



**ICT READINESS IN TEACHING AND LEARNING AS PERCEIVED BY
TECHNICAL AND VOCATIONAL EDUCATION TEACHERS IN
MALAYSIA**

By

ABU-OBAIDEH SALEEM SALEH ALAZZAM

**Thesis Submitted to the School of Graduate Studies, Universiti Putra
Malaysia, in Fulfillment of the Requirements for the Degree of Doctor of
Philosophy**

January 2013

Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfillment of the requirement for the degree of Doctor of Philosophy

**ICT READINESS IN TEACHING AND LEARNING AS PERCEIVED BY
TECHNICAL AND VOCATIONAL EDUCATION TEACHERS IN
MALAYSIA**

By

ABU-OBAIDEH SALEEM SALEH ALAZZAM

January 2013

Chair: Professor Ab Rahim bin Bakar, PhD

Faculty: Educational Studies

The purpose of this study was to determine the information and communication technology (ICT) readiness and the use of ICT in teaching by technical and vocational teachers in Malaysia. The questionnaire was developed by the researcher and administered to 329 technical and vocational teachers who were teaching engineering subjects in Malaysian technical and vocational schools. Descriptive and inferential statistic analyses were used to analyze the data such as t-test, ANOVA, MANOVA, Chi-Square, Pearson Product Moment Correlation, and Multiple Discriminant Analysis (MDA).

The findings of this study indicated that the majority of the teachers in terms of their readiness had moderate level about ICT knowledge, moderate skillful level about ICT skills, and possessed positive attitudes towards ICT use in teaching. The findings indicated that there were no statistically significant differences of gender, type of training, administrative support and ICT availability with ICT knowledge level. However, there were statistically significant differences of age, years of teaching experience, and level of qualification with ICT knowledge level. While the findings also indicated that there were statistically significant differences of gender, age, years of teaching experience, and type of training with ICT skills level. In addition to that, there were no statistically significant differences on the level of qualification, administrative support, and ICT availability with ICT skills level. Moreover, there was no significant difference between both gender and administrative support with teachers' attitudes. While, there were no significant differences between attitudes and teachers' age, years of teaching experience, level of qualification, type of training and ICT availability.

The results of MANOVA indicated that there was significant relationship between demographic characteristics by gender only with teachers' overall readiness (ICT knowledge, ICT skills, and attitudes). However, there were no significant relationship between teachers' education background and overall support with teachers' overall readiness. For level of using ICT in teaching

among the teachers, the majority of teachers indicated to be using ICT very frequently with heavy users' level. Moreover, only one variable, that is, level of qualification appeared to have some influence on the teachers' ICT use in teaching. Only those with a bachelor degree tend to use ICT more frequently than the others. The results of correlations measured were significantly positive between ICT use and ICT skills as well as ICT use and attitudes. The correlation also was positive between ICT skills and attitudes. The results of Multiple Discriminant Analysis (MDA) found that the variables ICT skills and attitudes were the best predictors among other variables in ICT use.

Abstraktesis yang dikemukakan kepada Senat Universiti Putra Malaysia
sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

**KESEDIAAN TEKNOLOGI MAKLUMAT DAN KOMUNIKASI (TMK)
DALAM PENGAJARAN DAN PEMBELAJARAN BERDASARKAN
ANGGAPAN GURU-GURU PENDIDIKAN TEKNIKAL DAN
VOKASIONAL DI MALAYSIA**

Oleh

ABU-OBAIDEH SALEEM SALEH ALAZZAM

Januari 2013

Pengerusi: Professor Ab Rahim bin Bakar, PhD

Fakulti: Pengajian Pendidikan

Tujuan kajian ini adalah untuk mengenal pasti kesediaan teknologi maklumat dan komunikasi (TMK) dan penggunaan TMK dalam pengajaran oleh guru-guru teknikal dan vokasional di Malaysia. Borang soal selidik telah dibangunkan oleh penyelidik dan diberikan kepada 329 guru-guru teknikal dan vokasional yang mengajar mata pelajaran kejuruteraan di sekolah-sekolah teknikal dan vokasional di Malaysia. Analisis statistik deskriptif dan inferensial telah digunakan untuk menganalisis data ujian-T, analisis varians (ANOVA), analisis varians multivariat (MANOVA), Chi-square, Korelasi Product Moment Pearson, dan Analisis Diskriminasi Berganda (MDA).

Dapatan kajian ini menunjukkan bahawa majoriti guru-guru mempunyai tahap yang sederhana dari segi kesediaan mereka tentang pengetahuan TMK, tahap sederhana tentang kemahiran TMK, dan mempunyai sikap yang positif terhadap penggunaan TMK dalam pengajaran. Dapatan kajian menunjukkan bahawa tiada perbezaan yang signifikan dari segi jantina, jenis latihan, sokongan pentadbiran dan ketersediaan TMK dengan tahap pengetahuan TMK. Namun, terdapat perbezaan yang signifikan dari segi umur, pengalaman mengajar, dan tahap kelayakan dengan tahap pengetahuan TMK. Dapatan kajian turut menunjukkan bahawa terdapat perbezaan yang signifikan dari segi jantina, umur, pengalaman mengajar, dan jenis latihan dengan tahap kemahiran TMK. Di samping itu, tiada perbezaan yang signifikan pada tahap kelayakan, sokongan pentadbiran, dan ketersediaan TMK dengan tahap kemahiran TMK. Selain itu, tiada perbezaan yang signifikan juga di antara kedua-dua jantina dan sokongan pentadbiran dengan sikap guru. Sementara itu, tiada perbezaan yang signifikan di antara sikap dan umur guru, pengalaman mengajar, tahap kelayakan, jenis latihan dan ketersediaan TMK.

Keputusan analisis MANOVA menunjukkan bahawa terdapat hubungan yang signifikan di antara ciri-ciri demografi mengikut jantina dengan tahap kesediaan guru secara keseluruhan (pengetahuan TMK, kemahiran TMK, dan sikap). Walaubagaimanapun, tiada hubungan yang signifikan di antara latar

belakang pendidikan dan sokongan keseluruhan dengan kesediaan guru-guru secara keseluruhan. Bagi tahap penggunaan TMK dalam pengajaran di kalangan guru-guru, majoriti guru-guru menunjukkan penggunaan TMK yang sangat kerap pada tahap pengguna berat. Selain itu, hanya satu pemboleh ubah, iaitu tahap kelayakan yang didapati dapat mempengaruhi penggunaan TMK guru-guru dalam pengajaran. Hanya guru-guru yang mempunyai ijazah sarjana muda cenderung untuk menggunakan TMK lebih kerap daripada yang lain. Keputusan korelasi yang diukur adalah positif dan signifikan di antara penggunaan TMK dan kemahiran TMK serta penggunaan TMK dan sikap. Turut di dapati korelasi positif dan signifikan di antara kemahiran TMK dan sikap. Keputusan analisis MDA mendapati bahawa pemboleh ubah kemahiran TMK dan sikap adalah peramal yang terbaik di kalangan pemboleh ubah lain dalam penggunaan TMK.