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Six Thinking Hats: A Study to Understand the Reasons and Extent of their Application in the English Language Classroom

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Abstract- *A qualitative case study was carried out in a school that encourages the application of the Six Thinking Hats (STH) to understand the reasons and extent of their application in the English Language classroom. The purpose of this study is to fill the gap in the literature in this area with the view to help situate the factors affecting the STH application. Research methods applied in the research include interview as well as the distribution, collection and data analysis of both teachers and students' survey questionnaires, using systematic and convenience sampling methods. From these, the factors affecting the application of the Six Thinking Hats in the English Language classroom was identified. Moreover, the extent to which the STH are implemented at different levels of education were found to conform with the factors of the STH application. Responses regarding the use of the Six Hats were generally positive but varied mainly according to teachers' personal educational beliefs as well as students' language competency levels and thinking skills. In order to increase the effectiveness of the STH application in all classes, beginning from the early levels of education, implications include a whole-school approach to create awareness and to encourage implementation. Positive implications of applying the STH is found to be related to its practicality and further recommendations as to how the STH may be applied in various classes to maximize learning outcomes by directing learners to think independently from an early age are made. Finally, areas which this study may be used for future research are also suggested.*

Keywords- *Six Thinking Hats; English Language Classroom; Critical Thinking; Higher-Order Thinking; Metacognitive Process*

INTRODUCTION

Following the rise of technology, economic growth and social progress, the 21st century's education has made a paradigm shift from a traditional approach that is solely driven by academic achievement, to a constructivist approach in teaching and learning that provides a diverse and innovative learning for all children (Glenn 2008; Sinay, et al., 2012). In order to produce and extract knowledge from a sea of information, participate efficiently with an expanding array of acquaintances and address unforeseen challenges that may arise, the ability to make connections and find solutions through critical thinking and problem solving skills are placed at the forefront of needed skill sets (Glenn, 2008; UNESCO, 1992). In response to the widespread interests of developing children's thinking and learning skills, specific interventions have been found constructive in improving children's thinking and intelligence (Fisher, 2006). Still, thinking is often limited to a particular perspective which may not always be the most appropriate (Jesson, 2012). Thus, in 1985, De Bono (1999) introduced the Six Thinking Hats (STH), a parallel thinking process which allow thinkers to simplify thinking by dealing with points consecutively and carry out 'a switch in thinking'. Through the application of the STH, it is set to aid the creative state of mind and to stimulate learners to think and control learning (Kruse, 2010).

As research evidences endorse the urgency of teaching thinking, the national curriculum and other programmes have increased the opportunities to teach this specific skill (Fisher, 2006). Thus, numerous explanations and examples are intent to promote and outline the usage of the STH, described to be 'a simple, effective parallel thinking process that helps people be more productive, focused, and mindfully involved' (De Bono, 2011a). Nonetheless, despite the increasing popularity that the Six Hats has gained in schools, there are uncertainties as to whether this technique will continue to catch on (Pugh, 2009). This is because whilst the STH is believed to help save time, reduce conflict and boost productivity (Serrat, 2009), there are evidences of others questioning this claim and who are not comfortable in using the technique (Kapeleris, 2012). For instance, as each hat signals a particular thinking ingredient, the STH appear easy to be put on and taken off (De Bono, 2012). Husbands (n.d. as cited in Pugh,2009), however states otherwise, he claims that 'thinking tools may be a way to improve teaching, but they are very time-consuming in the classroom'.

The STH may be tailored to fit learners' needs in order to produce tangible results (Jasper, 2006 cited in Al-Bahadli, n.d) and people aver that the STH is easy to employ in the primary years (Pugh, 2009). These same people, however, claim that the technique may only be incorporated into subjects by committed teachers in secondary education (Pugh, 2009). Then again, most of the successful literatures are found in the secondary and higher level of education with little researches done in primary education. Additionally, much literature on critical thinking and thinking skills tool like the STH, are often seen in the Environmental Studies and Sciences subjects, which requires problem solving and inquiry based approach (Ballantyne et al., 2001; UNESCO, 1992). Nonetheless, the necessity of incorporating critical thinking into all subjects, including English, has become increasingly recognized to equip learners in developing their thoughts, even before they enter university, as many students today struggle to meet this expectation (Hove, 2011; Carmichael, 2006).

In this 21st Century, the development of thinking skills has become a prominent feature in teaching learners 'how to think'. Thinking skills tools such as the Six Thinking Hats are thus implemented in the classrooms, to equip students with the skills needed for metacognitive processes. In employing thinking tools into the inquiry-based classrooms, teachers and students are set to confront their own notions and explore new things, instead of learning by note. As each STH provides a framework for organised thoughts that may be changed purposefully (Stone, 2005), a more rounded view of a particular task is provided for all learners to share an equal opportunity, for a joyful and beneficial learning (Starko, 2010; Al-Bahadli, n.d). Hence, by applying the STH in a whole school approach, not only may it be used to enhance inquiry subjects such as Science, but also the English subject which has become more recognized to require critical and creative thinking. According to Naginder Kaur (2013), one of the many predicaments faced by language learners at all levels is lack of lexical competence, resulting in lagging proficiency levels and inability to relate to the four language skills and this research advocates the use of six-thinking hats to address the issue.

Since this time-tested thinking tool has been proven effective by leading companies and in schools such as the Franny McAleer's Group (De Bono, 2012), the purpose of this research is not to question but to enhance the usage of the Six Thinking Hats in school. This study will thus attempt to identify the factors affecting the application of the Six Hats in the English classroom and the extent to which the STH is applied in the primary and secondary education. In order to value the use of the STH technique, this study will address two objectives. The first objective is to identify the factors affecting the application of the Six Thinking Hats in the classroom. Second, is to investigate the extent to which the Six Thinking Hats are implemented in the classrooms. In the process, recommendations will be made to schools to enhance the STH usage. Thus, the fundamental research questions central to this study are:

1. What are the factors affecting the application of the Six Thinking Hats in the English Language classroom?
2. To what extent are the Six Thinking Hats implemented in the English Language classroom?

The results of the following case study will serve as a reference for educators, organizations or individuals interested in promoting the STH usage in the classroom as factors affecting its application are identified. Moreover, it will provide a deeper understanding of how the implementation of the STH may vary and be used more effectively in the English subject. In addition, this study will generate vital findings for future researches intended to review the application of the STH for a particular age group or strand in English. It will also present important information for researchers interested in investigating STH usage at diverse levels, for a different subject.

LITERATURE REVIEW

There has been a rising interest, internationally, in both the development of learners' thinking skills and self-initiated inquiry-based learning (Jones, 2008). In the myriad of thinking skills tool available, the Six Thinking Hats (STH) has become one of the most prominent thinking tools in the inquiry classroom (McAleer, 2006). This section will thus discuss the nature of thinking skills and explicate the application of the STH.

THINKING SKILLS

Unlike before, the 21st Century education calls for opportunities that extend beyond the "standard" education experiences to equip all students with the skills required to become global competent citizens (Sinay et al., 2012). Education, as Scafersman's (1999) defines, consists of two main goals that are transmitted to students. The first goal is the transmitting of subject matter and acquiring of basic knowledge which is known as "what to think"; whilst the second goal "how to think" involves critical thinking (Schafersman, 1991). Through the growing awareness of societal change and skills that may no longer be fitting to prepare students for the world beyond school (Fisher, 1999), Schafersman (1991) asserts that today's curriculum thrives towards teaching students how to think.

Fisher asserts that 'the basic premise of a 'thinking skills' approach to education is that the quality of our lives and of our learning depends largely on the quality of our thinking' (1999:52). Luterbach and Brown concur in their results through a Delphi study that thinking skills is a skill all 21st Century learners should possess (2011 cited in Sinay et al., 2012). Since the attainment of achieving critical thinking is perceived to be of paramount importance, scores of definitions and descriptions have been attained (Carmichael, 2006). While some theories use the term interchangeably with 'higher-order thinking skills' (Schafersman, 1991), others believe it to include higher order thinking skills along with creativity and other

thinking skills (King et al., 1998; Marrapodi, 2003). There are also arguments that thinking is a holistic activity (Fisher, 1999). Dewey, however points out that critical thinking is defined as an active process as its distinguished elements include metacognition, information processing, analysing and problem solving (cited in Fisher, 1991 and Fisher, 1999).

TEACHING THINKING SKILLS

As thinking is defined and may be taught through diverse means, there is no consensus about how thinking should be taught (Aubrey et al., 2012). As a result, there are doubts as to whether thinking should be taught as a discrete programme or through an infusion with a thinking curriculum all through various subjects and learning areas of the curriculum, to promote the application of specific skills and strategies (Aubrey et al., 2012). There are also queries as to which grade level would be the optimal age group that teachers should begin teaching thinking (Aubrey et al., 2012). Walsh et al. (2007) accentuates that while most literature review on thinking skills have been focusing on the upper primary and secondary education, only Taggart et al.'s recent research has filled the gap in the early years (2005 cited in Walsh et al., 2007). Nonetheless, according to Lai's (2011) research report, empirical research suggests that the development of critical thinking competencies commence in an early age of even 3 to 4 years old but he went on to assert that even 'adults often exhibit deficient reasoning' (Lai, 2011).

Thus, while routine teaching is essential for early development skills, the most powerful learning environment to develop thinking is when time and opportunity is given for learners' discussion of their thinking process (Fisher, 1999). This is to allow learners to make meaning, as Fisher (1999) realizes that the main element of high quality thinking is meaning-making. The significance of this is emphasised by Boyer (1995) of an educated person – that is one who is guided to understand connections between things. So, by equipping learners with the necessary thinking skills tools, by the age of adolescence, it is hoped that the thinking skills tools available may be fully utilized to its maximum worth for a higher level of evaluation and creativity. This is vital as in the intellectual development, adolescence is the period of 'maximum growth and development with regard to mental functioning' (Singh, 2010:53). Walsh et. al.'s findings concluded that 'practitioners can play a salient part in the development of children's thinking, if the appropriate teaching strategies are used' (2007:55). Thus even as the STH technique is 'adapted to suit the age and interests of particular groups of children' (Smith, 2010), it is important that time is allocated and emphasis is placed to develop the interests in the technique (Al-Bahadli, n.d).

"The STH Technique can be applied to most topics, problems or activities" and it is not compulsory to apply all hats for a given situation; neither do the hats have to be set in a particular order (Al-Bahadli, n.d). Several case studies from the De Bono group and testimonials from schools and leading companies have thus proved the STH to be an effective strategy for thinking (De Bono, 2012). Similar indications were noted by Horsfall and Bennett's study among a Year 4 class, that open questioning (as underpinned in the STH technique) ensures improvement in speaking and listening skills, develops effective cooperative work and increase motivation (2005 cited in Walsh et al., 2007). In addition, Al-Bahadli's (n.d) study has elucidated positive impact on college students' performance in composition writing. Consequently, Al-Bahadli (n.d) recommends that thinking skills be taught as part of the educational system and English curriculum.

SIX THINKING HATS

De Bono (2011b) warns that in growing up, prescriptive education pushes children through a series of educational narrow gates, reducing the mind's capacity to exercise 'possibility thinking'.

White Hat Thinking: Just the facts.	The white hat calls for information known or needed. When you ask for white hat thinking you are asking what information is needed, what is available and how it can be obtained.
Yellow Hat Thinking: Benefits. Pluses.	The yellow hat explores the positives and probes for value and benefit. The yellow hat role is for discussing ONLY the positive view of problems and possibilities for solutions.
Black Hat Thinking: Difficulties. Problems.	The black hat is logical and critical judgment: why something may not work. Spot the difficulties and dangers. The black hat points out what cannot be done. The hope is that the black hat will prevent us from making mistakes.
Red Hat Thinking: Feelings. Gut instinct. Intuition.	The red hat signifies feelings, hunches and intuition. When using this hat people can express emotions and feelings and share fears, likes, dislikes, loves and hates. They don't need to justify their statements.
Green Hat Thinking: Creativity. Ideas. Possibilities.	The green hat is an opportunity to express new concepts and new perceptions. People can generate alternative solutions or courses of action, put forward possible explanations or hypotheses, create new scenarios or future states, or generate possible designs.
Blue Hat Thinking: Managing the thinking.	The blue hat deals with controlling the thinking process. The blue hat is sometimes 'given' to one person, who controls which hat will be 'worn', hence controlling the type of thinking being used. The blue hat comments on the thinking being used, asks for conclusions, decisions, etc.

FIGURE 1. Six Thinking Hats (Kruse, 2010:71)

Thus, as we move towards a new era of creativity and of rapid growth and changes, the call to put on our Six Hats is urged to bridge the gap between cultures, as it promotes collaborative thinking, sharpens focus, facilitates communication, enables thorough evaluation, improves exploration and fosters creativity and innovation (Serrat, 2009). The effect of this is by considering a specific problem from various angles (Jesson, 2012).

As shown in Figure 1, the white hat calls for information while the red hat provides opportunity for expressions (Kruse, 2010). Just as the sun shines brightly, the yellow hat symbolizes the positive points, whereas the black hat which is the negative hat, involves detecting problems and critical judgement (De Bono, 2011a). Then there is the green and blue hat which focuses on creativity and manages the thinking process (De Bono, 2011a). Thus, the STH technique is important as it allows learners to become more self-directed even as more information is gained (Starko, 2010; Stone, 2005). In the process of developing beyond a broad view of the purposes of education and developing 'the virtues of affiliation to truth, honesty of expression and a respect for others' (Fisher, 1999:55), users may develop a sense of oneself as a thinker and learner. Hence, Lawrence states that thoughts or thinking 'is the 'wholeness' of a person, 'whole attending'" (1964 cited in Fisher, 1999:53).

In applying the Six Hats, Gonzalez (2001) states that there are no restrictions in its usage as the main idea is to provide a focused direction for individuals as well as groups. Similar to drawing a map, users may take decision of a presented case by investigating the subject from different angles before choosing the route (Granica, 1986). The person holding on to the blue hat leads the discussion and takes responsibility for organising the thinking process by stating the case at the beginning and then directing the group to the thinking process of one particular hat (Kruse, 2010).

Within a group setting, all members must hence be willing to work towards the same direction and think in the same mode throughout a session (Gonzalez, 2001). Ciardiello states that 'the process of generating questions depends on the ability to identify different cognitive levels of questions' (1998 cited in Koechlin & Zwaan, 2006:32). Amidst of abundant types of questions and purposes behind each inquiry, learners must learn to uncover some patterns for themselves by gaining the skill to classify questions and effectively identify the appropriate action towards the source of the answer (Koechlin & Zwaan, 2006). Hence, as each hat provides a framework for organized thinking and supplies cues for open-ended responses, the STH technique is encouraged to support both the teacher and class to think creatively in tackling problems (Jesson, 2012; Stone, 2005).

METHODOLOGY

As the development of thinking skills is significant from a young age, this study has chosen to look into the usage of the Six Thinking Hats to develop thinking skills, across the different levels of education, in the English Language classroom. A qualitative case study was carried out to examine the decisions and behaviour of a particular group of teachers and students, within a single organization setting, subject and use of the STH tool in detail. The purpose of conducting a case study is to gain an in-depth study of an individual program, activity, people or group, as explicated by Mertler (2006). The essence of qualitative research is that it allows flexibility in understanding the complex reality of a given situation through expression and explanation of opinions, feelings, and experience, which may provide implication to any quantitative data as well (Mack et al., 2005; McMillan & Weyers, 2010). Through the qualitative results obtained, a detailed analysis of the factors affecting the STH application and the extent of its implementation may be made.

The main participants in this study are the teachers with corroboration from students' responses. Since the research requires a certain amount of comparison between both secondary and primary education, selected teachers and students from all grade levels were involved. Through a systematic sampling, every one of the English teachers teaching the secondary education was chosen, irrespective of their age and gender. Conversely, as the number of English primary teachers was more than two times the English teachers in secondary school, only two English teachers from each primary grade levels were selected through convenience sampling, except for Crèche which has only one teacher. Additionally, in order to balance the number, two English teachers from IBDP (Diploma level) who also teach the secondary classes participated. As for the sampling of two students from every grade level, convenience sampling was used for easy accessibility (Walliman & Buckler, 2008). The school principal and academic director were included in the research using purposive sampling, as it is believed that they have good knowledge of the processes and system of the school.

The data collection methods applied in this study consists of interview and survey questions. While the interview provides no more than qualitative data, the survey questionnaires consist of both qualitative and quantitative data, to imply some form of magnitude through measurement in numerical form (Walliman & Buckler, 2008). So as to understand the school's intention of carrying out the Six Thinking Hats, a template containing three specific set of questions were designed. The reason behind the structured interviews is to allow easy comparison between the principal and academic director's response. Although questions in the teachers and students' survey questionnaires differed, questions designed for both groups comprised of three main sections: Part A which enquires the participants' background; Part B enquires the participants' knowledge of the STH; and Part C enquires the application of the Six Hats. Using the answers from Part A, an ordinal analysis was carried out, showing the different levels of education. The close-ended questions in Part B used a Likert scale to evaluate the participants'

responses from 'not at all' to 'very much so'. Using the results from Part B, a correlation method was used to describe and analyse the relationship between variables (McMillian & Weyers, 2010). Part C, on the other hand, contained open-ended questions, which enriched the study with authentic quotes representing the diverse views of various groups. Prior to the interviews and handing out of survey questionnaires, participants were informed about the purpose of the study and assured that identities would be kept anonymous. To ensure validity and reliability, a triangulation process by collecting data through several sources were done for research analysis, as Mills states that 'researchers should not rely on any single source of data, interview, observation, or instrument' (2003:52).

THEORETICAL FRAMEWORK

As this case study will look at the STH application throughout primary and secondary education, De Bono's (2004) Six Thinking Hats for the Primary Years Education and the Secondary Years Education have been adapted to form the theoretical framework of this study:

Six Thinking Hats	for the Primary Years Education	for the Secondary Years Education
White Hat	**Information & Facts** What information do we have? What information do we need?	**Information available & needed** What information is available? What information do we need? What information is missing? How are we going to get the missing information? Includes both sides of disputer information. You may report on someone else's feelings.
 Red Hat	**Feelings & hunches** Feelings and hunches. How do I feel about this right now?	**Feelings & hunches** Use is limited to 30 seconds. Signals feelings, emotions & hunches. No justification is required. Gives validity to feelings and hunches. An ingredient in decision making.
 Yellow Hat	**Good points & pluses** What are the good points about this? What are the strengths and pluses? How will it help us? Why will it work?	**Benefits & Values** What are the benefits? Give reasons why. What are the good things about this? What are the values? How will this help us? What is the sense of potential? Why can it be done?
 Black Hat	**Minuses & caution** What are the minuses about this? What are the weaknesses? What is wrong with this?	**Caution, difficulties & problems** What could be the possible problems? What could some of the difficulties be? What are the points for caution? What are the weaknesses? What are the risks? Remember, no solutions required.
 Blue Hat	**What is our Focus?** What thinking is needed? What have we done so far? What do we do next?	**Managing the thinking process** See the thinking focus and the agenda. Sets the timing. Decides on the next step. Keeps the discipline when using the hats. Asks for summaries and conclusions. Asks for decisions.
 Green Hat	**Creativity and Ideas** What is possible? What ideas do you have?	**Creativity and Ideas** We need to make a creative effort. What are the alternatives and possibilities. How do we overcome our Black Hat difficulties? Are there any other ways to do this? Generate as many ideas as possible.

FIGURE 2. Theoretical Framework (De Bono 2004)

Each of the Six Hats is represented by six distinctive colours, specifying a distinct mode of thinking (Stone, 2005). The STH concept has two central intentions; to simplify the thoughts by drawing focus on one specific aspect and allowing a variation in thinking (Granica, 1986). As such, questions were developed for the Primary and Secondary Year educations, according to the mode of each hat, as shown in Figure 1 to assist learners in sharpening their focus.

FINDINGS AND DISCUSSION

The following section will synthesise the findings from all data collection methods, to discuss the factors affecting the application of the Six Thinking Hats and the extent to which the STH are implemented in the English Language classroom.

FACTORS AFFECTING THE STH APPLICATION IN THE ENGLISH CLASSROOM

Based on the interviews, it is adhered that the STH is not the main thinking skills tool used in the school, but is wholly encouraged to direct students in an orderly way of thinking. The main intention of this is to obtain higher-order thinking skills and while other thinking skills tool may be applied in the classroom, the STH was deemed to be the easiest and fastest way to help students compartmentalise their thoughts because of its simplicity. In analyzing the responses of the STH applicants in the English classroom, various constraints and challenges faced in applying the STH were identified and categorized

into three main points: students' knowledge and understanding of the STH; teachers' knowledge and understanding of the STH; and time constraint and preferences in implementing the STH.

STUDENTS' KNOWLEDGE AND UNDERSTANDING OF THE STH

In comparing the teachers' responses, the concern over students' maturity levels and questioning skills is found to be a more critical matter in the English primary classroom. The first teacher teaching Reception explained that because the students are very young, guidance is always needed to support the children's learning. While the maturity level of students' cannot be measured, Figure 3 shows the knowledge and confidence level of students in applying the STH from Crèche till Grade 11. The letter "G" before the numbers within the figure indicates the grade level of the students. For instance, G5 represents the student in grade 5.

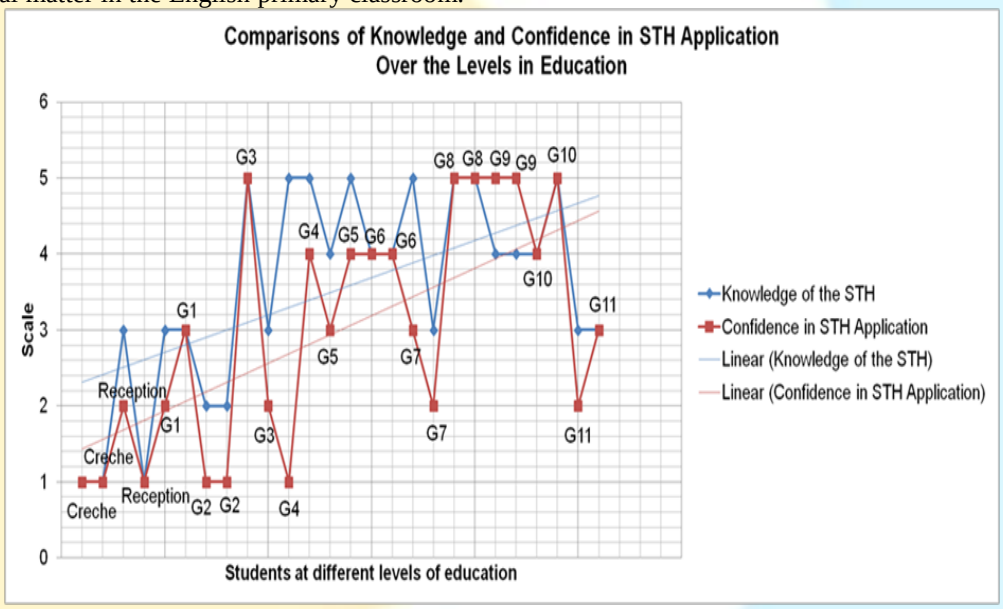

FIGURE 3. Students' Knowledge and Confidence in STH Application at Different Levels of Education

Even though the knowledge of STH application shows a gradual increase over the different levels of education, the confidence level of students in application shows a more rapid increase. While most of the students in the lower primary (crèche to grade 2) were unable to clarify if they are comfortable with the STH or if it is found useful to them, students from the upper primary (grade 3 to 6) and secondary school showed more ease in applying them. The secondary school students were even able to identify the importance of it for organisation and to support thinking, to make concepts easier for understanding and for analysing.

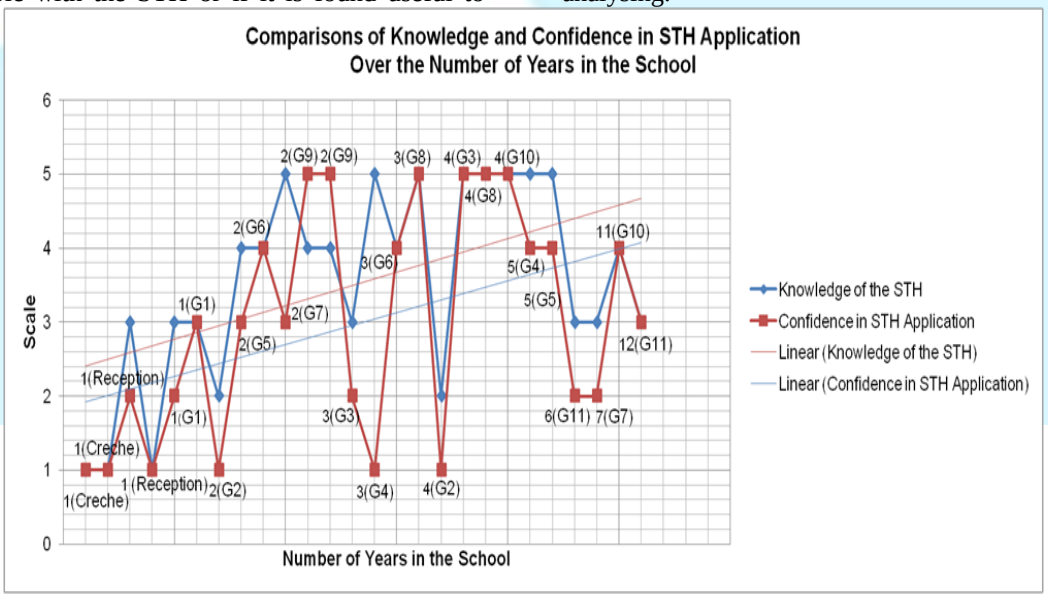

FIGURE 4. Students' Knowledge and Confidence in STH Application over the Number of Years in the School

During the interview, the academic director mentioned that the implementation of the STH was made compulsory 8 years ago. In order to evaluate the effectiveness of embedding the STH, Figure 4 was constructed to compare the average percentage scale of students' knowledge and confidence in STH application in relation to the number of years that each student has studied in the school.

Irrespective of the grade level (as shown in the brackets beside the number of years each child has been in school), a higher confidence and knowledge level is found among those who have studied in the school for about 12 years, compared to those who entered later. What is fascinating, however, is that the gap between knowledge and confidence level is bigger in those who have been in the school for a longer period of time. In comparing Figure 3 with Figure 2, the succession in Figure 2 shows a higher increase in both students' knowledge and confidence level. In fact, students in the higher level of education showed greater confidence in applying the STH compared to students from the lower grades (Figure 2). Based on the results, it is thus probable that the number of years taken to practice using the STH is not so significant, as secondary school students are deemed to have a better grasp and can relate better to the STH, though with less practice, compared to the younger aged students.

TEACHERS' KNOWLEDGE AND UNDERSTANDING OF THE STH

Yet, despite the capability which the older students possess to think on their own, the main issue faced by upper primary and secondary education teachers is not getting students to think, but finding activities that can connect to the STH. This may be the cause of teacher competency, as shown in Figure 5, which presents the relation between the knowledge and confidence level of teachers' teaching English to Crèche all the way to IBDP (Diploma Level), in applying the STH.

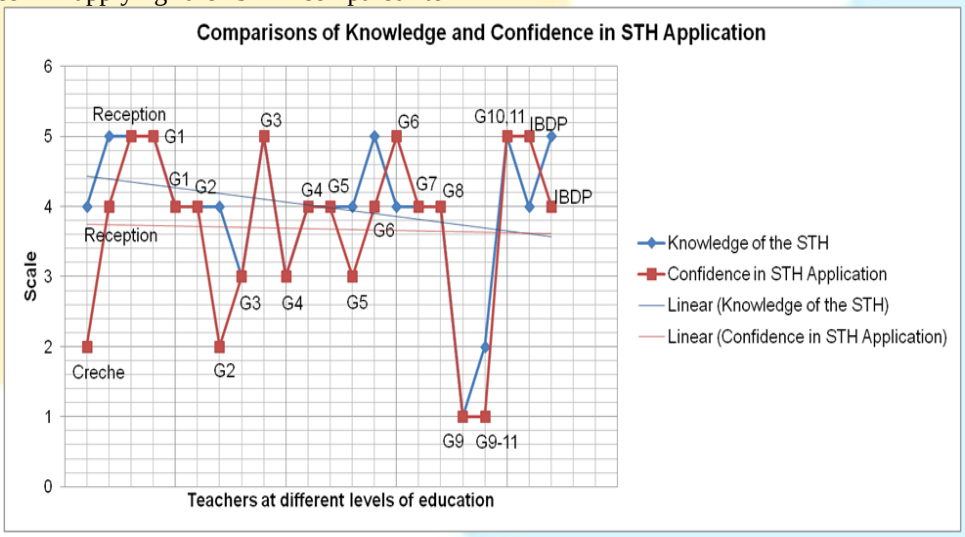

FIGURE 5. Comparisons of Teachers' Knowledge and Confidence in STH Application

While the primary school teachers seem to have a good knowledge of the STH, the knowledge and confidence level shows a decline in the higher levels of education. Interestingly, while 'knowledge of applying the STH' shows a decline of approximately 8%, teachers' confidence in applying the STH is impervious with a gradual decrease of only 2% or less. This has consequently led to the query of whether prior training on the STH affects teachers' implementation. In Figure 6, the bar chart measures the percentage of teachers who have and have not attended training on the STH from the lower and secondary educational level.

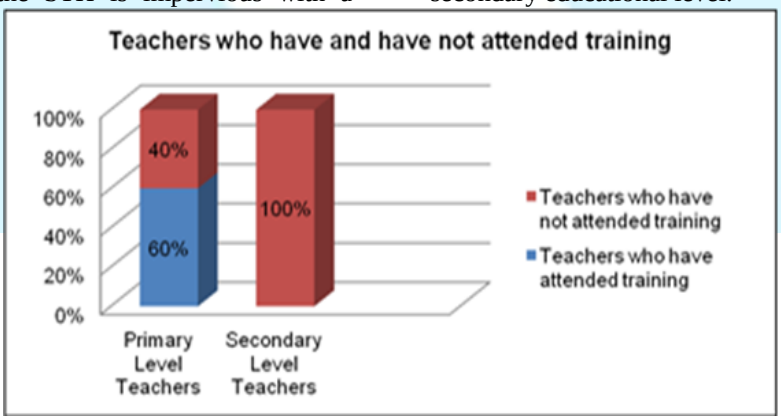

FIGURE 6: Teachers who have and have not attended training

Whereas none of the secondary level teachers had participated in any training, all of the teachers who had attended prior training come from primary education level, making up almost two-third of the teachers in the primary level. Figure 7, compares the estimated values of knowledge and confidence of teachers who have and have not attended any STH trainings, from the lower and secondary education level.

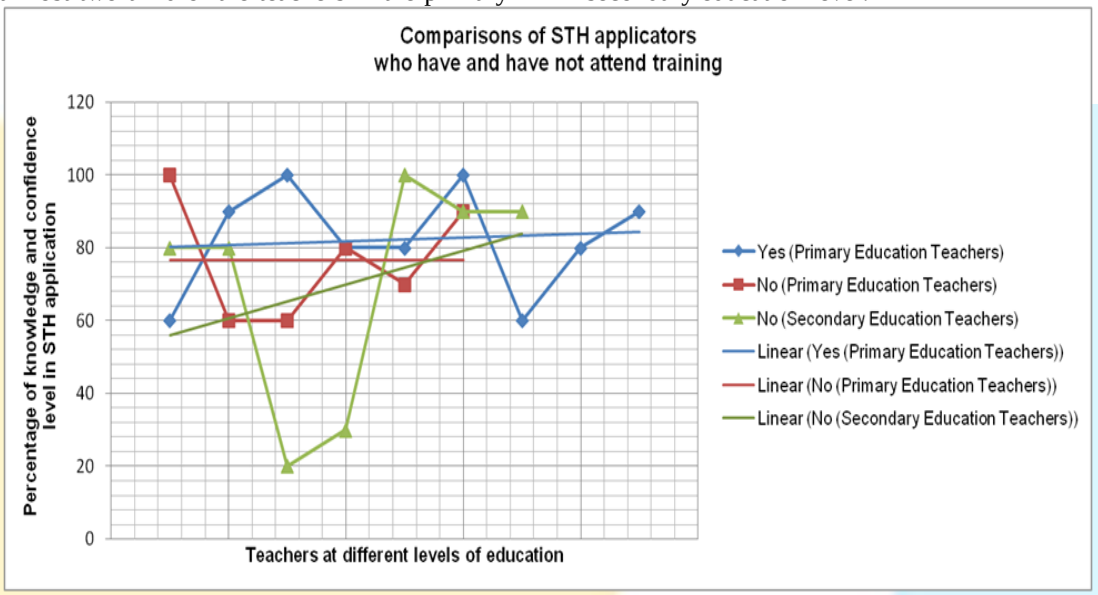

FIGURE 7: Comparisons of STH Applicators who have and have not attend training

As seen in Figure 7, a higher degree of knowledge and confidence is found among those who have attended training before. Consequently, the knowledge and confidence of STH application is correlated to attending STH trainings. Based on the findings, not only is the second grade 5 teacher not able to fully understand the concept; but this is also equally true for his/her students as well. Hence, the STH is not implemented as effectively as how he/she wanted to.

Then again, despite having less knowledge about the STH, upper primary and secondary school teachers show a higher level of knowledge and confidence (Figure 7) as well as more frequency and ease in implementing several hats at the same time. This is noted as in Figure 5, the confidence level of secondary education teachers who have never attended any training is more or less parallel to the primary education teachers. A reason for this may be because the older students are able to implement the STH more efficiently, which lessens the burden of the teachers. On the other hand, the low level of confidence in the lower levels of education (see Figure 5) is also believed to be linked to the practice of implementation and students' competency level.

Then again, in reviewing the teachers' responses of implementing the STH, teachers in the higher levels of education are observed to face some similar challenges to the lower primary teachers in getting students to think critically. For instance, the second grade 5 teacher identified students' ability to understand the STH concept as a barrier. Moreover, there are students in the early years who are able to find connection with the STH as the first child in reception testifies that he/she would tell his/her sister to use the green hat to be creative. Consequently, students' age group should not be perceived as a barrier as while the STH tool may not be so relevant to students in their junior/primary years, it is apparent that students who had picked up the skill from young are later able to efficiently apply it through a range of situation and activities. Therefore, as the first teacher in Grade 3 advised, users need to apply the STH as frequently as possible for it to be effective. Through more practice, the tool can be a person's best friend in studying any subject, as stated by the second student in Grade 8.

TIME CONSTRAINT AND PREFERENCES IN IMPLEMENTING THE STH

Notwithstanding, a main concern affecting the implementation of the STH throughout the various levels of education is time constraint; whether it is for lesson planning or conducting activities. When asked if the STH were implemented often in the English classroom, primary education teachers (especially from the lower primary) commented that they are not able to due to the time taken for students to familiarise with it. The second grade 6 teacher shared his concern that as students share their ideas from different perspectives, discussion may move away from the initial topic raised, causing topic coverage and time management problems. Moreover, with a large number of students of different competency levels, time for preparation and support is needed. Nonetheless, Teacher T explained that this can be overcome by grouping students using the different hats, according to students' fluency level and ability.

Furthermore, the interests of a group may also contribute to time constraint as students' lack of participation may hinder effective discussions. Whilst majority of those who

participated in the students' survey questionnaire gave positive response towards applying the Six Hats and recommending it to others, two particular students gave negative responses. A student from grade 4 claimed the STH to be rather useless as he himself does not use it much and is thus not very familiar with it. The other student from grade 7 explained that he does not like following such methods and believes that everyone should think freely on their own. Then again, this same student mentioned that the STH does help him a lot to clear confusion over topics. This shows a lack of consistency in his views on STH.

Moreover, the regularity of STH implementation is affected by teachers' preferences as well. When asked what motivates them to apply the STH as often as they do, the responses from teachers were generally positive as the main intention supports students' learning, so as to help them understand better, reflect and think critically. According to the teachers, practicality and variety, self-progression to provide clear instructions and stimulus from learning sessions were also factors affecting the application of the STH. It is also noted that teachers who did not find the question applicable were those who have not attended any training on STH before and who were not very confident in applying the STH as well. In studying these teachers' responses, the factors affecting the implementation of the STH are found to be yet again related to students' level of understanding, teachers' knowledge of the STH and personal educational belief.

Teacher M, who states that he/she has no choice but to implement the STH, added that the STH would only be effective if proper training and knowledge were available. Although the teacher in Crèche did not find the Six Hats effective because the children are too young, he/she explained that others are encouraged to apply it according to the appropriate age group. Then again, the grade 8 teacher believes that the hats are most recommended for elementary level as they serve as a stepping stone, and as students need to learn to connect the skills for instance, in reading a text to understand specific details before general knowledge. The most striking response was from Teacher R, who claimed that he/she does not embed much educational theories in his/her own teaching because most educational theories are unrealistic. Nonetheless, the teacher verifies that teaching is to actively understand more of a subject and students.

THE EXTENT OF STH IMPLEMENTATION IN THE ENGLISH CLASSROOM

In the interview, respondents were asked if the STH has been used effectively in the school. The school's academic director prudently explained that while the STH usage was compulsory since 8 years ago, the effectiveness of its present application is vague as there is no apparent data showing its effectiveness and efficiency of current application. The school's principal, however, believed that the STH is being used quite effectively as it is not only used for students in the classrooms, but is also applied for the purpose of organisation in management and continuous professional development (CPD) meetings. Whilst no numerical data is available, teachers and students were questioned on their implementation of the STH through a series of varied questions for evaluation.

PREFERRED THINKING SKILLS HAT

In response to which STH is used most frequently in the English Language class and why, teachers from the lower grades were most comfortable in using the white hat as it relates to finding information. The hat most commonly favoured by all teachers, however, is the green hat as it encourages students to improve in their thinking skills and show creativity. The second most preferred hat is the blue hat which was often connected to the red hat as one of the teachers stated that emotions and knowledge are fairly easy to find connection with. The yellow hat is also often linked to the blue hat as students are encouraged to gain more confidence in sharing their own opinion.

The least implemented is the black hat. Although only Teacher N stated that all the hats are very useful in the classroom except for the blue hat, the few teachers who most frequently used the black hats are those from the upper primary and secondary level. A reason for this is because the black hat involves a lot of critical thinking and this was confirmed by the teacher teaching the diploma (IBDP) program who claimed that the black hat promotes critical thinking skills. Surprisingly, the students think otherwise as the black hat comes in second place simultaneously with the blue and red hat. The most preferred thinking skills hat often applied by the students, as well as the teachers, is the green hat.

According to all the responses received, all of the STH are implemented in the English classroom. Whereas most of the teachers are comfortable in using a few different hats altogether, almost all the students seem to favour just one particular hat that they are most comfortable with, save for one child who likes the black and blue hat and another who stated that he/she is comfortable using all six hats. Each person's preference is nevertheless acceptable as Al-Bahadli (n.d) states that not all six hats may be applicable in a single activity. In fact, it is most commendable to only apply the most suitable hats in a particular situation.

Thus, the main point is to gather everyone to the same platform and thinking the same thing, as by doing so, the principal avers that learners' thinking skills may be further enhanced using the STH. Then again, as the academic director states, the effectiveness of the STH is again dependable on individuals, whether it is the learner or the teacher, and whether the person wants to use it and how comfortable he/she is in applying it.

APPLICATION OF STH IN THE ENGLISH CLASSROOM

Regardless of the coloured hats implemented during

English lessons, the STH is seen to be integrated with a wide range of activities. Similar forms of activities observed throughout the different levels of education consist of reflections, presentations, role playing, use of graphic organisers, discussions, reading and expressing ideas, for individual, pair, group and class activities. A distinctive feature found in the lower primary levels is the usage of manipulative tools in the classroom. This is noted in the second Grade 2 teacher's explanation that he/she would print out the six coloured hats or sometimes use real hats to help students relate to the concept. Additional activities found in the upper primary and secondary education level include comparing and developing ideas; observing, collecting, recording and categorizing information, comparing and developing; testing hypothesis, and interpreting for research and projects.

In spite of the varied activities such as presentation and sharing of information which the lower primary school teachers had given, students from the lower primary were unable to provide any examples of how the STH are normally applied in the English language classes. It is thus a certain presumption that the STH is more pertinent to the teachers in the course of carrying out activities, than it is to the students in the lower grades. Students from the upper primary (Grade 3 to Grade 6) showed a clearer understanding of whether or not the STH is being used in class activities. A few students were even able to give examples of how they would use it, such as by imagining they were wearing the hat.

Besides the upper primary students, most of the secondary education students showed positive responses towards applying the STH in the English classroom to make posters, note-taking and for assignments. The results thus indicate a more balanced flow of both teachers and students usage of the Six Hats. Indeed, the secondary education students show more independence in learning as not only are they able to apply the STH to analyze subject matters but organize projects and events as well. Additionally, the STH is proved to have some impact in other subject classes. Several students mentioned using the STH regularly in Arts, Sciences, Math and Humanities, although a larger impact is seen on practical skills, to organise events; presentation skills, so as to design posters; and research skills to analyze texts. Nonetheless, a great incline is still seen in the English subject, for even though none of the students except one mentioned 'English' in particular, students' usage of the STH is mainly linked to the subject as responses include writing and discussions.

CONCLUSION

In the light of the findings, the factors affecting the STH application are found to contribute to the extent of STH implementation in the English Language classroom. A primary factor affecting the application is the ability to think. Despite the fact that the STH tool is designed to help learners organise their thoughts more efficiently, the competency level of students plays a major role as it affects the effectiveness of class discussions and consequently time. The effectiveness of the STH is evident as learners gain higher-order thinking skills, as thinking becomes more focused, comprehensive and constructive (Jesson, 2012; Stone, 2005). Since the development of "how to think" requires an active process, despite time wasted and though the STH usage are more teacher-led in the early years, the development of thinking skills should be embedded into the curriculum, to promote specific skills application and strategies for all learners to confront learning in a continuous development and meaning-making process. Additionally, in place of integrating critical thinking skills into subjects, separate classes may be reserved just to teach students the application of thinking skills tool. Two other significant factors which ensure effective implementation of STH in the classroom are individuals' preference to use it and teachers' capability in understanding it STH for effective planning and implementation. As mentioned, the STH activities carried out in the English classrooms differ between different grades. While activities in higher levels of education involve creative writing and text analysis, activities in lower education include more speaking and listening activities such as storytelling and role-playing. Additionally, the STH may be integrated with other reflective teaching strategies, for instance, the KWL chart, hot-seating, concept wheel and other graphic organisers.

Interestingly, more than improving their English skills, the STH is more useful in enhancing learners' practical skills for project work and discussions because of its practicality. In order to obtain a whole-school approach that encourages and creates awareness about the implementation of thinking skills tools, activities during whole-school assemblies, periodic theme campaigns and seminars for even parents are recommended. Trainings and hands-on workshops for specific subject group and integrating the tool as an enhancement tool into the school's existing plan are also recommended to gain confidence in applying the tool effectively through a wide range of activities. Recommendations for further research include exploring the application and effectiveness of the STH in a particular English strand at different levels of education or in different subjects. Others include exploring various STH activities that may be conducted to fit learners' suitability across various subjects and comparing the teaching of thinking skills as a distinct program with one that is integrated into the school's curriculum.

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