

# ICT and Stress amongst Academics in Higher Education: An Exploratory Study from the United Arab Emirates

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**Abstract:** This study is based on a survey which explored Information Communications Technology (ICT) usage and challenges among academic staff in two colleges in Abu Dhabi, United Arab Emirates. The main purpose of this study was to determine how both colleges incorporated ICT in teaching. To determine whether ICT could reduce stress among academics. And, finally, to identify the obstacles to their ICT usage and their views about making ICT more effective in reducing their stress. Four research questions were posed to guide this study and a short questionnaire was designed to collect data from a sample size of 24 academic staff. Academic staff indicated that ICT is of great help in easing their teaching role and dealing with administrative tasks. Designing of teaching materials, electronic presentation of materials and making use of the Internet were identified as the main helpful areas in ICT usage. Lack of training was identified as the major obstacle to ICT usage among academic staff.

**Keywords:** Information communication technologies, stress, teaching style, power point, e-book.

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## 1. INTRODUCTION

Teaching is a demanding profession which involves stress on the part of instructors. Despite efforts to address the problems faced by instructors with regard to their workload and performance, one cannot deny the stress that a teacher faces in their teaching career. There may be multiple causes of stress which weigh on a teacher's shoulders. However, research shows that integrating information and communication technology appropriately can alleviate some pressure. Use of whiteboards, power point slides, e-books and other IT tools will ease planning material, delivering information and assessments, resulting in reduced task time and workload along with reduced anxiety and more opportunities to collect and develop possible material. Stress free education can enhance teaching and learning process in educational organisations. Instructors and learners can both have positive outcomes with the use of information and communication technologies in classrooms, which can relieve instructors of the stress of education from in their teaching process and from learners in the learning process.

Information and Communication Technology (ICT) had tremendously affected society, including the education system. Being stakeholders, instructors play a key role in implementation of the technology in the education system (Laxman, 2013). Based on 21st century demand, there has been pressure on instructors to use the modern and latest equipment and tools in the teaching process. It is expected that the instructors completely utilise the emerging technologies to support students' learning. However, it is not clear whether these technologies are known to instructors or not. The question remains as to whether instructors are equipped with the knowledge of such technologies or not. In classrooms which are student-centred, instructors are not likely to use the technologies meaningfully.

A complete solution-based approach is to have power point slides and e-books to ensure successful usage and benefits to both instructors and students. This study considered perceptions of academic staff from two colleges in Abu Dhabi, United Arab Emirates. One is public (A) and the other is private (B).

## 2. AIM AND METHODOLOGY

To get the views of academics, open-ended questions were asked to 24 academic staff in two colleges in Abu Dhabi: private college (A) and a public college (B). The study aims at finding answers to the following questions:

1. How does your college incorporate ICT (Information Communication and Technology) in learning?
2. Does ICT effectively reduce workload or stress of academics?
3. Which tools in ICT are more effective in reducing stress?
4. How can ICT be made more effective in reducing stress among academics?

Academic staff in both colleges was approached by e-mail. Only 24 staff members answered the survey questions. Analysis of responses was guided by the main research questions.

### **Stress among Academics:**

Selye (1974 cited in Wilson, 2002) stated that a limited amount of stress can have positive impact while too much of it can result in overwhelming and negative effect. Instructors fall under the category where they experience negative, unpleasant experiences of emotions, such as anger, anxiety, tension, frustration and depression (Kyriacou, 2001, p.28). Based on a survey conducted in Hong Kong, 61 per cent of instructors reported they were under stress due to teaching (Oi-Ling, 1995), whereas in Canada, 15-45 per cent of instructors stated they were under excessive stress and burnout (Leithwood, 2006). On the other hand, in the UK, 30 per cent of instructors felt they had no time for a social life due to teaching and other demands of the profession. Eighty-five per cent said they were left with excessive workloads which negatively affected their personal life and 35 per cent stated they faced excess stress on a daily basis due to the teaching profession (Bubb & Earley, 2004). In Scotland, 71 per cent of instructors complained that their jobs were causing health problems, mood swings and poor sleep patterns (Hill, 2008). The main two concepts that were determined in causing teacher stress were the workload and not enough time to meet the students' needs. However, some instructors are very dutiful in meeting the students' learning needs, which is an external pressure for them (Forlin, 1998). Based on the factors listed by the British Columbia Instructors' Federation in Canada, the top five factors are the unmet needs of students, classroom composition, size of the workload, attitudes of provincial government and the inclusion of students with special needs (Naylor, 2001, p.3).

The main stress factor for the student is the feeling of helplessness of meeting student needs individually; therefore, if proper efforts are put in to reduce preparation time and allocate the same for students this could be a helping factor and have a positive impact on reducing stress. Due to different factors influencing the classrooms and students, such as multicultural backgrounds, socioeconomic status, different learning styles, and mental, physical and behavioural challenges, instructors are challenged to face greater responsibility and pressures in their day-to-day activities (Forlin, 1998). In addition, government rules and responsibilities are an added pressure for instructors and schools whereby they are expected to meet specific targets for achievement; this makes heavy demands on an instructor's job (Naylor, 2001). According to a study conducted in Canada, a instructors' workload is double the hours of the regular school day, (Naylor, 2001). Nearly 25 per cent of instructors' work time happens outside their working hours (Bubb & Earley, 2004). Another study stated that instructors spend an average of 12.9 to 14.8 hours every week on lesson preparation and marking, with additional 3.6- 6.1 hours on general administration duties (Bubb & Earley, 2004).

### **Benefits of Using of ICT in Classrooms:**

Based on the research conducted by Kale and Goh (2012), the findings indicate that instructors are fairly efficient in using computers and the Internet in their classrooms, although ICT is mentioned in the curriculum and structured teaching techniques as one of the requirements (Kale & Goh, 2012). The research further mentions that the teaching style is not an important element. However, the infrastructural improvements, greater professional development opportunities and practice are important in applying ICT in classrooms. It is also significant to know whether instructors are ready to accept

ICT in their teaching styles. Twenty-first century instructors are expected not only to impart knowledge to students, but also to develop their over skills with regard to inventive thinkers, problem solvers, communication skills and computer

literate skills (www.p21.org, 2004; Solomon and Schrum, 2007). Hence, the role of information communication technology is also witnessed with such growth.

As stated by Den Brok et al. (2004) and Inan et al. (2010), instructors are expected to meaningfully match their pedagogy with the technology, which is a strong indicator of success. Teaching style involves understanding of pedagogy and it is a means of teaching which includes beliefs on learning, this also relates to the behaviour of instructors and influences student learning within the classrooms (Allen, 1998). The two major orientations in pedagogy are teacher-centred and student-centred approaches. To differentiate between the two, the degree of control instructors have in facilitating the students' learning is crucial. Student-centred instructors have loose-control over the learning process whereby students are encouraged to take the initial step in planning and performing the activities, whereas the teacher-centred approach takes over the performance of students by controlling the learning process and indicates strong-control (Den Brok et al., 2004). As stated by Becker (1999), instructors with "loose-control" are more likely to use collaborative technologies in their classrooms, as they incorporate teaching meaningfully and encourage students to learn through inquiry-based projects and activities. Such instructors will substitute collaboration, inquiry and project management (Park & Ertmer, 2008). As with any ICT introduction, it is important to have training, resources and the necessary support from management to maximise the benefits of the tools being introduced.

#### **Benefits of Using Smart Whiteboard in Classrooms:**

Researchers suggest that, when technology integrated properly with teaching, it can alleviate the stress of instructors. It was stated in the literature that, when online resources are used in the right way, it can save on preparation time, reduce planning efforts and relieve instructors from unwanted stress (Kitchen, Finch, & Sinclair, 2007). Whiteboards help instructors to deliver effective information by helping them to focus on the individual requirements of students and meet their needs (Fraser, Garofalo, & Juersivich, n.d). Based on the survey conducted by Wilson (2002) in a study at a school, instructors stated that they spent more than 84 per cent of their time on records and 64 per cent on preparation before the use of whiteboards. However, with the use of ICT, there has been reduction in such since ICT has brought positive effects in terms of time production. Most of the instructors reported that they saved half the time in lesson preparation as well as in lesson delivery in the classrooms (Kitchen, Finch, & Sinclair, 2007).

Half of the instructors responded to the survey stating that they saved time when using online resources; they also said these online resources saved at least two hours per week. There were positive effects seen with both primary and secondary instructors in a school. Bubb and Earley (2004) suggested to share the online peer-created lessons, which will save instructors the time for lesson preparation as they can share the lesson plans through ICT if the instructors are teaching the same grades. This will result in a lower workload and generate more creative ideas. Whiteboards helped instructors in enhancing teaching and saving time and also provided interactive communication between students and instructors and instructors with peers. Information from texts was made more concise and in points which enabled students to grasp it easily. It implemented effective and efficient planning and learning and improved the study system in general.

Another advantage of using whiteboards to relieve stress is that instructors then have enough time in meeting the individual needs of the students. Since the lesson preparations are done with peers sharing the same lesson plans, instructors are released from work and can give time to meet the students' needs individually. Technology has integrated many types of media inside the lessons and is able to address the multiple learning styles and abilities of students. Instructors are able to use multiple images, moving figures and sound and enhance the teaching and learning process. Based on the different intelligences of students, those who find the text to be difficult can improve themselves through images and sounds (Somekh et al., 2007, p. 6). SMART notebooks help instructors to adapt their information according to the needs of students so that students can quickly grasp the given information and can understand it in a proper way. It will also enable the instructors to adjust their pace accordingly and they can go back to the previous slides. There is smooth flow of information, which saves time of transition between the lessons (Bennett & Lockyer, 2008).

Another important aspect of using a whiteboard in classrooms is the reduction in classroom anxiety. Many instructors face a challenge in meeting the lesson goals and also keeping the students engaged; with the use of whiteboards, instructors are able to meet this challenge and keep the class busy with tasks. This has relieved the stress of many instructors. In a study conducted at the University of Virginia, instructors stated that having interactive whiteboards helped them to keep the students focused while teaching and also eased their stress in front of the class. In case of distractions and disturbances,

interactive whiteboards made for a smooth flow of lessons. Hence, a whiteboard is viewed as an interactive tool to cope with anxiety and stress (Fraser, Garofalo, & Juersivich, n.d., p.10). On the other hand, PowerPoint enables students to have a brief outline of the information given in the text and facilitate note-taking. However, its effectiveness completely depends on its usage by the instructors and the teaching styles being adopted.

### **Challenges of Using ICT in Teaching:**

Research states that, to have successful life in today's world, digital knowledge, creative thinking, effective communication and high productivity are important skills needed (Partnership for 21st Century Skills 2004; Solomon & Schrum 2007). However, there are few examples where information technology is successfully being used in constructive teaching (Kozma & Anderson, 2002; Kramer et al., 2007). The main problem using ICT arises when a teacher is unaware of the usage of ICT in teaching, or if the teacher does not have the skills of using ICT, filtering and passing the message that there is a fear of information being overloaded. As stated by Yunus, Lubis and Lin (2009), both the teacher and the student may face difficulties in using ICT if they lack the required skills. Basically, the use of ICT depends on the skills and knowledge of a teacher. Information can be overloaded if a teacher does not have the knowledge to filter the required information (Yunus, Lubis, & Lin, 2009). Educators have stated that there are two types of barriers in using ICT, which can be classified into extrinsic and intrinsic. According to Ertmer (1999), extrinsic are those which are based on access, time, support, resources and training, whereas intrinsic are those based on attitudes, beliefs, practices and resistance (Ertmer, 1999).

The barriers that are found in ICT have been classified into two categories by many researchers. These can be teacher-level and student-level barriers. Teacher-level barriers are individual barriers, mainly due to lack of time, low level of confidence in using ICT and, most importantly, resistance to change. School-level barriers are the technical issues, lack of training for instructors and admin staff and no access to resources, which lead to ineffective use of ICT (Shyyan, Thurlow & Liu, 2005). According to Balanskat, Blamire and Kefala (2006), micro level barriers are those related to the attitude and behaviour of instructors towards ICT. Macro level relates to the wider educational framework (Balanskat, Blamire, & Kefala, 2006). However, another group of researchers states that these barriers as non-material and materialistic. Material refers to the insufficient number of computers being provided inside a class or the overhead projector being broken or not working, whereas non-material refers to the insufficient knowledge of instructors in ICT and being unable to integrate ICT into teaching and the learning process (Pelgrum, 2001).

It should be noted that, without proper and timely training in the technology, it can bring more stress on teaching and the learning process and that, without proper resources, even the best technologies cannot be helpful. Any kind of change is always received with anxiety and apprehension. According to Bitner and Bitner (2002), "using technology as a teaching and learning tool in the classroom does so to an even greater extent since it involves both changes in classroom procedures and the use of often unfamiliar technologies" (Bitner & Bitner, 2002, p.26). It is an additional task for instructors to learn the new technology without having proper technical assistance, supportive leadership, access to resources and professional development within the school. This increases their workload.

### **3. DATA ANALYSIS AND DISCUSSION**

Based on the opinions of academic staff in Higher College of Technology (HCT), for the question regarding incorporation of technology in learning, one of the professors stated that Information and Communication Technology (ICT) is very helpful in teaching, self-paced learning, assessments and quality improvement with the use of e-text. This indicates that the incorporation of ICT in learning has had a great effect on students' learning skills, giving them an opportunity to improve their understanding with the use of ICT. Another professor, teaching in the Chemical Engineering department, stated that ICT had helped a lot with communication between staff and students through e-mails and instant messaging. This had improved the means of communication. In addition, e-mails enabled them to convey messages and information to the students, which had reduced the stress of calling and waiting for their response. It has been proved that ICT can help in improving the means of communication between staff and students. This has, to some extent, removed the communication gap between learners and instructors. One opinion of the teaching staff is that, "Most of the e-texts are available online along with the course materials, homework and assessments. With the help of ICT, learning and teaching tasks are performed through online assessments referring to e-text and teaching in the class." It has been proved that use of ICT has

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reduced teaching stress along with stress of preparation and marking for instructors. Assessments and marking criteria which are done through ICT relieved the faculty staff from spending time on it and this time could be utilised on other class activities. One of the teaching staff said that Blackboard Learn is a very interactive way to communicate with students and to give them updates. This has helped in enhancing teaching and learning from both ends, as a student and as an instructor. Blackboard Learn, which is one of the forms of ICT, has made communication effective by reaching students with the course material and assessments. Based on the opinion of a laboratory instructor, "ICT education is instant, as it gives the new generation a valuable knowledge and skills around computing and communications devices, software, and operates the applications that run on them and the system that are built with it. Here in HCT, students are provided with all types of new ICT methods, like smartboard, digital videos, video conferencing, e-libraries, virtual learning environment, etc."

The university incorporates ICT through Blackboard Learn, online testing and many other ways to reach students and to improve their learning. The library in HCT contributes with the Sierra Library Management software, which provides a search engine for students to discover resources. The library also affords access to about 100 academic databases that provide information in text and audio visual forms. On the one hand, it has reduced the communication gap and, on the other, it has reduced the stress of the faculty in the teaching and learning process. In addition, information technology has revolutionised how people communicate and learn in nearly every aspect of modern life, except for education, such as student feedback, online assignments and so forth. According to the teaching staff at another university college, ICT was not so effective, structured and organised at its initial stages. However, but the later stages, where projectors, smartboards and e-mails were being widely used throughout the organisations in teaching and learning, ICT had become an important part of everyday teaching life. When comparing between the two universities, based on the nature of work and expansion, there are some differences between them. Comparatively, both use ICT in their working, but one is completely advanced in its usage and the other is still progressing.

For the second question, which asks the opinion about whether ICT reduces the workload and stress, some professors stated that it not actually reduces workload on areas of assessment, it also reduces the admin work and makes communication effective, such as applying for courses, follow up procedures and leave applications. However, others said that it has reduced the workload since chapters and chapter-based problems in a text can be done through ICT. ICT has reduced the time required for completing many tasks, like preparation for the classes, notes and assessments. According to one of the teaching staff members, ICT has brought relief to both students and instructors. Blackboard, which is an ICT tool, has helped considerably to communicate effectively in passing important information to the students. As stated by one of the members in the teaching field, learning with technology enhances the setting of a class and is far better than a traditional classroom environment. One of the faculty members stated that ICT has enabled the storage of data and made it available centrally, sharing with colleagues, and helped in maintaining the records electronically. Also, an exam bank can be created and stored that can be used consistently throughout the semesters instead of making new ones every time.

Faculty members in the other institution also mentioned the benefits of using ICT in classrooms. They stated that it has reduced the workload and paperwork. It has made records to be kept online in a database which can be referred to in future. Based on the opinions of the teaching and non-teaching faculty, ICT has reduced the workload in general, which, in turn, has reduced the stress on people. ICT, with its emerging tools and uses, has made a great change in the educational field along with other areas. It has brought a new outlook to the teaching industry. For the third question asking about which tool is more effective in reducing stress, many professors replied that the use of e-mails and IPADS makes assessments easy and is able to reach students at large. Some replied that the use of whiteboards in class enables them to transfer the information effectively to students and makes it easy to understand. Admin staff stated that the online registration system has reduced their stress and has given an opportunity to students to choose their subjects according to their requirements. Also, online registration saves paperwork. Use of ICT has given an opportunity to search for the required material online and also information can be saved in clouds. MS Office is also very helpful in relieving stress, as the documents can be typed and saved for a long time.

Based on the opinion of other faculty members, projectors and e-books have made it is easy to pass information to students. The use of PowerPoint in classes and e-books has made the information organised and reachable to students at large. Any information missed during the semester can be understood by going through the PowerPoint slides. The explanation of the same can be found in the e-books which are given to students who register for the course.

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The fourth question asked about academic staff's views on making ICT more effective in reducing their stress. While a few said less ICT and more physical communication is recommended, the majority agreed that ICT is advisable to use generously and to make it the only tool of the learning and teaching process and leave the old method of delivering courses behind. ICT should be at the Centre of all academics in universities. One respondent said, "I think proper implementation of ICT in different departments will make them more effective and productive employees." Also, "appropriate training, resources and support are also important." More educational technology tools to support instructors and non-threatening professional development sessions should be provided on a regular basis. In addition, showing staff ICT tools other than teaching, for example, things to improve their private life, so as to make them willing converts, demonstrating proven case studies in regards to the value of ICT, learning from peers instead of IT type people who talk above novice level and a reward system to promote ICT skill gathering. Another respondent said, "I am of the opinion that, if ICT is made available to all categories irrespective of the organisation being public or private, innovative and creative ideas can be shared and there could be an enhancement of knowledge." All the experts can see, share and provide their input to enhance up to date learning from various specialisations. There should be an adoption of up-to-date ICT tools matching with the present demands. If staff need more training to use the ICT tools available at their disposal, some minimal training time should be allocated to academic staff for better usage of those tools in addition to a faster repair service when required. Others emphasised more on mobile computing for better coordination. I believe, an online registration system would be very helpful and provision of online e-tools for education would help in reducing the stress among students as well as academics.

**4. CONCLUSION**

The survey among 24 academic staff members in two colleges in the UAE indicated that ICT is of great help to them in easing their teaching role and dealing with administrative tasks. Designing of teaching materials, electronic presentation of materials and making use of the Internet were identified as the main helpful areas in ICT usage. This study indicates that use of ICT enable instructors to reduce two of the major causes of stress – heavy workloads and the inability to meet the needs of all students by helping them make planning and preparation more efficient and by encouraging resource sharing among peers. Lack of training was identified as the major obstacle to ICT usage among academic staff. In order to realize ICT benefits, instructors and administrators must work together to ensure that the adoption of ICT is supported by appropriate levels of training, troubleshooting, and access to resources. Simply installing ICT without a support system in place only adds more pressure on instructors. In view of the constant changes in technology, the training of staff should be a continuous and there should be a staff development programme to ensure that the knowledge and skills of academic staff in ICT are up-to-date.

**REFERENCES**

- [1] Balanskat, A., Blamire, R., & Kefala, S. (2006). A review of studies of ICT input on schools in Europe. *European Schoolnet*.
- [2] Bennett, S., & Lockyer, L. (2008). A study of teachers' integration of interactive whiteboards into four Australian primary school classrooms. *Learning, Media and Technology* 33(4), 289–300.
- [3] Bitner N., & Bitner, J. (2002). Integrating technology into the classroom: eight keys to success. *Technology and Teacher Education* 10, 95–100.
- [4] British Educational Communications and Technology Agency (Becta), "A review of the research literature on barriers to the uptake of ICT by teachers", 2004. Retrieved December 13, 2008, from <http://www.becta.org.uk>
- [5] Bubb, S., & Earley, P. (2004). *Managing teacher workload: Work-life balance and wellbeing*. London: Paul Chapman Publishing.
- [6] Den Brok, P., Bergen, T., Stahl, R. J., & Brekelmans, M. (2004). Students' perceptions of teacher control behaviors. *Learning and Instruction*, 14(4), 425–443.
- [7] Ertmer, P. (1999). "Addressing first- and second-order barriers to change: Strategies for technology integration," *Educational Technology Research and Development*, 47(4), 47-61.

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 Vol. 5, Issue 1, pp: (45-51), Month: January - February 2018, Available at: [www.noveltyjournals.com](http://www.noveltyjournals.com)

- [8] Forlin, C. (1998). *Teachers' perceptions of the stress associated with inclusive education and their methods of coping*. Retrieved March 11, 2009, from [http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content\\_](http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_)
- [9] Fraser, V., Garofalo, J., & Juersivich, N. (in press). Enhancing lesson planning and the quality of classroom life: A study of mathematics student teachers' use of technology. *Journal of Technology and Teacher Education*.
- [10] Hill, A. (2008, August 31). Depressed, stressed: teachers in crisis. *The Guardian*. Retrieved from <http://www.guardian.co.uk/education/2008/aug/31/teaching.teachersworkload>
- [11] Inan, F. A., Lowther, D. L., Ross, S. M., & Strahl, D. (2010). Pattern of classroom activities during students' use of computers: Relations between instructional strategies and computer applications. *Teaching and Teacher Education: An International Journal of Research and Studies*, 26(3), 540–546.
- [12] Kale, D., & Goh, U. (2012). Teaching style, ICT experience and teachers' attitudes toward teaching with Web 2.0. *Springer Science+Business Media*, 41-60.
- [13] Kitchen, S., Finch, S., & Sinclair, R. (2007). Harnessing technology in schools survey 2007. Retrieved March 12, 2009, from [http://dera.ioe.ac.uk/1554/1/becta\\_2007\\_htssfindings\\_report.pdf](http://dera.ioe.ac.uk/1554/1/becta_2007_htssfindings_report.pdf).
- [14] Laxman, S. M. (2013). Investigating the factors influencing teachers' use of ICT. *Education and Information Technologies*, 747-762.
- [15] Leithwood, K. (2006). *Teacher working conditions that matter: Evidence for change. Elementary Teachers' Federation of Ontario*. Retrieved March 12, 2009, from <http://www.etfo.ca/Resources/ForTeachers/Documents/Teacher%20Working%20Conditions%20That%20Matter%20-%20Evidence%20for%20Change.pdf>
- [16] Naylor, C. (2001). *Teacher workload and stress: An international perspective on human costs and systemic failure*.
- [17] Oi-Ling, S. (1995). Occupational stress among schoolteachers: A review of research findings relevant to policy formation. *Education Review*, 23 (2). Chinese University of Hong Kong. Retrieved March 12, 2009, from <http://sunzi1.lib.hku.hk/hkjo/view/33/3300590.pdf>
- [18] Pelgrum, W. J. (2001). "Obstacles to the integration of ICT in education: Results from a worldwide educational assessment," *Computers and Education*, 37, 163-1781.
- [19] Solomon, G., & Schrum, L. (2007). *Web 2.0: New tools, new schools*. Eugene: International Society for Technology in Education.
- [20] Somekh, B., Haldane, M., Jones, K., Lewin, C., Steadman, S., Scrimshaw, P...Woodrow, D. (2007). *Evaluation of the Primary Schools Whiteboard Expansion Project: Report to the Department for Children, Schools and Families*. Centre for ICT, Pedagogy and Learning Education & Social Research Institute, Manchester Metropolitan University
- [21] [storage\\_01/0000019b/80/17/1c/85.pdf](storage_01/0000019b/80/17/1c/85.pdf)
- [22] Shyyan, V., Thurlow, M., & Liu, K. (2005). Student perceptions of instructional strategies: Voices of English language learners with disabilities. Minneapolis, MN: National Center on Educational Outcomes, University of Minnesota. Retrieved from the ERIC database.(ED495903)
- [23] Wilson, V. (2002). *Feeling the strain: An overview of the literature on teachers' stress*. The Scottish Council for Research in Education. Retrieved March 12, 2009, from <https://dspace.gla.ac.uk/bitstream/1905/213/1/109.pdf>
- [24] Yunus, M M., Lubis, M., & Lin, C. (2009). "Language Learning via ICT: Uses, Challenges and Issues," *WSEAS Transactions on Information Science and Applications*, 6(9), 1453-1467.