# THE STRESSORS OF USING COMPUTER TECHNOLOGY AMONG EDUCATORS IN UITM MELAKA

[1]Hoo Fang Jing, [1]Raihan Ibrahim, [1]Nor Afifa Nordin, [2]Mohd Amin Mohd Noh
[1]Academy of Language Studies, Universiti Teknologi MARA, Melaka, Malaysia
[2]International Islamic University College Selangor (KUIS), Selangor, Malaysia
mamn@kuis.edu.my

**Abstract**

Educators are exposed to a wide array of computer technological tools and in an effort to keep pace with technology evolution they may feel pressurised to learn to use the technology. In addition to this, the inability to fully comprehend the requirements and functionality of technology-based gadgets may create frustration and stress for the individuals. This study looks at the main stressors based on The Computer Hassles Scale from Hudiburg (1996). Thirty lecturers from across faculties in University Teknologi MARA were selected using random sampling. The analysis shows eight most frequently affirmed hassles by lecturers namely lost data 57 percent, information lost in the computer 53 percent, lost program 50 percent, crashed system/lockup 47 percent, crashed program 43 percent and low computer speed 43 percent, damaged storage media 40 percent, low program speed 37 percent, obsolete computer 33 percent, incompatible software programs 33 percent and computer hardware failure 33 percent. These stressors are indicative of lack of suitable and sufficient technical support for educators by the institution. Besides that, educators' inability to use computer technology must also be addressed. This discovery suggests that the institution should take these stressors into serious considerations before implementing the use of technology in classroom for educators so that teaching and learning process can take place smoothly without any major setbacks.

**Keywords**: Techno-stress, stressor, educational technology, digital revolution

## 1.0 INTRODUCTION

The world of education is moving towards technology at a rapid pace. Educators at the higher learning institutions nowadays have the responsibility to introduce, encourage, and help students to master the technology, as well as subjects, as it applies at school and the future. We can see that technology will be used in every aspect of the professional lives of current students so education with technology is overall a very positive thing. It is progressing at a breakneck pace and the progress will continue to move forward making better systems. Education of the future will be delivered with current information through traditional teaching methods and fantastic technological tools. It is undeniable that students will definitely benefit education along with the use of technology as has been discussed in many aspects. However, educators play significant role in ensuring that this can be delivered successfully especially in the classroom teaching and learning process. The digital revolution is slowly yet steadily, revamping our education system which seems to be stuck a few hundred years in the past and the process seems to have taken heavy tolls among educators in higher learning institutions too. Thus, it is relatively important especially for any higher learning institutions emphasising on this importance to look and identify the problems that educators faced at the workplace with the use of computer technology before students are able to benefit their learning process from these educators.

Hence, institutions must be able to identify the stressors that can lead to major stress and intense pressure among educators of using computer technology so that suitable and sufficient technical support and educators' inability to use computer technology can be addressed. The New Media Consortium, the Consortium for School Networking (CoSN), and the International Society for Technology in Education (ISTE) have stated that "All too often, when schools mandate the use of a specific technology, teachers are left without the tools (and often skills) to effectively integrate the new capabilities into their teaching methods," and the results are that the new investments are underutilized, not used at all, or used in a way that mimics an old process rather than innovating new processes that may be more engaging for students."

This study looks at the main stressors based on The Computer Hassles Scale from Professor Richard A. Hudiburg (1996). Computer hassle can be defined as a stressor that comes from interactions with computers and computerised technology. Therefore, three objectives are outlined which are: to identify the stressors that impedes the teaching and learning process in higher learning institutions, to determine the affirmed hassles among educators in higher learning institutions that causes major stress and intense pressure among them, and to ensure that higher learning institutions are able to internalise these hassles and take them into serious considerations to provide better and sufficient assistance to educators at the workplace.

## 1.1 Technology Challenges Facing Education

In the face of increasingly widespread adoption of technologies in virtually every aspect of education, significant challenges are preventing widespread effective implementation. Phenomenon such as conventional teaching methods without technology hassles cannot be overtaken by digital environments, lack of supports from policy makers and administrators at the workplace, environment settings of a school take takes place at a rural area, lack of computer appreciation and the inability to fully comprehend the requirements and functionality of computer technology are just a few to name the "not so keen" attitude among educators to the progress of technology development in the teaching and learning process. However, for the past decade, the effects of an economic recession which seriously crippled the education sector and also made the country to lag behind in this vast digital revolution (BWPI, 2009). Some schools have however made significant progress towards harnessing computer technology for the purpose of teaching and learning (Mohd Amin & Hoo, 2014).

Besides that, Wilson (1990), in a study on the preparedness of teacher trainees to use computers in teaching found out that even though the majority of teachers studied expressed positive feelings about computers, 68% still felt that their knowledge regarding computer usage was inadequate. Bychowski, Deborah, Van and Ralp (1984), in their study on current classroom computer usage and computer knowledge, showed that most of the teachers surveyed did not feel that they possessed adequate knowledge on the aspects of computer technology, very necessary to effectively use computers in the classroom. As well as Budin (1991) states that a meaningful approach to computer education must emphasise accurate teaching as well as computing. Teachers must be trained in computer education to make meaningful curricular decisions when using them in classroom.

According to Wright (2014), "teachers who have been brought up in a world with limited technology can find it difficult to use technology to engage and support learning. Whatever training and professional development opportunities that are provided to teachers must be long enough for them to grasp the concepts behind teaching with technology, to have

hands-on experience using the technology, and to revise or develop one lesson that they can use when they return to their classroom or online environment".

In year 2016, Ministry of Education Malaysia had introduced the Malaysia Higher Education Blueprint 2015-2025. Among the motives of this scheme is to keep pace with the challenges of the 21st century by looking at internet as of things and as of everything and accelerating the pace of change due to digital age, introducing and implementing the 10 shifts to support the attainment of System and Student Aspiration emphasising too at the technology culture in the education system and our country has put a high expectation in our educators in implementing technology in the educations system.

At the higher learning institutions, educators are well aware of this implementation has moved hand-in hand with the government rigidly with positive attitudes to deliver promising, holistic and well-mannered graduates. With that, stress has a more significance on the educators' professionalism in using the computer technology, while the researches related to this issue is inadequate especially to technical support for educators and educators' inability to use computer technology, hence, this study was conducted to survey the stressors among educators in UiTM Melaka, one of the higher learning institution in the state of Melaka.

## 2.0 METHODOLOGY

A modified questionnaire based on The Computer Hassles Scale from Professor Richard A. Hudiburg was used for this study, which requires information and data in the form of percentile to be measured. This research was conducted at a higher learning institution namely Universiti Teknologi MARA (UiTM) Melaka. The target respondents were 30 lecturers from across faculties in University Teknologi MARA selected using random sampling. The population in this study involved lecturers from multi discipline consisted of male and female lecturers, all have been working in the institution for more than 5 years and were involved in using computer technology in the process of teaching and learning. 24 stressors were adapted from Professor Richard A. Hudiburg's Computer Hassles Scale to fit the environment of teaching and learning in the institution. After 2 weeks, all the complete filled-up questionnaires were gathered and collected for further data analysis by the researcher to get the output and findings for the research. All 30 sets of questionnaire given to the respondents were returned.

## 3.0 RESULTS AND FINDINGS

The data obtained from the questionnaire were analysed to determine the stressors that impedes the teaching and learning process in higher learning institution. The data also used to determine the affirmed hassles among educators in higher learning institution that causes major stress and intense pressure among them. It is also to ensure that higher learning institutions are able to provide sufficient assistance to the educators at workplace.

The questionnaire was given to 30 Universiti Teknologi MARA Melaka, 21 of which were females and nine are males. Their ages ranges from 25 to 56 years old. All of them obtained a minimum of Master's Degree and at least have been teaching for more than five years.

The questionnaire itself consists of 24 items. All the items are stress-related outcomes specifically at human-computer interaction and it is based on The Computer Hassle Scale

designed by Professor Richard A. Hudiburg. Table 1 summarizes the overall findings of the questionnaire.

Table 1: The Stressors of Using Computer Technology in UiTM Melaka

| No. | Statement | DT | | T | | N | | NT | | DNT | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | % | N | % | N | % | N | % | N | % |
| 1 | Computer system is down | 9 | 30 | 16 | 53 | 2 | 7 | 3 | 10 | 0 | 0 |
| 2 | Information lost in the computer | 16 | 53 | 10 | 33 | 1 | 3 | 3 | 10 | 0 | 0 |
| 3 | Poorly documented software | 7 | 23 | 18 | 60 | 3 | 10 | 2 | 7 | 0 | 0 |
| 4 | Computer hardware failure | 10 | 33 | 16 | 53 | 2 | 7 | 2 | 7 | 0 | 0 |
| 5 | Computer keyboard lockup | 6 | 20 | 8 | 27 | 5 | 17 | 11 | 37 | 0 | 0 |
| 6 | Programming error | 6 | 20 | 15 | 50 | 4 | 13 | 5 | 17 | 0 | 0 |
| 7 | Illegal input message | 6 | 20 | 12 | 40 | 6 | 20 | 6 | 20 | 0 | 0 |
| 8 | Updated software requirements | 5 | 17 | 11 | 37 | 8 | 27 | 6 | 20 | 0 | 0 |
| 9 | Poor user/computer interface | 5 | 17 | 13 | 43 | 5 | 17 | 7 | 23 | 0 | 0 |
| 10 | Low program speed | 11 | 37 | 14 | 47 | 3 | 10 | 2 | 7 | 0 | 0 |
| 11 | Low computer speed | 13 | 43 | 13 | 43 | 2 | 7 | 2 | 7 | 0 | 0 |
| 12 | Incompatible software programs | 10 | 33 | 14 | 47 | 4 | 13 | 2 | 7 | 0 | 0 |
| 13 | Incomprehensible computer instructions | 8 | 27 | 13 | 43 | 3 | 10 | 6 | 20 | 0 | 0 |
| 14 | Outdated computer skills | 6 | 20 | 11 | 37 | 6 | 20 | 7 | 23 | 0 | 0 |
| 15 | Damaging electrical surges | 5 | 17 | 16 | 53 | 4 | 13 | 5 | 17 | 0 | 0 |
| 16 | Lost data | 17 | 57 | 7 | 23 | 1 | 3 | 5 | 17 | 0 | 0 |
| 17 | Lost program | 15 | 50 | 7 | 23 | 3 | 10 | 5 | 17 | 0 | 0 |
| 18 | Crashed program | 13 | 43 | 13 | 43 | 1 | 3 | 3 | 10 | 0 | 0 |
| 19 | Crashed system/lockup | 14 | 47 | 10 | 33 | 2 | 7 | 4 | 13 | 0 | 0 |
| 20 | Damaged storage media (disk/tape) | 12 | 40 | 10 | 33 | 2 | 7 | 6 | 20 | 0 | 0 |
| 21 | Forgot to save work | 11 | 37 | 12 | 40 | 4 | 13 | 3 | 10 | 0 | 0 |
| 22 | Software confusion | 5 | 17 | 11 | 37 | 10 | 33 | 4 | 13 | 0 | 0 |
| 23 | Lack of computer application software | 8 | 27 | 12 | 40 | 8 | 27 | 2 | 7 | 0 | 0 |
| 24 | Obsolete computer | 10 | 33 | 8 | 27 | 7 | 23 | 5 | 17 | 0 | 0 |

## 3.1 Stressors Identified

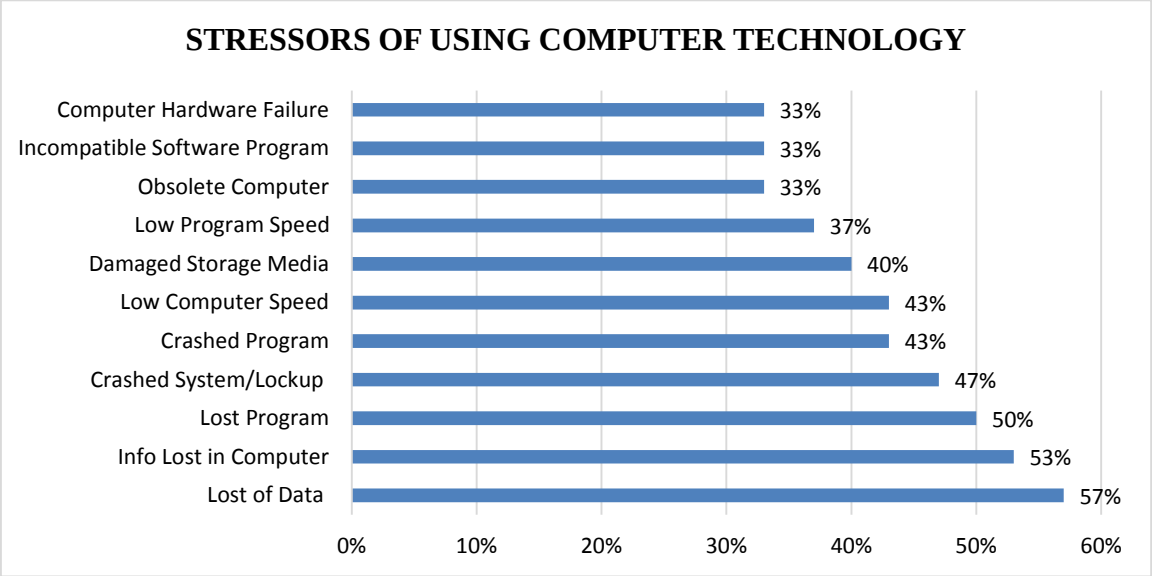


Table 2: Identified Major Stressors among Academicians in UiTM Melaka

Table 2 summarizes eight highest stressors frequently encountered by the lecturers. 57% of them agreed that *lost of data* while 53% claims that *information lost in computer* were the factors contributed to the stressors. This means that two of the incidences had led to major stress and intense pressure to the educators. These two factors was a result in error condition whereby both data and information, in terms of students' results and research data, were completely destroyed by failure or neglect in storage, transition or processing.

The next stressors in computer-human relationship were lost program and crashed system/lockup. 50% lecturers reported that lost program was their setbacks while 47% reports crashed system/lockup did affect their teaching and learning process.

The other two stressors identified were crashed program and low computer speed. These two stressors were ranked 43% by the lecturers. These usually happened when some of the devices (i.e. computers and notebooks) that were allocated to the lecturers were equipped with limited memory storage.

Damaged storage media was ranked as the sixth stressor among the lecturers in human-computer interaction. 40% lecturers claimed that when this happened, most would have difficulty in engaging with the students especially during lecture presentation in the teaching and learning process.

Finally, the last stressors identified were obsolete computer, incompatible software and computer hardware failure. 33% responded to each of the items and most agreed that these happened when most of the computers provided to them were outdated.

Thus, these eight stressors summarized in Table 1 were the stressors that impeded the teaching and learning in UiTM Melaka. It was determined too that these eight stressors were the main hassles to cause major stress and intense pressure to them.

These issues reflect the important roles of the institution that should emphasise on providing a suitable and sufficient technical support for educators. Besides that, educators' inability to use computer technology must also be addressed so that they can conduct learning sessions using appropriate teaching approaches and strategies with the use of computer technology. Educators too must be able to find their own direction and more efforts need to put in to shape the understanding of the learners especially nowadays UiTM Melaka has been moving towards realising the vision of our education system embarking on the positiveness on changes due to digital age. At this moment, the technology culture in the education system and our country has put a high expectation on our educators in implementing technology in the education system. This must be supported by the institution to reduce the stress and intense pressure among educators in all levels. Hence, it is also to reduce any further aggravations due to the stress and pressure faced by educators which can result in lack of motivation and lack of the importance of self-achievement which all educators should have in them in bringing and building up healthy, well growing and successful young generations to come.

## 4.0 CONCLUSION

Educators mainly use word processing and information search to conduct research (Whetstone & Carr-Chellman, 2001) e-mail, drill-and-practice applications, and presentation tools; however, they found difficulty in applying Web 2.0 technologies such as blogs and podcasts for classroom applications, audio files and video publishing and not familiar with more advanced tools including media packages, problem solving application, spreadsheets, electronic collaboration tools, databases and simulation (Brush, Glazewski & Hew, 2008; Lei, 2009 in Mustafa & Bakir, 2010).

This is due to the type of technology courses offered to educators as past research claimed that courses are stand-alone in nature solely focusing on the knowledge on how to operate specific tool or software, which is deemed not effective and sufficient. Thus, one effort to ease the problem is to provide educators in UiTM with courses that highlight the methods and pedagogical strategies of applying technology in classrooms which could further be stretched to encourage life-long learning by using and taking learning outside of the classroom with technology. In order to inspire these educators to grasp the notion to take advantage of technology in the teaching and learning process, they must not only possess knowledge on technologies available in the market but they are also required to apply them in the most effective way to foster a positive learning environment among learners. By learning methods of employing technology as a part of their pedagogy, educators will improve their competency, boost comfort level, reduce anxiety, promote confidence with computers; thus, later reinforce their interest to use technology in their teachings.

Another major setback to the using technology in class is most educators in UiTM feel comfortable practising drill-practice and tutorial tools using technology in their instructions and are not able to engage students in critical and higher order thinking skills. Thus, it is proposed that the institution is encouraged to create a learner-centred, collaborative and authentic learning environment to help assist educators enhance the use of technology. It further empowers both educators and learners to be engaged in generating questions and strategies to solve problems that arise, later critically investigate the effectiveness of the methods applied to improve their teachings. This could also be extended through finding and sharing experiences with teachers who are struggling in the implementation of technology in their lessons. A study by Park and Cramer (2004) supported this suggestion as in their research, teachers were introduced to a technology-enhanced problem-based learning (PBL) approach experienced increased in confidence when using technology and manage to shift their pedagogical belief regarding classroom instruction which is closely knitted with continuous support from administrators as well as collaboration among other teachers.

Furthermore, to ensure uninterrupted teaching and learning and maintain teachers' and students' optimistic perception on the usage of technology in the lessons, available ICT tools and facilities must be in good working conditions and hardware and software problems which occur frequently especially with the full implementation of technology as supported by Singh and Muniandi (2012). Maintenance staff or experts should be brought in and help to assist teachers and learning for optimal teaching and learning time. Hence, this requires cooperation learners, teachers, staff, even the administrators to establish confidence and positive relationship in regards to the usage of technology in teaching and learning. Without support, trust and confidence, the foundation is not fully established and some teachers might feel left out and ultimately succumb to the traditional way of teaching and learning and teacher-centred.

The many stressors of using computer technology in the classroom in the process of teaching and learning cause educators to have a disapproving perception towards its many potential and reject the idea of implementing the usage of technology in the classroom disregarding the government's vision and policy. By having such knowledge on the stressors among educators, administrators, policy makers, teachers and learners themselves then need to gather those involved in the process of teaching and learning in understanding the nature of technology. Moreover, educators must learn by attending courses, discuss and apply technology in their lessons by forming a good, positive and confident support group to achieve the objectives of the lessons and mould students in becoming autonomous learners who are equipped with technology skills which is also the expectation of the current industry and workplace and is one of the most desired missions of education institutions.

## 5.0 REFERENCES


Abdul Rahim Aris (2002). Kajian ke atas Faktor-faktor yang Mempengaruhi Stres (Tekanan) dan Niat untuk Meninggalkan Profesion Perguruan di Kalangan Guru Sekolah Menengah dan Sekolah Rendah di Daerah Kota Tinggi, Johor. Universiti Teknologi Malaysia: Tesis Sarjana.

Chien, S.P., Wu, H.K., & Hsu, Y.S. (2014). An Investigation of Teachers' Beliefs and Their Use of Technology Based Assessments. *Computers in Human Behavior*, 31, 198-210.

Davis, F. D. (2003). Acceptance of Information Technology. MIS Quarterly, 13(3), 319-339.

Faridah Karim dan Zubaidah Aman (1998). Implikasi Burnout di Kalangan Guru Terhadap

Sistem Pendidikan. Prosiding Seminar Isu-isu Pendidikan Negara. November 26 – 27. Malaysia:Universiti Kebangsaan Malaysia, 317-333.

Gamgoum, Y. (2014). TechnoStress and 3rd Party TechnoStress. *Discovery, Invention & Application*, (1).

Hudiburg. R (1989b). Psychology of Computer Use: VII. Measuring Technostress: Computer-Related Stress. *Psychological Reports,* 64,767-772.

Hudiburg.R, (1990). Relating Computer-Associated Stress to Computerphobia. *Psychological Reports*, 67, 311-314.

Hudiburg. R, (1991). Relationship of Computer Hassles, Somatic Complaints, and Daily Hassles. *Psychological Reports*, 69, 11 19-1122.

Hudiburg. R, & Jonets. (1991). Psychology of Computer Use: XXIII. Validating a Measure Of Computer-Related Stress. *Psychological Reporfs;69*, 179-182.

Lazarus, R. S. (1966). Psychological Stress and the Coping Process. New York,NY: McGraw Hill.

Lazarus, R.S and Folkman, S. (1984). Stress, Appraisal and Coping. New York:

Lovibond, P. F., & Lovibond. (1995). Manual for the Depression Anxiety Stress Scales. *The Psychology Foundation of Australia Inc*.

Malaysia Education Blueprint 2013-2025. (2012). Preliminary Report: Executive Summary. Retrieved from http://www4.unescobkk.org/nespap/sites/default/files/Preliminary-Blueprint-ExecSummary-Eng_0.pdf

Mohd Amin, M. N., & Hoo, F. J. (2014). Social Constructivism among UiTM Students Using Facebook. In *National Action Research Conference Proceedings 2014* (1), 317-332.

Mustafa, K. O. C., & Bakir, N. (2010). A needs assessment survey to investigate pre-service teachers' knowledge, experiences and perceptions about preparation to using educational technologies. *TOJET: The Turkish Online Journal of Educational Technology*, *9*(1).

Norhayati Abd. Mukti, N. A. (2000). Computer Technology in Malaysia: Teachers' Background Characteristics, Attitudes and Concerns. *The Electronic Journal of Information Systems in Developing Countries*, *3*.

Park, S. H., Ertmer, P., & Cramer, J. (2004). Implementation of a Technology-Enhanced Problem-Based Learning Curriculum: A Year-Long Study of Three Teachers. *Association for Educational Communications and Technology*.

Singh, T. K. R., & Muniandi, K. (2012). Factors affecting school administrators' choices in adopting ICT tools in schools–The case of Malaysian schools. *International Education Studies*, *5*(4), 21.

Tapsir, S. H. (2016). A Strategy for the Next Decade of Malaysian Higher Education. *ACU Perspectives Speaker Series*, (8).

Whetstone, L., & Carr-Chellman, A. A. (2001). Preparing preservice teachers to use technology: Survey results. *TechTrends*, *45*(4), 11-17.

Wright, C. R. (2014). 5 Key Barriers to Educational Technology Adoption in the Developing World. *Educational Technology Debate*, 1-18.

Yahaya, A., Hashim, S., & Tee, S. K. (2006). Occupational Stress Among Technical Teachers in Technical School in Johore, Malacca and Negeri Sembilan. *Faculty of Education, University of Technology Malaysia, 81100.*