use of technology can improve the effectiveness of teaching. This thinking very important domain coincides with KPM planning [1] encourage teachers to use ICT in teaching and in parallel with the emphasis by Parkay, FW & Stanford, M.H. [13] teachers need to master the technology in improving the level of professionalism. Domain of thinking in research and innovative individuals is also less emphasized by the GT6. Scenario is not parallel with the KPM [1] the element of innovation in teaching which can have a positive impact on teaching. KPM emphasis is consistent with Kaunchak, D., & Eggen, P. [4] conducted action research can identify effective teaching methods in the classroom.

Based on research findings, namely students' backgrounds and students' needs is an important contributor in influencing domain of GT6 thinking in teaching. Thus the Ministry of Education especially appropriate school authorities conducting programs related to the role of parents in the education form six. Plans made by KPM [1] should be translated into implementation through appropriate programs. Related to this, there is no denying the role of the Parent Teacher Association (PTA) has become an important platform to help the teachers in influencing GT6 in teaching.

The study also showed that domain of thinking teachers' expectations is very important in teaching. The findings by Sahandri, Hafidah & Mohammad [26] and the emphasis in the Model of Myers and Myers [12] states that teachers put high expectations on students will have a positive impact on the effectiveness of student academic achievement. A study conducted by Rutter et. al [30], found that high teacher expectations can reduce behavioral problems among students. For Mc Clelland [31] supports this finding by stating that human thinking and expectations as to guide the behavior of a person.

Based on these findings, it can help the KPM especially the schools and the state education department to run programs and courses for parents, GT6 and form six students. The schools can provide programs to strengthen the relationship between parents and the school. GT6 always given courses and motivation to have higher knowledge and confidence in the abilities of students. Moreover courses related to teaching pedagogy are always held from time to time. KPM appropriate to give adequate provision, so that programs and courses can be held in accordance with the Education Development Plan (PPPM).

The emphasis in the PPPM on ICT and innovation mastery among GT6 poses a major challenge for teachers to implement this element in the domain of thinking in teaching. The findings of this study showed GT6 has not reached a satisfactory level mastering the field of technology and innovation. The findings showed that this field of technology and innovation contribute to enhancing the performance of the GT6, therefore the KPM appropriate conduct further research on the factors of this scenario. The school may conduct its own initiative, such as conducting internal courses to improve GT6 mastering technology and, research and innovation.

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