



Teachers' Metacognitive Skills Training Module in Teaching and Application of 21st Century Basic Skills

Rashidah Karnain*¹

Saemah Rahman²

Shahlan Surat³

M.T. Ali⁴

^{1,2,3} Faculty of Education, Malaysia National University
Malaysia

⁴ Faculty of Electrical Engineering, MARA Technology University
Malaysia

**Corresponding author's Email: sydanain@gmail.com*

R e s e a r c h H i g h l i g h t s

This study involves the design and development of Teachers' Metacognitive Skills Training Module in Teaching and Application of 21st Century Basic Skills. Based on the need analysis, the theories of constructivism learning and metacognition, as well as the 21st century skills model are taken into account in drafting the module. The validity of the content and the module training sessions suitability are evaluated by six field experts by completing a validity questionnaire. This study produced a module consisting of two parts: (A) Introduction, Theoretical Basis and Training Session Objectives, and (B) Procedures of 7 Training Sessions. The field experts find that this module has a good validity. This study suggests that the module can be used in the context of actual training in the next phase.

R e s e a r c h O b j e c t i v e s

Students are still incompetent in acquiring 21st century basic skills encompasses communication, collaborative, critical and creative thinking (Talent Corp Malaysia Trends in Graduate Employability, 2014; Bank Negara Annual Report, 2016). Teacher teaching



methods do not allow students to acquire the skills effectively (Eow et al., 2015; KPM, 2012; Zamri, 2012). Therefore, need analysis has been conducted whereby the teachers did not master the knowledge and skills to apply 21st century basic skills in student-centered teaching approach. Teachers are less skillful in applying the cooperative learning characteristics and 21st century skills in meeting effective approach implementations. Additionally, the teachers' metacognitive skills are at low level. It is because the teacher do not attain the metacognition knowledge The low level of knowledge in metacognition influences the teaching practices of teachers (Efendi, 2014; Bactiar, 2005; Wilson & Bai, 2010). Based on these problems, the training module need to be designed and developed to solve the teachers existing problem through appropriate training programs. Therefore, the objective of this study is to develop, evaluate the content and training session suitability of the teacher's metacognitive skills module in the teaching and application of 21st century basic skills.

Methodology

This study uses the DDR (Design and Development Research) approach in which the module development process involves the module draft development, the validity evaluation of the content and the training sessions suitability. Module development is based on need analysis, theories, models, and literature reviews. The need analysis findings are useful in producing a module that meets the needs and solves the teachers' existing problems in the context of this study. The constructivism learning theories of the cooperative learning group characteristics, the 21st century skills model, and metacognition theory are used in the design and development of the training module. Literature review is used for drafting module and identifying suitable model used in design and development research. The draft module has developed then determined the validity of the contents and the training sessions suitability by six field experts comprising various fields of education psychology, module and pedagogy. Evaluation of the module contents validity and the training sessions validity are conducted to ensure the accuracy of the module's concepts and contents so that modules are more effective and achieve the overall objectives of the module. The validity of the module content and the training sessions suitability were evaluated using the calculating method of the Tuckman and Waheed validity (1981) constructed based on Rusell's view (1974).

Results

The results and findings of this study are divided into three aspects: (1) Module drafting, (2) Evaluation of the module contents validity, and (3) Evaluation of the training session suitability validity. Based on need analysis, the constructivism learning theory, the 21st



century skills model, and the metacognition theory are the basis of the module drafting. Therefore, the training module is formatted into two main sections: (A) Introduction, Theoretical Basis and Training Session Objectives, and (B) Procedures of 7 Training Session. In order to ensure the accuracy of the concept and module content, the validity of the module content and training session suitability is evaluated by 6 field experts. Overall, these findings indicated that the level of expert consent at the lower level is at points 6 and the highest is 10 points. No experts disagree or strongly disagree with any statement. The computation results of validity level of the module contents and the training sessions suitability show a percentage value greater than 70% is 83.3%. The mean counts show the validity value of the module content is 87.2% and 83.3% respectively. These findings show that the module has mastered a high level of achievement (Tuckman & Waheed, 1981).

Findings

This study produced a module consisting of two parts: (A) Introduction, Theoretical Basis and Training Session Objectives, and (B) Procedures of 7 Training Sessions. The module has developed based on theories of constructivism learning and metacognition, as well as the 21st century skills model. The module then evaluates by 6 field experts for the module validity encompasses the content and training sessions suitability. Findings on the module validity portrayed this module obtains high level of field experts approval as well as high achievement for both validity of content and training sessions suitability. These show that this training module is appropriate and feasible in the context of actual training in the next phase.

Acknowledgement

The greatest appreciation to Malaysia Ministry of Education, Selangor State Education Department, Petaling Perdana District Education Office and secondary school at Petaling Perdana District Education Office.

References

- Bachtiar, S. (2015). Persepsi Guru Sman Jeneponto Terhadap Problem Based Learning (Pbl), Numbered Heads Together (NHT), Motivasi, Keterampilan Berpikir Kritis Dan Metakognitif. Makalah diseminarkan pada Seminar Nasional FMIPA Biologi UM 16-17 Oktober 2015.
- Bank Negara Annual Report. (2016).



- Eow, Y. L., Roaini, J., Zakri, M. D., & Asmah, A. H. (2015). Pasukan Pembimbing SIPartner+ dan SISC+ Memangkin Pendifusian Pengajaran dan Pembelajaran Alaf Baru Berpandukan Teori Apresiatif Inkuiri.
- Efendi, N. (2014). Pengaruh Pembelajaran Reciprocal Teaching Dipadukan dengan Think Pair Share terhadap Peningkatan Kemampuan Metakognitif Belajar Biologi Siswa SMA Berkemampuan Akademik Berbeda di Kabupaten Sidoarjo. *Jurnal Santiaji Pendidikan* 3 (2) Julai 2013.
- Kementerian Pendidikan Malaysia. (2012). Laporan Awal Pelan Pembangunan Pendidikan Malaysia 2013 - 2025. *KPM*, (September), 1–268. doi:10.1016/ j.tate. 2010.08.007.
- Rusell, J. D. (1974). *Modular instruction. A guide to the design, selection, utilization and evaluation of modular materials*. New York: Burgess Publishing Company.
- Talent Corp Malaysia Trends in Graduate Employablity. (2014).
- Tuckman, B. W. & Waheed, M. A. (1981). Evaluating an individual science programme for community college students. *Journal of Research in Science Teaching* 18:489 – 495.
- Wilson, N. S., & Bai, H. (2010). The relationships and impact of teachers' metacognitive knowledge and pedagogical understandings of metacognition. *Metacognition and Learning*, 5(3), 269-288.
- Zamri Mahamod. (2012). Inovasi P&P dalam pendidikan Bahasa Melayu. Tanjung Malim: Penerbit Universiti Pendidikan Sultan Idris.

Peer-review under responsibility of 4th Asia International Conference 2018 editorial board
(<http://www.utm.my/asia/our-team/>)

© 2018 Published by Readers Insight Publisher,
lat 306 Savoy Residencia, Block 3 F11/1,44000 Islamabad. Pakistan,
info@readersinsight.net

This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).