

Teachers' Concerns on the Implementation and Practices of i-THINK with Concern Based Adoption Model (CBAM)

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Abstract

This study aims to identify the stage of teachers' concerns in the implementation and practices of i-THINK. The Concern Based Adoption Model (CBAM) has been used to determine the level of teachers' concerns whilst the Stage of Concern Questionnaire (SoCQ) has been adapted to fit the Malaysian context. A total of 153 primary school teachers in Sarawak were selected by a simple sampling technique. Findings demonstrate "non-user" profile as teachers showed a high percentage of teachers' concerns at Stage 0 (Awareness), Stage 1 (Information), Stage 2 (Personal) and Stage (Management), while a low percentage at Stage 4 (Consequence) and stage 5 (Collaboration). All teachers in this study exhibit tailing up at level 6 (Refocus) which is interpreted as teachers who refuse to change and who lack confidence in the effectiveness of i-THINK. However, the percentage of teachers' concerns at Stage 1 was higher than Stage 2 which indicates teachers are interested and are open to the implementation of i-THINK in the classroom, but they still need more information and exposure towards i-THINK. Hence to plan periodical in-service teachers' training on the i-THINK Programme, education specialists can use the findings of this study.

Keywords

i-THINK, Level of Concerns, Teaching Practices, Training in Service, CBAM

1. Introduction

Cultivating Higher Order Thinking Skills (HOTS) among school students has been the foremost agenda of the Malaysian Ministry of Education (MOE). This was in response to the World Bank's report addressing the alarmingly critical

level of Malaysia's innovations, which can affect the country's economic growth and development (Malaysian Ministry of Communications and Multimedia, 2016). Thus, the government sees instilling HOTS among students as the feasible solution to produce capable human capital to bring forth new innovations in the future.

In line with this national aspiration, MOE collaborated with Malaysian Innovation Agency and introduced the i-THINK programme to schools to enhance HOTS practices to help students express new ideas (Ministry of Education, 2013). Although this programme was carried out since 2013, the effectiveness of i-THINK in boosting students HOTS has not been evident, as reflected in the 2015 PISA result. Instead, the Malaysian students settled at the second level in the Mathematic, Scientific and Reading Literacy domain because they only possessed the basic and procedural level of knowledge (Ministry of Education, 2016). Additionally, a report in the Malaysian Education Blueprint Report 2013-2015 also addressed students' problems in answering HOTS oriented questions in the Year 6 national public exams. In other instances, the MOE's Inspectorate of Quality Assurance reported 60% of the 282 primary and secondary schools are still below par in practising HOTS (Harits, 2017). Their further findings show teachers who lack the understanding and who resist HOTS are the underpinning factors in this poor reception of HOTS in schools (Harits, 2017).

To ensure the success of the programme, it has to be noted: the aforementioned situation highlights the importance of taking into account teachers' apprehension of a newly implemented programme such as i-THINK. (Harits, 2017) argues the effectiveness of an initiative or a programme depends on the implementers, which in this case are the teachers. Similarly, (Fullan, 2006) also opined members of an organization need to accept the change prior to change taking place at the organizational level. Teachers' concerns are vital in making the innovation a success (Hall & Hord, 2011); the innovation, however, must be complemented by teachers' professional development that promotes knowledge and skill transfer (Boatright, 2014; Knight & Cornett, 2009). The MOE and the education departments were entrusted with the duty of introducing i-THINK on both the district and the school levels. (Nik Rosnizasuzila, Azlina, & Zakiah, 2015) reported in their research: after the exposure towards this learning tool, teachers were left unguided and unsupervised during the implementation, resulting in teachers conducting the i-THINK programme based on their own understanding. (Knight & Cornett, 2009) noted the possibility of teachers' inability to implement such an innovation is high, especially since even with attending workshops, teachers were yet to gain specific guidance regarding the matter, and also no further action taken to oversee the implementation process.

Most past research reported on the effectiveness of i-THINK at school level, mostly the impact of the tools on students (Azura, 2008; Sidek, Kadir, & Sabri, 2013; Hyerle & Yeager, 2007; Looi, 2012; Izzati & Zawawi, 2014; Aliff & Norbany,

2013). Nonetheless, there were certain research focusing on the teachers' beliefs, attitudes (Sidek, Kadir, & Sabri, 2013) and preparedness (Salina & Zamri, 2017) in applying i-THINK during lessons. However, after careful reading and reviewing, there was no literature review specifically touching on teachers' concerns regarding implementing i-THINK using the model CBAM. Observing the progress of i-THINK thus far, the present is apt to carry out a research to serve as an input for the ministry to plan the next strategy as well as both the guidance and the professional training necessary for teachers according to their respective needs.

Therefore, this research aims to identify the stages of teachers' concerns towards the implementation of i-THINK at school level. To measure the intensity of teachers' concerns towards the implementation, Concern Based Adaptation Model (CBAM) was used, as this model is able to supervise, measure and provide information about changes in the education system (George, Hall, & Stiegelbauer, 2013). This research seeks to answer the question (1): What is the level of teachers' concerns on the implementation of i-THINK at school level?

2. Literature Review

This section describes the concept of concern and the role of CBAM in exploring teachers' concern about the introduction of educational innovation which causes changes in curriculum and education system.

2.1. Concept of Concern

"Concern" is one of the important elements considered when working with teachers involved in a change. This term could be easily misunderstood. According to the Oxford Dictionary (3rd ed.) "concern" can be translated as "ke-bimbangan" (anxiety) and "kerisauan" (worries). Both these words provide negative connotations. Even (Fuller, 1969) initially defined "concern" as problems faced by teachers. However, after a thorough research, Fuller started to view "concern" from a neutral stand by relating it with a person's mindfulness about an innovation (George, 1978). (George, 1978) further added that an individual shows concern in response to problems and opportunities. Through their explanations, both (Fuller, 1969) and (George, Hall, & Stiegelbauer, 2013) opened a new dimension about the term "concern"; it does not necessarily have to be negative.

In the SoCQ manual, George and his fellow researchers (2013) added "concern" is viewed as something that could elevate a person's feelings and thinking towards factors attracting them. (George, Hall, & Stiegelbauer, 2013) stressed psychosocial, personal background, personalities, motivation, needs, emotions, education levels, roles taken, and status can influence a person's view as well as response towards the factors attracting his or her attention. In conclusion, "concern" is viewed as an interesting issue to be paid attention to as it comprises both negative and positive aspects, relying on experience and personal background

(Both, 2010).

2.2. Concern Based Adoption Model (CBAM)

CBAM is a model developed by a group of researchers from the Research and Development Centre for Teacher Education in University of Texas, Austin, during the 70s. It aimed at collecting data to evaluate, explain or monitor the implementation of changes that occur in education (George, Hall, & Stiegelbauer, 2013). The model provides a view about the development of people's concern towards an innovation, occurring usually when changes happen. Base on this model, concern can be classified into 4 levels known as Unconcerned, Self, Task and Impact. These four levels of concern about an innovation can be categorised into seven concern stages about innovation as shown in Table 1.

Table 1. The stages of concern about an innovation.

Unconcerned	
0) Unconcerned	Individual shows little concern about the innovation
Self	
1) Informational	Individual shows general awareness about the innovation and is interested to learn more about it. Individual is not concern about one's self relating to the innovation. Individual is interested in the impersonal, substantial aspects of the innovation such as general features, impacts and needs of the innovation.
2) Personal	Individual is uncertain of the innovation's requirement need for implementation and the individual's own role in the innovation. The individual evaluates the dynamic relationship towards the organisation's reward structure, asserting roles in decision-making and considering conflicts with one's own commitment. The individual's concern involves financial or status implication of a program on the individual himself and his colleagues.
Task	
3) Management	Individual focuses on the process and the task of implementing the innovation, fully utilising the information and the resources given. Issues such as competency, organisation, management and scheduling are priorities.
Impact	
4) Consequence	Individual's attention is set to focus on the consequences of the innovation with regards to the students, based on its influences. During this phase, the individual's considerations include the relevance of the innovation for the students, the achievement's evaluation, the pupils' competency and the changes required to improve their performance.
5) Collaboration	Individual focuses on coordinating and collaborating with others with regards to the use of the innovation.
6) Refocusing	Individual refocuses on exploring the benefits of the changes implemented, searching for other possibilities or alternatives to improve the current innovation.

George, Hall, & Stiegelbauer (2013). *Measuring Implementation in Schools: The Stages of Concern Questionnaire Ed.3*. Austin, TX: Southwest Educational Development Laboratory.

CBAM model affirmed that the success of a change lies upon an individual within an institution. Therefore, the focus is on the teachers' concerns, so that any innovation or any new change introduced can be implemented successfully (George, Hall, & Stiegelbauer, 2013). Hence, the CBAM model can also provide a clear view about the level of teachers' concerns regarding the introduction of i-THINK in schools. These findings will help school administrators and the ministry to plan suitable in-service training for teachers accordingly. This model is well suited in this research as it is agreed by a lot of research: teachers will go through a few stages of concern about an educational innovation before and after the implementation.

Among all the researches using the CBAM model, it was (Sultana, 2015) who researched about the academic and the administrative staff's concerns in Allama Iqbal Open University regarding the offer of an online course for the Masters in Philosophy of Education (MPhil in Ed.) that was newly introduced. The researcher had adopted the survey form in CBAM and her findings revealed the academic and the administrative staff experiencing a high level of concern about the level of reception towards the online program, MPhil in Ed. The findings helped the university improve by deciding to integrate the element of information and technology in several aspects of the program offered.

In addition, (Roselita, Badusah, Alias, & Said, 2017) adopted the CBAM model in their research to measure the level of concerns among pre-school teachers and national coaches about the learning via playing approach in teaching Bahasa Malaysia. Whilst their research revealed the respondents were in the Impact stage (min = 5.082, s.p = 0.612), their inferential analysis test, MANOVA, showed there is a significant difference in the teachers' concerns based on the gender and the level of education of the pre-school teachers.

On the other hand, (Tan & Lee, 2015) used the CBAM model to generate users profile on the Curriculum Innovation known as the Primary School Standard Curriculum (Kurikulum Standard Sekolah Rendah—KSSR). Data was gathered via a survey gathered from 192 teachers from 14 Chinese Vernacular Schools in Barat Daya Pulau Pinang. These research analysed data based on not only the demographic background but also in general. The research's findings showed postgraduate teachers displaying experienced user profiles while other teachers displayed non-user profiles.

In addition, when the "One to One Computer" project faced a lot of challenges in terms of its implementation, (Donovan, Hartley, & Strudler, 2007) used the CBAM model to study teachers' concerns regarding this project. Their findings categorised teachers into two types of concerns. Firstly, the majority of teachers were concerned about the impact of the introduction of the notebook into the school environment on them personally. Secondly, teachers were concerned they would be unable to use the notebook well and would fail to fulfill the students' needs. Henceforth, (Donovan, Hartley, & Strudler, 2007) suggested specific professional development training for teachers, based on their concerns

and to ensure teachers can voice their opinions during the implementation process, as well as equipping teachers with information related to the result of the implementations to reduce teachers' concerns.

3. Research Methodology

This quantitative study used cross-sectional survey study design to discover the level of teachers' concerns in implementing i-THINK in school. The sample in this study involved teachers from 66 primary schools in Baram, Sarawak. Researchers applied simple sampling technique due to the limited accessibility to the rural schools (McMillan & Schumacher, 2010). Due to this limitation, this researcher used the Google form sent via a link to all of the participants to answer the SoCQ survey. To avoid biasness, the researcher decided to omit his own school from participating in the research, resulting in the participation of only 153 teachers. The SoCQ survey form that was developed based on the CBAM model used in this study (George, Hall, & Stiegelbauer, 2013). This survey has 35 items based on the 7 stages of teachers' concerns. The items in the survey measured teachers' concerns on 8 scales of intensity based on the Likert scale, starting from 0 (unrelated) to 7 (very true). To preserve the validity and the reliability of SoCQ as it was translated from English to Bahasa Melayu, the form was verified by an English Head Panel and a Bahasa Melayu one –all of who had 15 years of teaching experience.

Data Analysis

The researcher included the raw data obtained from the SoCQ instrument in Ms Excel 2010. The total raw score for each respondent, by adding five items to each stage of the teachers' concerns, was generated. Then, the average raw score for each stage computed. The average raw score for each stage was converted to a percentile score by referring to the Percentile Conversion Chart for the SoCQ. Finally, the percentile scores for teachers' concerns are plotted onto graphs.

4. Research Findings

Generally, teachers display a high level of intensity of concern at the stage 0 (Unconcerned) with 93% intensity score. A fairly high level of intensity is observed amongst the teachers at both Self (Stage 1 and 2) and Management (Stage 3) levels. The result also identified the lowest intensity score of teachers' concerns which was 54% for Consequence (Stage 4). The graph showed a "tail-up" upon the intensity score of teachers' concerns while implementing i-THINK programme in schools (Figure 1).

5. Discussion

The research findings for the general profile of i-THINK showed a high percentage of intensity for the concerns in the first stage Unconcerned. This showed the implementation of i-THINK is not a priority for the teachers as they have

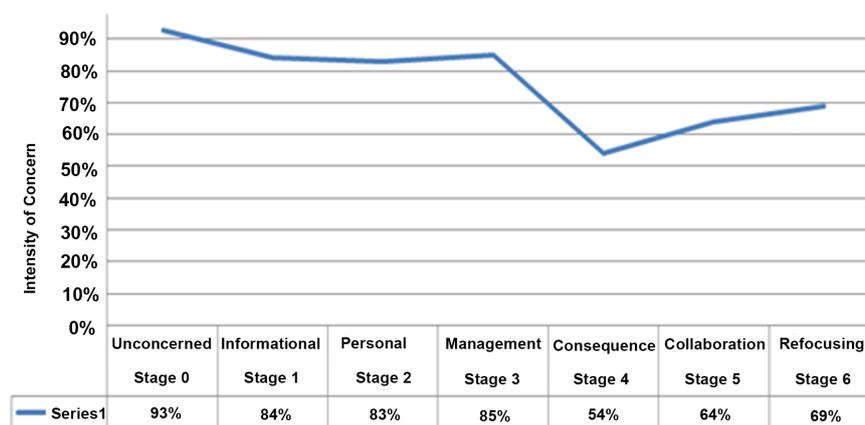


Figure 1. Teacher's level of concern on the implementation of i-THINK.

other concerns such as other initiatives, tasks and school activities, which act as a barrier (George, Hall, & Stiegelbauer, 2013).

The highest percentage at the “Unconcerned” stage required the researcher to analyse the second highest stage score for further analysis (George, Hall, & Stiegelbauer, 2013). In such situations, the second highest stage score implies teachers are in the Management stage. The percentage shows teachers in the research are more attentive to the process and to the planning of i-THINK in the class. Teachers are more concerned about the productivity, organizing, administrating and the scheduling needed for the implementation in class.

Relatively, the percentages of teachers' concerns are high in Stage 1 and low in Stage 2. This indicates the teachers show interest towards i-THINK and are open to the idea of i-THINK in class, but would require more in-depth materials about the innovation. Teachers demonstrating low intensity of concern at the Impact stage imply that teachers are not concerned about considering the relevance of the innovation towards the students, achievement evaluation, pupils' competency and the needs of change to improve their performance.

Meanwhile, the high intensity of concern in Stage 0, 1, 2 and 3, the low intensity of concern in stage 4 and 5, and the tail-up at Stage 6 suggest a clear non-user profile. (Hall & Hord, 2011) further added the tail up in Stage 6 (Refocusing) signified teachers wanted to make changes in the existing innovation as they lacked the believe in the effectiveness of the i-THINK programme in schools.

6. Conclusion

The teachers' general profiles can be taken as non-users. Teachers require extensive information to apply i-THINK effectively. According to (Hall & Hord, 2001), the implementation of an innovation must be viewed as a process rather than an event, which requires, not only teachers to be equipped with information and material about i-THINK, but to always be supervised and guided.

In line with (Cheung, 2002), most teachers who attended courses organised by the State Education Department, District Education Offices and schools were

never supervised. Thus, raising doubts and uncertainty among teachers in implementing the innovation, and encourages them to carry out the innovation according to their own understanding. Therefore, proper further action must be taken, in the form of extensive courses, follow-up reports or supervision from concerned parties to ensure optimum implementation. Further research should be carried out in terms of practicality in implementing the innovation at school level due to the tail up at Stage 6 (refocusing) as it indicates teachers wanting to modify the existing innovation. However, this 21st Century learning tool should not be viewed as an obstacle to be integrated into conventional teaching practice

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

- Aliff, M., & Norbany, M. (2013). *Penggunaan Sifir Tulang Ikan Dan Peta Alir i-THINK Dalam Meningkatkan Kemahiran Murid Menyelesaikan Masalah Bahagi Dengan Pembahagi Dua Digit*. Penyelidikan Tindakan PISMP 2013, 2(1).
- Azura, N. (2008). Menerangkan Konsep Istilah Penging dalam Mata Pelajaran Pengajian Perniagaan Tingkatan 6 dengan Motivasi "My Aura Map". *Jurnal Penyelidikan Pejabat Pelajaran Kota Kinabalu Sabah Tahun*, 89-98.
- Boatright, T. (2014). *Technology Integration for Common Core State Standards Implementation: Developing Differentiated Professional Development Based on the Concerns-Based Adoption Model*. Unpublished Doctorate Thesis. Brandman University.
- Both, E. (2010). *Reconsidering Fuller's Concerns-Based Model of Teacher Development: Comparing Regular and Academic Student Teachers' Changing Concerns*. Unpublished Masters' Thesis, Utrecht: Utrecht University.
- Cheung, D. (2002). Refining a Stage Model for Studying Teacher Concerns about Educational Innovations. *Australian Journal of Education*, 46, 305-322.
<https://doi.org/10.1177/000494410204600305>
- Donovan, L., Hartley, K., & Strudler, N. (2007). Teacher Concerns during Initial Implementation of a One-to-One Laptop Initiative at the Middle School Level. *Journal of Research on Technology in Education*, 39, 263-283.
<https://files.eric.ed.gov/fulltext/EJ768880.pdf>
<https://doi.org/10.1080/15391523.2007.10782483>
- Fullan, M. (2006). *Change Theory: A Force for School Improvement*. Center for Strategic Education, Seminar Series.
<http://michaelfullan.ca/wp-content/uploads/2016/06/13396072630.pdf>
- Fuller, F. F. (1969). Concerns of Teachers: A Developmental Conceptualization. *American Educational Research Journal*, 6, 207-226.
<https://doi.org/10.3102/00028312006002207>
- George, A. (1978). *Measuring Self-, Task, and Impact Concerns: A Manual for Use of the Teacher Concerns Questionnaire*. Austin: The Research and Development Center for Teacher Education, University of Texas.
- George, A. A., Hall, G. E., & Stiegelbauer, S. M. (2013). *Measuring Implementation in Schools: The Stages of Concern Questionnaire* (3rd ed.). Austin, TX: Southwest Educational Development Laboratory.

- Hall, G. E., & Hord, S. M. (2001). *Implementing Change: Patterns, Principles and Pot-holes*. Boston: Allyn & Bacon.
- Hall, G. E., & Hord, S. M. (2011). *Implementing Change: Patterns, Principles, and Pot-holes* (3rd ed.). Upper Saddle River, NJ: Pearson.
- Harits, A. H. (2017). Kelemahan Guru Punca 60 Peratus Sekolah Hadapi Masalah KBAT. *Astro Awani Online News*.
<http://www.astroawani.com/berita-malaysia/kelemahan-guru-punca-60peratus-sekolah-hadapi-masalah-kbat-159944>
- Hyerle, D., & Yeager, C. (2007). *A Language for Learning: Thinking Maps Incorporated*. North Carolina: THINKing Maps. Inc.
- Izzati, N., & Zawawi, T. (2014). *Penggunaan Peta Alir i-THINK dan Kit "Pat-Pat Kup" dalam Membantu Murid Menguasai Kemahiran Mengukur Perimeter Gabungan Ben-tuk Dua Dimensi*. Penyelidikan Tindakan PISMP 2014, 1(2).
- Knight, J., & Cornett, J. (2009). *Coaching: Approaches and Perspectives*. Thousand Oaks: Corwin Press.
- Looi, K. S. (2012). *Penggunaan Peta Minda Dalam Meningkatkan Kefahaman dan Ingatan Murid Tahun 4 dalam Subjek Sains. Seminar Penyelidikan Tindakan*. IPG Kampus Batu Lintang Tahun.
- Malaysian Ministry of Communications and Multimedia (2016). *The Text of YB Dato Seri Dr. Salleh Said Keruak*. Opening Ceremony of Information and Innovation Day, Department of Information Malaysia. Hotel Nouvelle Sri Kembangan, Disember 5.
- McMillan, J. H., & Schumacher, S. (2010). *Research in Education: Evidence-Based In-quiry*. Upper Saddle River, NJ: Pearson Education, Inc.
- Ministry of Education (2013). *Malaysia Education Blueprint 2013-2025*.
- Ministry of Education (2016). *PISA Report 2015*.
- Nik Rosnizasuzila, N. H., Azlina, & Zakiah (2015). Keperluan Modul I-THINK dalam Proses Pengajaran dan Pembelajaran di Sekolah. *2nd International Education Post-graduate Seminar*.
- Roselita, A. Y., Badusah, J., Alias, A., & Said, R. (2017). Keprihatinan Guru Terhadap Pendekatan Belajar Melalui Bermain Dalam Pengajaran Bahasa Malaysia Berdasarkan Model Penerimaan Berasaskan Keprihatinan. *Journal of Advanced Research in Social and Behavioural Sciences*, 6, 31-40.
- Salina, M. Y., & Zamri, M. (2017). Tahap kesediaan, sikap dan amalan guru Bahasa Me-layu sekolah rendah terhadap penggunaan peta pemikiran i-Think. *Kertas kerja Semi-nar Serantau ke*, 8, 767-774.
- Sidek, M., Kadir, M. A., & Sabri, M. (2013). *Penilaian Pelaksanaan Program I-THINK: Satu Pengenalan*.
- Sultana, N. (2015). Application of Concerned Based Adoption Model (CBAM) for Launching the Information Technology Based Teacher Education Programme at AIOU. *Asian Journal of Social Sciences & Humanities*, 4, 153-166.
- Tan, Y. L., & Lee, L. W. (2015). Profil Tahap Keprihatinan Guru Terhadap Inovasi Kuri-kulum Standard Sekolah Rendah (KSSR) Berdasarkan Model Concern-Based Adoption Model (CBAM). *Jurnal Kurikulum & Pengajaran Asia Pasifik*, 3, 1-21.