

Acknowledgements

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Synopsis

This study investigated vocational subjects' teachers' implementation of Competency Assessment and Modular Certification (CAMC) in secondary schools. This study aimed to test whether the proposed model of factors influencing Competency Assessment and Modular Certification (CAMC) of vocational subjects in secondary schools fits the empirical data collected from the teachers, to test moderator effects of selected demographic variables such as gender, experience, training and field of specialization on the proposed model, to modify the proposed model to a better fitted parsimonious model and to determine issues and challenges in the implementation of CAMC.

This study used the structural equation modeling approach. An *a priori* model was developed based on literature to explain the relationships between the variables. A set of instrument was developed and administered to 656 schools. A total of 493 respondents were used in the final analysis. In the preliminary analyses, exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were performed in order to determine the best factor structure to represent the latent variables in this study.

The structural model fitted adequately to the data [$\chi^2/df = 1.953$, TLI=0.917, CFI=0.920, RMSEA=0.044, AIC =3820.9]. The Quality Assurance Measures explained 4.8% of variance in Teachers' Receptivity. In addition, Quality Assurance Measures and Teachers' Receptivity explained 66.1% of variance in Teachers' Conceptions. Furthermore, Quality Assurance Measures, Teachers' Receptivity and Teachers' Conceptions explained 77.6% of variance in Degree of Implementation. In addition, Teachers' Receptivity showed significant direct effect on Degree of Implementation.

There were two pairs of latent variables that showed significant direct effects. They were Quality Assurance Measures on Teachers' Receptivity and the Teachers' Receptivity on Teachers' Conceptions. On the other hand, only the Quality Assurance Measures showed significant indirect effect on the Degree of Implementation through Teachers' Receptivity. Teachers' Receptivity mediated the relationship between Quality Assurance Measures and Degree of Implementation. The multiple group analysis of the four demographic variables i.e. gender, experience, training and teachers' field of specialization indicated that there was no significant difference in the measurement and structural invariance of the models across groups.

Finally, there are six categories of issues and barriers found to be faced by the vocational teachers in implementing CAMC. The issues are related to infrastructure, funding, curriculum documents, assessment, teachers and students.

The findings of this study and understanding the relationships of the factors chosen in this study to the degree of implementation of CAMC could contribute to the policy makers especially the Malaysia Examination Syndicate (MES) and teacher educators in designing or planning training, monitoring and moderation strategies according to the factors that influenced the degree of implementation of CAMC in particular, and for all the school-based assessment in general. Additionally, the instrument developed in this study could be used to investigate the implementation of a new assessment scheme. Implications of this study and recommendations for future research related to CAMC and for the improvement of the school-based assessment were discussed and outlined.

**Model Persamaan Struktur Faktor-Faktor Yang Mempengaruhi Pelaksanaan
Pentaksiran Kompetensi dan Persijilan Modular (PKPM)
Mata Pelajaran Vokasional di Sekolah Menengah Harian**

Sinopsis

Kajian ini bertujuan untuk meninjau faktor-faktor yang mempengaruhi pelaksanaan Pentaksiran Kompetensi dan Persijilan Modular (PKPM) oleh guru mata pelajaran vokasional. Kajian ini menggunakan pendekatan model persamaan struktur (*SEM*). Satu model *a priori* dibina berdasarkan literatur untuk menjelaskan hubungan antara pemboleh ubah yang dipilih. Model yang dicadangkan ini diuji sama ada faktor-faktor yang dipilih mempengaruhi pelaksanaan Pentaksiran Kompetensi dan Persijilan Modular (PKPM) ini berpadanan (*fit*) dengan data empirik yang dikumpul. Selain itu, kajian ini juga menguji sama ada pemboleh ubah demografi yang dipilih seperti jantina, pengalaman, latihan dan bidang pengkhususan memoderat (*moderate*) model yang dicadangkan; mengubah suai model yang dicadangkan kepada yang lebih berpadanan (*fit*) dan mengenal pasti isu-isu dan masalah-masalah dalam pelaksanaan PKPM.

Satu set instrumen telah dibina dan ditadbirkan kepada 656 sekolah dan sebanyak 493 responden digunakan dalam analisis. Dalam analisis awal, analisis faktor penerokaan (*exploratory factor analysis*) dan analisis faktor pengesahan (*confirmatory factor analysis*) dijalankan untuk menentukan struktur faktor yang terbaik untuk mewakili variabel laten dalam kajian ini. Dalam analisis model persamaan struktur (*SEM*), model yang dicadangkan berpadanan (*fit*) dengan data [$\chi^2/df = 1.953$, TLI=0.917, CFI=0.920, RMSEA=0.044, AIC =3820.9]. penjaminan kualiti menjelaskan 4,8% varians dalam penerimaan guru. Selain itu, penjaminan kualiti dan penerimaan guru menjelaskan 66,1% daripada varians dalam konsepsi guru. Tambahan pula, penjaminan kualiti, penerimaan

guru dan konsepsi guru menjelaskan 77,6% daripada varians dalam tahap pelaksanaan PKPM.

Analisis ini juga memperlihatkan bahawa, penerimaan guru menunjukkan kesan langsung (*direct effects*) yang signifikan terhadap tahap pelaksanaan PKPM. Sehubungan dengan itu, juga didapati bahawa dua pasang pemboleh ubah laten yang menunjukkan kesan langsung (*direct effects*) signifikan iaitu penjaminan kualiti terhadap penerimaan guru, dan penerimaan guru terhadap konsepsi guru. Selain itu, hanya penjaminan kualiti sahaja menunjukkan kesan tidak langsung (*indirect effects*) yang signifikan terhadap tahap pelaksanaan PKPM melalui penerimaan guru. Justeru, penerimaan guru menengahi (*mediates*) hubungan antara penjaminan kualiti dengan tahap pelaksanaan PKPM.

Dalam analisis kumpulan (*multiple group analysis*) untuk pemboleh ubah demografi iaitu jantina, pengalaman, latihan dan bidang pengkhususan dapatan menunjukkan bahawa tidak ada perbezaan yang signifikan dalam model pengukuran dan struktural kumpulan-kumpulan tersebut. Kajian ini juga telah mengenal pasti enam kategori isu dan masalah yang dihadapi oleh guru mata pelajaran vokasional dalam melaksanakan PKPM. Isu-isu dan masalah-masalah yang dikemukakan adalah berkaitan dengan infrastruktur, pembiayaan, dokumen kurikulum, pentaksiran, guru dan pelajar.

Dapatan kajian ini boleh menyumbang kepada perancangan dasar terutamanya Lembaga Peperiksaan Malaysia (LPM) dalam merancang strategi latihan, pemantauan dan moderasi dalam pelaksanaan PKPM khususnya, serta pentaksiran berasaskan sekolah amnya. Tambahan pula, instrumen yang dibina dalam kajian ini juga boleh digunakan dan diubah suai untuk kajian berkaitan dengan pentaksiran. Implikasi daripada kajian ini dan cadangan untuk kajian masa depan juga dibincangkan dan digariskan.