

A Comparative Overview of ICT Tools between the Pre-Service Teachers

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Abstract: *Information and Communication Technology or widely known as ICT is not something new nowadays. In fact, computers and ICT are things we cannot do without today and in the future. Due to that, this study is conducted with the aim to investigate the pre-service teachers' usage of ICT, competency level, their perceptions on ICT as well as their attitudes towards ICT. This study involves 80 pre-service teachers from two courses, Teaching English as Second Language (TESL) and Sports & Recreation, in one of the public universities in Malaysia. Questionnaires comprising of 5 sections were distributed and analysed using SPSS. The findings revealed that there is no significant difference in terms of the ICT usage between the two courses. However, in terms of the ICT competency, perceptions of ICT as well as attitudes towards ICT, TESL students were found to be on the upper hand as compared to the counterpart, Sports and Recreation students. The study revealed that there is a significant and positive relationship between ICT usage, competency level, perceptions and attitudes towards using ICT in the interactive learning process. Therefore, more emphasis on the importance of ICT utilization should be encouraged among the pre-service teachers to enhance the teaching and learning process.*

Keywords: *ICT, pre-service teachers, attitude, perception, competency*

Introduction

Information and communication technologies (ICTs) refer to technological tools and resources which are employed to communicate, create, disseminate and manage information (Nordin, Hamzah, Yunus & Embi, 2010). We are all living in the decade of multimedia and the millennium of the Internet and the World Wide Web WWW (Yunus, Lubis & Chua, 2009). Many aspects in life are influenced by ICT such as business, science, entertainment and obviously, the education field. In education field, ICT assists students to be more effective in their learning. In fact, it aids the teachers in doing the administrative works efficiently. Information and Communications Technology (ICT) is becoming increasingly widespread, influencing many aspects of our social and work lives, as well as many of our leisure (Abedalaziz, Jamaluddin & Chin, 2013). In fact, computers and ICT are things we cannot do without today and in the future (Mohamed, 2003). Thus, ICT works as the platform for the teachers and the students to explore and enhance the teaching and learning process. In addition,

ICT is seen as a skill for life, now as important as being literate and numerate (Simmons & Hawkins, 2009). This indicates that ICT is very crucial in one's life.

The development of computer technology or ICT in the Malaysian education system has gone through various development and growth level (Isjoni, Ismail & Mahmud, 2008). Various implementations related to ICT have taken place in the education system such as MySchoolNet and Smart School. This is due to the changes that occur in the ICT as agreed by Simmons and Hawkins (2009) that ICT is an ever-changing subject. In fact, in near future, every Malaysian student will have the access to a 4G network in school through 1 BestariNet which serve as virtual learning platform that can be used by teachers, students and parents to share learning resources, run interactive lessons and communicate virtually.

Due to these rationales, it is important to utilise and employ the use of ICT tools in pre-service teachers' lives. The issue raised is whether they employ it in their daily lives, how competent they are as well as do they have positive perceptions and attitudes towards ICT. These four aspects would somehow foreshadow how ICT affects the lives of students. There are three objectives of this study:

- To identify students' ICT usage, competency level, perceptions and attitudes
- To seek the difference in terms of ICT usage, competency level, perceptions and attitudes between TESL and Sports & Recreation students
- To identify the relationship between ICT usage, competency level, perceptions as well as the attitudes of the students

Literature Review

Benefits of ICT

Using ICT tools help to offer the opportunities to develop higher order thinking skills. Levin and Wadmany cited in (Jo, 2013) argued that ICT helps students focus on higher-level concepts rather than less meaningful tasks based on a constructive learning approach. It should be noted that the advent of the digital and information age has made the development of critical and creative thinking, and higher-order thinking skills vital to future success (Ali, 2012). Further, Muir also cited in Ali (2012) proposed that technology is a promising tool to engage students in critical and creative thinking. Thus, it can be implied that higher order thinking can be developed with the assistance of technology.

ICT also helps in producing a creative learning environment. ICT develops students' new understanding in their areas of learning (Chai, Koh & Tsai, 2010). As ICT is made up of different tools and programmes, it supports more creative solutions to various types of learning needs. One of the most common uses of ICT globally and probably remains the foremost

implementation of ICT in schools is word processing (Allen, Potter, Sharp & Turvey, 2011). Via word processing, students can develop the ideas in their mind and work on it as well as to amend and present it. This means word processing develops creative learning environment and this denotes Hismanoglu (2012) stating that ICT presents a powerful learning environment for learners in the classroom. Thus, technology can contribute a positive impact to English language learning too.

Teachers and ICT

Teacher plays a dominant role in integrating the ICT based teaching (Bakar, Rajuddin, Ibrahim, Wahid & Hassan, 2008). ICT does not have an educational value in itself, but it becomes precious when teachers use it in the learning and teaching (Hismanoglu, 2012). This demonstrates that the teachers play a vital role in employing ICT in their teaching. If teachers are not confident using ICT in teaching, it would probably hamper the effort by the MOE to use ICT as an enabler in teaching and learning (Bakar & Mohamed, 2008). Bakar et al. (2008) further added that teachers must master the basic ICT and computer literacy skills, in par with the advancement of ICT innovation in education.

Bakar, Rajuddin, Ibrahim, Wahid and Hassan (2008b) stated that majority of teachers find difficulties in changing their way of teaching to something new and more updated like in applying ICT in teaching. In concurrence with this, Barbour and Ferdig (2012) claimed that many K-12 teacher education programmes have yet to embrace K-12 online learning; as such, many pre-service and in-service teachers are unprepared to teach online. It is undeniable that the integration of ICT into instruction has been a major challenge for every teacher because they are expected to be capable of utilizing the extensive capacities of ICT to create more effective teaching and learning activities (Hismanoglu, 2012). However, this should not halt teachers from making effort to utilise it in their lives.

Few studies have been conducted in regards to teachers and ICT. Among those include Hassanzadeh, Gholami, Alahyar and Noordin (2012), Ali, Nor, Hamzah and Alwi (2009), Koo (2008), Samuel and Zaitun (2007), Salehi and Salehi (2012), Mwalongo (2011) and Beauchamp and Parkinson (2008).

Attitude towards the Use of ICT

Attitude is one of the main factors that determine the success in language learning (Ghazali, Setia, Muthusamy & Jusoff, 2009). In fact, there is a relationship between experience levels and favourable attitudes towards the use of ICT tools. Moreover, Yunus (2007) claimed that positive attitude towards ICT usually foretell future computer use.

A study conducted by Chisalita and Cretu (2012) involving 120 female students in Romania revealed that they considered ICT has a high influence on the ways in which they learn and they were no longer able to prepare school activities without using type of resources. Abedalaziz, Jamaluddin and Chin (2013) revealed that the respondents in their study possessed high level perception of the usefulness and their control over the computer and Internet. Other studies conducted in regards to the attitude towards ICT are Stephen and Assimwe (2013), Ly & Jalil (2013), Giavrimis, Giossi & Papastamatis (2011), Yunus et al. (2009) and Yunus (2007).

Studies Related to the Use of ICT

There have been lots of studies done in relation to the use of ICT and its benefits. Rahmany, Sadeghi and Faramarzi (2013) conducted a study to investigate the effect of using weblog in language learning as a tool for vocabulary enhancement and grammatical accuracy of Iranian foreign language learners. The study reported that the use of online electronic resources should be encouraged as it was clearly seen that three grammar checking instrument and one vocabulary enhancement software could result in outstanding findings with blogging.

In addition, Farshi and Mohammadi (2013) reported that the students felt positive towards the use of podcasts in the learning of English vocabularies and became highly motivated to continue using podcasts in learning English vocabularies. This resembles to then study by Muhanna (2012) involving the Jordanian students using the online games in learning English vocabulary. Other studies include Yunus and Salehi (2012), Omar, Embi and Yunus (2012) and Wan and Bee (2011). All of these studies have indicated the use of ICT.

TESL & Sports and Recreation Students

It is undeniable that TESL and Sports students are different in their nature. Although they are pre-service teachers, differences exist in many aspects of their characteristics and learning methods. Rubin & Thompson (1982) defined language learners (in this case, TESL students) are creative and they understand that language is creative. Thus, language learners will experiment with the language and play with grammar, words and sounds. This is in contrast to sports students who usually deal with the outdoor activities as well as on how to maintain performances. Further, Rubin & Thompson (1982) denoted that language learners use linguistic knowledge, including on their first language in learning a second language. However, sports students employ perceptual learning style on visual, auditory and kinaesthetic (Jani, Ong, Madon, Ahmad, Khalid & Ahmad, 2009).

In fact, Gardner has also proposed the Multiple Intelligences, where it has been clearly classified among the intelligences are the linguistics and kinaesthetic. Linguistics would refer to the specialty of the language students while kinaesthetic would be more on the sports students. As Brualdi (2001) asserted, based on Gardner's Theory, someone who is active in kinaesthetic in

motor skills usually comes from the sports background. This indicates that language and sports students are indeed differ in their very own nature. Education Fund (t.t) then listed one of the characteristics of language students is that students who study art are four times more likely to be recognised for academic achievement. By that, language students would interact more with the indoor activities while sports students would engage more with outdoor activities. In fact, a study by Talyabee, Moghadam and Salimi (2013) in regards to compare the personality traits between the athlete and non-athlete students indicated the significant differences between the groups in several main personality traits.

Methodology

This is a quantitative study, applying cross-sectional survey. For the purpose of this study, it focuses on two groups of respondents, Teaching English as Second Language (TESL) and Sports and Recreation (S&R) course. They are the pre-service teachers who undergo Bachelor of Education in one of the public universities in Malaysia. 40 respondents from each course are selected as participants in the study. The study employs questionnaire in order to gather the data. The items in the questionnaire are adopted and adapted from Yunus, Lubis and Chua (2009), Teck & Lai (2011) and Ang, Embi and Yunus (2012).

The questionnaire comprises of five sections, A, B, C, D and E. The items in section A will be focusing on the respondents' demographic background. Meanwhile, the items in section B, C, D and E will be based on the construct like i) usage of ICT tools, ii) level of ICT competency, iii) perceptions on ICT and iv) attitudes towards the use of ICT. Analysis using Statistical Package Social Science (SPSS) version 20 involves descriptive analysis using the mean, frequency count technique and percentages. In addition, the researcher will also employ the inferential statistics such as T-test and Pearson Correlation.

Findings

Identifying ICT Usage, Competency Level, Perceptions and Attitudes

The respondents' level of competency is at an intermediate level of 73.75 %. Thus, it is assumed that most respondents are familiar with the use of ICT and they are able to utilise it well. 92.5% of the participants have access to the Internet and own at least a laptop or a personal computer (PC). Only 7.5% of them have little or no exposure towards the use of ICT since they either have no access to the Internet or device to use ICT. From these findings, it clearly shows that most of the respondents are familiar with the use of ICT and majority of them have access to the Internet and own a laptop or personal computer. This can imply that ICT tools are generally employed in their learning process at the university.

In terms of ICT usage among the respondents, both courses denoted that ICT is mostly used for accessing Facebook with the mean score of 3.56, followed by using ICT to surf the Internet for leisure purpose (3.51). The lowest mean score is 1.79, denoted by using ICT to write blogs. In greater detail, most of the respondents are found to be competent in social networking with the mean score of 3.64, followed by utilising email (3.49). Students from both courses agreed that they were less skilful in using ICT for spread sheet and data base, both with mean score of 2.79 and 2.86.

In terms of the students' perception on ICT in their lives, students from both courses agreed that ICT is a convenient way in getting information with the mean score of 4.41, the highest among all items in this construct. ICT is also a means to broaden students' general knowledge (4.40), apart from ICT is a tool for the students to obtain up to date information (4.36) and with ICT, it helps most students in using better English in daily communication (4.28). In fact, the students from both courses agreed that ICT helps in identifying their learning weaknesses (3.90), which appears to be the least agreed item in this section. In overall, the use of ICT has helped the students in their learning and thus, developed a positive perception towards the ICT.

Finally, the students portrayed positive attitude towards the use of ICT in their daily lives. Students from both courses agreed that ICT is an important tool in the era of globalization with the mean score of 4.44. Besides, both courses also viewed ICT as a means to get information (4.35) as well as a beneficial tool to be used in everyday life (4.34). Despite their positive attitude on the use of ICT, both TESL and S&R students admitted that they have the skills in using ICT, which appears to be the lowest mean score (4.06).

Difference Between TESL and Sports & Recreation Students

An analysis of the independent t-test was conducted to investigate the significant difference between the use of ICT among the two courses; TESL and S&R students. The findings indicate that there was no significant difference in terms of the use of ICT between the two courses. In terms of the mean score, S&R students (mean = 2.98) had similar use of ICT with TESL students (mean = 2.96).

In terms of ICT competency between the two courses, the findings show that there is a significant difference between the courses. In terms of the mean score, the TESL students portrayed a higher level of ICT competency (mean = 3.34) as compared to the S&R students (mean = 3.00). On the other hand, regarding students' perception of ICT, there is a significant difference between the two courses. The mean score shows that the TESL students had a better perception (mean = 4.29) towards ICT as compared to the S&R students with the mean score of 4.09.

Lastly, in terms of the students' attitudes towards ICT, the findings show that there is a significant difference found between the two courses. In terms of the mean scores, the TESL students had more positive attitudes (mean = 4.32) as compared to the S&R students with the mean score of 4.21.

Relationship between ICT Usage, Competency Level, Perceptions and Attitudes

Pearson Correlation analysis was used to identify the relationship between the four constructs. The finding showed that there is a positive and significant relationship between the four. The positive and significant correlation relationship indicates that students, who are ICT-competent, have high usage of ICT tools, possess positive perception and attitudes towards the use of ICT will enable them to perform better in their learning process.

Discussion

Based on the findings, nearly all of the participants agreed that ICT is used mostly to access into their Facebook accounts. This gives a good indicator towards the students' motivation in using ICT in their lives. This supports studies done by Simmons and Hawkins (2009) who claimed that the rise of social networking sites such as Facebook has provided the motivation in addition to the tools to self-publish. The least utilized ICT tool as denoted from the findings is writing blogs. This finding is similar to the study conducted by Yunus et al. (2009) on the use of ICT among the students. Therefore, the use of weblogs should be further encouraged among students in their learning process as claimed in the study by Yunus and Salehi (2012) and Wan and Bee (2011).

In terms of competency level, it is found out that students are most competent in social networking. This somehow resembles the findings of Hassanzadeh's et al. study (2012). Further, Yunus and Salehi (2012) claimed that social networks are used by millions of users, most of whom are students and adolescents, for a variety of purposes but with a heavy emphasis on social needs. Due to that, the competency in social networking somehow outshines other skills such as spread sheet and database. This supports Kuhlemeir et. al. (2007) who argued that ICT competency becomes the main indicator in the education system as ICT competency contributes to the learning outcomes in par with the globalization. Since the respondents are the pre-service teachers, they must master the basic ICT and computer literacy skills (Bakar et al., 2008).

In overall, TESL students have more positive perception towards ICT as compared to the S&R students, where ICT is the means to find information. This is because ICT allows unlimited access to information and computer in ESL teaching and learning and it is one of the most widely discussed and used in the method of education (Hadi & Salehi, 2012). In concurrence to

this, both courses have positive attitudes towards ICT which can be seen by the students agreeing that ICT is important in this era of globalization. Positive attitude is important in embracing the changes as claimed by Yunus et al. (2009) that attitude is likely a personal factor which could influence the person on the use of ICT. Students regard ICT as an essential tool in helping them going through their learning process and interactive activities. This is parallel to Hismanoglu (2012) who stated that ICT presents a powerful learning environment for learners in the classroom. Moreover, by knowing the need of ICT, it can influence the person to use ICT in their daily use (Yunus et al., 2009).

In comparing between the two courses, there is no significant difference in terms of the ICT usage. However, in terms of the ICT competency, perceptions of ICT as well as attitude towards ICT, TESL students were found to be on the upper hand. Most probably, this supports reference Jani et al. (2009) who argued that sports students employ perceptual learning style on visual, auditory and kinaesthetic while language learners are creative and they will experiment with the language and play with grammar, words and sounds Rubin & Thompson (1982). This is also parallel to Talyabee et al. (2013).

Conclusion

The study has revealed the differences between TESL and Sports & Recreation students in their usage of ICT, competency level, perceptions on ICT as well as their attitudes towards ICT. In fact, based on the findings, there is a significant and positive relationship between ICT usage, competency level, perceptions and attitudes towards using ICT in the interactive learning process in the university level. In overall, the study indicates that ICT plays a major influence in the students' life despite the difference in terms of the courses and it is obvious that ICT functions as an essential and crucial tool in enhancing and assisting the learning process.

References

- Abedalaziz, N., Jamaluddin, S. & Chin, H. L. (2013). Measuring Attitudes Toward Computer and Internet Usage Among Postgraduate Students in Malaysia. *Turkish Online Journal of Educational Technology*, Vol. 12, Num. 2.
- Ali, S. N. (2012). *Malaysian Polytechnic Lecturers' Teaching Practices with ICT Utilization to Promote Higher-Order Thinking Skills*. Doctor of Philosophy Thesis Published. IOWA State University.
- Ali, W. Z. W., Nor, H. M., Hamzah, A. & Alwi, H. (2009). The Conditions and Level of ICT Integration in Malaysian Smart Schools. *International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, Vol. 5, Issue 2, pp. 21 – 31.
- Allen, J., Potter, J., Sharp, J. & Turvey, K. (2011). *Primary ICT: Knowledge, Understanding and Practice*. Exeter: Learning Matters.

- Ang, C. K., Embi, M. A. & Yunus, M. M. (2012). Incorporating ICT Tools in an Active Engagement Strategy-Based Classroom to Promote Learning Awareness and Self-Monitoring. *International Education Studies*, Vol. 5, Num. 4.
- Bakar, A. R. & Mohamed, S. (2008). Teaching Using Information and Communication Technology: Do Trainee Teachers Have the Confidence? *International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, Vol. 4, Issue 1, pp. 5 – 12.
- Bakar, Z. A., Rajuddin, M. R., Ibrahim, M. A., Wahid, N. H. A. & Hassan, Z. (2008). Pengenalan In Zainuddin Abu Bakar, Meor Ibrahim Kamaruddin, Mohd Ali Ibrahim & Rahmad Sukor Ab Samad (Eds.), *Kemahiran ICT Di Kalangan Guru Pelatih IPTA Malaysia*. Selangor: Arah Publication.
- Bakar, Z. A., Rajuddin, M. R., Ibrahim, M. A., Wahid, N. H. A. & Hassan, Z. (2008b). Penguasaan Kemahiran ICT Guru-guru Pelatih di IPTA in Zainuddin Abu Bakar, Meor Ibrahim Kamaruddin, Mohd Ali Ibrahim & Rahmad Sukor Ab Samad (Eds.), *Kemahiran ICT Di Kalangan Guru Pelatih IPTA Malaysia*. Selangor: Arah Publication.
- Barbour, M. & Ferdig, R. E. (2012). Virtual Schooling In Scott McLeod & Chris Lehmann (Eds.), *What School Leaders Need to Know About Digital Technologies and Social Media*. San Francisco: Jossey-Bass.
- Beauchamp, G. & Parkinson, J. (2008). Pupils' Attitude towards School Science as They Transfer From an ICT-rich Primary School to a Secondary School With fewer ICT Resources: Does It Matter? *Educational Information Technology*, 13: 103 – 118.
- Brualdi, A.C. (2001). Multiple Intelligences: Gardner's Theory. *ERIC Digest*.
- Chai, C. S., Koh, H. L. J. & Tsai, C. C. (2010). Facilitating Pre-Service Teachers' Development of Technological, Pedagogical and Content Knowledge. *Educational Technology and Society*, Vol. 13, pp. 63 – 73.
- Chisalita, O. & Cretu, C. (2012). Opinions and Attitudes of Students Teachers' Toward ICT Use in Education. *The 8th International Scientific Conference eLearning and Software for Education*, April 26 – 27.
- Education Fund. T.t. *11 Facts about Arts in Education*. Retrieved December 16th, 2013 from <http://www.dosomething.org/tipsandtools/11-facts-about-arts-education>.
- Farshi, N. & Mohammadi, Z. 2013. Use of Podcasts in Effective Teaching of Vocabulary: Learners' Attitudes, Motivations and Limitations. *Theory and Practise in Language Studies*, Vol. 3, No. 8.
- Ghazali, S. N., Setia, R., Muthusamy, C. & Jusoff, K. (2009). ESL Students' Attitude towards Texts and Teaching Methods Used in Literature Classes. *English Language Teaching Journal*, Vol. 2, Num. 4, 51 – 56.
- Giavrimis, P., Giossi, S. & Papastamatis, A. (2011). Teachers' Attitudes Towards Training in ICT: A Critical Approach. *Quality Assurance in Education*, Vol. 19, No. 3.
- Hassanzadeh, V., Gholami, R., Allahyar, N. & Noordin, N. (2012). Motivation and Personality Traits of TESL Postgraduate Students towards the Use of Information and Communication Technology (ICT) in Second Language Teaching. *English Language Teaching*, Vol. 5, Num. 4.

- Hismanoglu, M. (2012). Prospective EFL Teachers' Perceptions of ICT Integration: A Study of Distance Higher Education in Turkey. *Educational Technology & Society*, 15 (1), 185 – 196.
- Isjoni, H., Ismail, M. A. & Mahmud, R. (2008). Pembestarian Sekolah: Pengintegrasian Teknologi dan Cabaran Terhadap Guru. In Isjoni Ishak (Ed.), *ICT untuk Sekolah Unggul*. Yogyakarta: Pustaka Unggul.
- Jani, J., Ong, K. B., Madon, M. S., Ahmad, H., Khalid, N. H. M. & Ahmad, Y. (2009). Teaching Approach, Learning Style and Types of Evaluation in Sport Science Subject at Secondary Schools. *Jurnal Pendidikan Malaysia*, 34 (2).
- Jo, S. F. (2013). A Critical Literature Review and Its Implications. *International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, Vol. 9, Issue 1, pp. 112 – 125.
- Koo, A. (2008). Factors affecting teachers' perceived readiness for online collaborative learning: A case study in Malaysia. *Educational Technology and Society*, 11 (1).
- Kuhlemeir, H & Hemker, B. (2007). The Impact of Computer Use at Home on Student's Internet Skill. *Computer and Education*, 49(2): 460-480.
- Ly, T. H. & Jalil, H. A. (2013). Attitude towards ICT Integration into Curriculum and Usage among University Lecturers in Vietnam. *International Journal of Instruction*, Vol. 6, Num. 2.
- Mohamed, R. M. (2003). *Challenges in Managing Information & Communications Technology: A CIO Guide*. Kuala Lumpur: Intan.
- Muhanna, W. (2012). Using Online Games For Teaching English Vocabulary For Jordanian Students Learning English As Foreign Language. *Journal of College Teaching and Learning*, 9 (3).
- Mwalongo, A. (2011). Teachers' Perceptions About ICT for Teaching, Professional Development, Administration and Personal Use. *International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, Vol. 7, Issue 3, pp. 36 – 49.
- Nordin, N., Hamzah, M. I., Yunus, M. M., & Embi, M. A. (2010). The Mobile Learning Environment for the In-service School Administrators. *Procedia - Social and Behavioral Sciences*, 7.
- Omar, H. Embi, M. A. & Yunus, M. M. (2012). ESL Learners' Interaction in an Online Discussion via Facebook. *Asian Social Science*, Vol. 8, Num. 11.
- Rahmany, R., Sadeghi, B. & Faramarzi, S. 2013. The Effect of Blogging on Vocabulary Enhancement and Structural Accuracy in an EFL Context. *Theory and Practise in Language Studies*, 3 (7).
- Rubin, J. & Thompson, I. (1982). *How To Be a More Successful Language Learner*. Boston: Heinle & Heinle.

- Salehi, H. & Salehi, Z. (2012). Integration of ICT in Language Teaching: Challenges and Barriers. *3rd International Conference on e-Education, e-Business, e-Management and e-Learning IPEDR*, Vol. 27.
- Samuel, R. J. & Zaitun, A. B. (2007). Do Teachers Have Adequate ICT Resources and The Right ICT Skills in Integrating ICT Tools in The Teaching and Learning of English Language in Malaysian Schools? *The Electronic Journal on Information Systems in Developing Countries*, 29, 2, 1-5.
- Simmons, C. & Hawkins, C. (2009). *Teaching ICT*. London: SAGE Publications Ltd.
- Stephen, N. & Asimwe, A. J. (2013). Exploring User Attitudes towards Internet Use: The Role of Gender and Age Difference. *Science Journal of Psychology*, Volume 2013.
- Talyabee, S. R., Moghadam, R. S. & Salimi, M. (2013). The Investigation of Personality Characteristics in Athlete and Non-athlete Students. *European Journal of Experimental Biology*, Vol. 3, Issue 3.
- Teck, S. H. & Lai, Y. L. (2011). An Empirical Analysis of Malaysian Pre-University Students' ICT Competency Gender Differences. *International Journal of Network and Mobile Technologies*, Vol. 2, Issue 1.
- Wan, J. & Bee, H. T. (2011). Weblogs for English Language Learning: Students' Perceptions. *Turkish Online Journal of Distance Education*, Vol. 12, Num. 4.
- Yunus, M. M. & Salehi, H. (2012). The Effectiveness of Facebook Groups on Teaching and Improving Writing: Students' Perceptions. *International Journal of Education and Information Technologies*, Vol. 6, Issue 1
- Yunus, M. M., Lubis, M. A. & Chua, P. L. (2009). Language Learning via ICT: Uses, Challenges and Issues. *WSEAS Transactions on Information Science and Application*, 6 (9): 1453 – 1467.
- Yunus, M. M. (2007). Malaysian ESL Teachers' Use of ICT in Their Classrooms: Expectations and Realities. *RECALL: The Journal of EUROCALL*, Vol. 9 (1), 79-95.