THE IMPACT OF INTERNATIONAL COMPUTER DRIVING LICENSE (ICDL) TRAINING ON CLASSROOM COMPUTER USE BY SECONDARY SCHOOL TEACHERS

(SPECIAL REFERENCE ON BADULLA DISTRICT)

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ABSTRACT: It has become mandatory that the teaching community acquire expertise in the computer to ensure that they cope effectively with the future demands of the knowledge society with respect to the class room set up. Therefore, The Ministry of Education of Sri Lanka urges all teachers to receive International Computer Driving License (ICDL) training. The ICDL training aims to improve teachers' ICT proficiency at three levels: ICT skills, pedagogical skills, and curriculum training. The purpose of this study is to examine how teachers apply practical experiences from ICDL coursework to their teaching. It also examines whether ICDL training increased teachers' professional, ICT and pedagogical skills in their day to day teaching and learning process, whether the ICDL training results in the teachers' use of new software applications in the classroom and the factors that affects teacher use of ICT in the class room after ICDL training. Mixed method was selected as the research design. Purposive sampling has been used to select the teacher sample for this study. A sample of 85 teachers was selected from Badulla district. A questionnaire with attitude scales and interviews were the data collecting methods, and data were analyzed using both quantitative and qualitative methods, to achieve the objectives of the study. It was revealed that an average of the ICDL participants (51%) stated that ICDL training resulted in their use of new software applications in the classroom. Most of teachers can apply what they had learned in the Presentation module and a majority of the teachers can not apply data base applications and spreadsheet applications in their teaching learning process. However, the findings show that computer knowledge and skills have not affected them at all in the use of ICT in the teaching learning process among the teachers who had undergone ICDL training. It was recommended the duration for ICDL training needs to be extended. Additional vendor-specific training might be required for all teachers after obtaining ICDL certification. These findings, conclusions and recommendations would be useful to the authorities to improve ICDL training.

Keywords: Computer, Training, ICT proficiency, ICT skills and software application

1. INTRODUCTION

The impact of Information and Communication (ICT) on the present day world has been so tremendous that it has entered the stream of education revolutionizing every branch and stream of education to such an extent that no educational system can avoid being effected positively by ICT. Therefore, it has become mandatory that the teaching community acquire expertise in the computer to ensure that they cope effectively with the future demands of the knowledge society with respect to the class room set up. Therefore, the Sri Lankan education system has adopted several

ICT training courses aimed at improving the use of including International Computer Driving Licensee (ICDL) in the classroom. The ICDL, which is known as the European Computer Driving License (ECDL) within the European Union, is a certification attesting to basic proficiency in the use of certain types of software or computer systems (Csapo, 2002). The Ministry of Education of Sri Lanka urges all teachers to receive ICDL training and to apply for certification regardless of the subject they teach in school. The Ministry of Education considers the ICDL training an effective in-service training approach that allows teachers to acquire fundamental ICT skills. The course aims to improve teachers' ICT proficiency at three levels: ICT skills, pedagogical skills, and curriculum training. Therefore the main purpose of this study is to evaluate the impact of International Computer Driving License (ICDL) training on classroom computer use by secondary school teachers how the ICDL training contributes to the classroom teaching learning scenario whether ICDL training increased teachers' professional, ICT and pedagogical skills in their day to day teaching and learning process, Whether ICDL training impact on teachers' use of new software applications and What are the factors affects teacher use of ICT in the class room after ICDL training?

2. REVIEW OF THE RELEVANT LITERATURE

According to Rad and Rezaei's (2001) results show that short-term courses training of computer seven skills(ICDL) effect on increasing teachers professional and specialized skills and content is able to realize course objectives and evaluation was done proper with courses. On the other hand Young (2004) suggested that the ICDL assess only the knowledge and ability to use specific types of software such as word processing or spreadsheet programs. It does not assess critical thinking skills or the ability to use the software to solve research problems.

Findings of Dixie and Wesson (2001), the ICDL modules cannot be used for complete IT proficiency education because of the failure to incorporate critical thinking skills and theory into the instruction.

Abuhmaid , 2011 conduced a research that focuses on the effectiveness of ICT training courses within the Jordanian education system. Interviews, questionnaires, direct classroom observations, and field-notes of classroom practices were used for data collection. The findings indicated that ICT training courses usually target two levels of teacher' ICT skills: ICT skills, and pedagogical use of these skills. Predictably, as the vast majority of teachers from all the three regions reported undertaking the ICDL course, 88 (76.5%) teachers reported developing computer skills (e.g. Word processing, presentation and accessing to information). However, only 58 (50.4%) reported developing pedagogical skills from ICT training.

Al Hatmi (2009) has conducted a study to examine the effectiveness of ICDL training among Omani teachers. findings says that insufficient time in the ICDL training, the focus of the ICDL training on passing the certification test, structural deficiencies in the ICDL instructional methods, change in attitude towards ICT following the ICDL course, and increase in confidence for use of ICT in the classroom. He suggest that while ICDL is effective at teaching basic skills in computer and application use, the training is not effective in training educators on critical assessment of technology or in how to use technology in the classroom.

3. METHODOLOGY

The study followed Quantitative and Qualitative research techniques including questionnaires, observation and interviews. Quantitative techniques such as percentages, tables and charts were used to analyze data. And qualitative techniques also used for data analysis. Survey design has been the basic research method used in this study. 848 secondary school teachers have qualified in ICDL training in the Badulla district between the period of 2008 and 2013 under EKSP project. From all these 848 Secondary school teachers in the Badulla district, a sample of 85 teachers have been selected representing 10% each Sinhala, Tamil and English medium teachers. Out of 465 Sinhala medium teachers 45 teachers have been selected randomly, out of 241 Tamil medium teachers 25 teachers have been selected randomly and 15 English medium teachers have been selected randomly out of 142 English medium teachers. The total sample has consisted of 85 secondary school teachers who followed ICDL training under EKSP project so that it would be large enough to ensure the stability of results and small enough for the study to be completed within the given period of time.

4. RESULTS AND DISCUSSION

01. ICT skills related to Computer File Navigation

When considering the basic skills related to Windows Explorer, saving files in a selected folder, creating and naming new folders, navigating between existing folders and copying, deleting and renaming files almost all the 85 participants in the sample (100%) stated that they were competent in these skills. These indicate all participants had competence in the very basic skills related to Windows Explorer through ICDL training. When considering skills related to Windows Explorer, 56% of the participants stated that they were competent in skills selecting and navigating between Drives and Directories and 52% in using appropriate help files. On the other hand, when considering advanced skills related to Windows Explorer, only 45% of the participants stated that they were competent in installing software, 42% in recognizing different file types, 29% in Zipping and unzipping files and 46% in Doing complex searches for files.

The respondents mentioned that to use a computer systematically this module was very helpful for them and that Module 02 helped them to create files, save files,

create and name new folders, copy, delete and rename files, and use appropriate help files for several purposes and manage documents in a systematic manner without any complication.

02. ICT skills related to Word Processor

When considering the very basic skills related to Microsoft Word, Creating a new document, Formatting a document and changing fonts all the 85 participants in the sample (100%) stated that they were competent in these skills. When considering middle order skills related to Microsoft Word, 88% of the ICDL participants stated that they were competent in spell checking, 88% in Inserting text, 92% in Inserting page numbers, 71% in Adding headers or footers, 62% in printing, 87% in Inserting images, 78% in Creating tables, 67% in Changing page set up, 72% in Changing margins and 73% in Using columns and sections. On the other hand, when considering advanced skills related to Microsoft Word, 49% of the ICDL participants stated that they were competent in setting up styles and 46% in using mail merge. The factor medium functions were examined to ensure presence of skills whether as a moderator for the findings, with the 52.94% of the respondents being Sinhala medium participants, 29.41% of the respondents being Tamil medium participants and 17.64% of the respondents being English medium participants.

Almost all the participants mentioned that module 03 helped them to prepare their scheme of work, to prepare lesson notes, to prepare question papers, to paste pictures, to write letters, to write articles and to do several classroom activities with students.

03. ICT skills related to Spreadsheets

When considering the very basic skills related to Microsoft Excel, Creating a new spreadsheet, Entering data into an existing spreadsheet and inserting some calculations, almost all the 85 participants (100%) in the sample stated that they were competent in these skills. When considering skills related to Microsoft Excel, 82% of the participants stated that they were competent in formatting cells, 78% in sorting cell, 85% in Inserting and deleting rows and columns and 85% in creating new charts. With regard to of middle order skills related to Microsoft Excel, 44% of the participants stated that they were competent in modifying existing charts, 42 % in applying complex formulae, and 41% in using absolute and relative cell references and 39% in Referring to multiple worksheets. With respect to advanced skills related to Microsoft Excel, 24% of the participants stated that they were competent in using filtering, 21% in using conditional formatting and 19% in Importing or exporting data.

The majority of participants mentioned that the language used in module was hard and within a short period the instructor tried to complete the module as scheduled for this ICDL module was an in eighteen day course.

4.0 ICT skills related to Databases

With regard to the basic skills related to Microsoft Access, Creating simple tables all the 85 participants in the sample stated that they were competent. With respect to basic skills, 74% of the participants stated that they were competent in using simple queries to retrieving data, 61% in using wizards to create reports and forms and retrieving and 53% in entering data in an existing database. On the other hand, when considering middle order and advanced skills related to Microsoft Access, 48% of the participants stated that they were competent in Using relational databases, 26% in Using wizards to create forms, 14% in Using more complex form design tools, 11% in Creating and using parameter queries, 31% in Creating summary reports, and 09% in Using complex functions in queries. This indicates that while a majority of the participants were competent in basic skills related to Microsoft Access, only a minority of the participants were competent in middle order and advanced skills. The participants mentioned that as the duration allocated to learn this module was not adequate they could not understand it and they were further concerned that practical sessions were also not adequate.

05. ICT skills related to Presentations

When considering the basic skills related to Microsoft PowerPoint, all the 85 ICDL participants in the sample (100%) stated that they were competent in creating a new slide show, editing an existing slide show, Inserting images and Changing font and layout. When considering middle order and advanced skills related to Microsoft PowerPoint, 85% of the participants stated that they were competent in navigating back and forth during a presentation, 87% in adding animations and transitions, 78% in Inserting hyperlinks, 65% in using master slide functions, 71% in Including sound, 64% in Printing handouts and 67% in Adding navigation buttons. This indicates that while all the participants were competent in basic skills related to Microsoft PowerPoint and a majority of the participants were competent in advanced skills.

The participants mentioned that this module helped them to do several activities in school and the classroom. They mentioned that this module helped them to prepare a slide show in attractive manner, teach students using Power Point Presentation and do easily assessable activities. The interviewees indicated that they would be using some of the software covered in the ICDL training on classroom applications.

06. ICT skills related to the World Wide Web

With regard to the skills related to the World Wide Web, Doing basic searches all participants (100%) in the sample stated that they were competent. 76% of the participants stated that they were competent in Navigating to known websites, 71% in Creating Favorites or Bookmarks and 71% in Saving images and text. On the other hand, only 36% of the participants stated that they were competent in Using

advanced search tools, 38% in Organizing Favorites or Bookmarks, 27% in conducting complex searches, 38% in Downloading and installing software and plug-ins and 40% in using different browsers skills related to the World Wide Web. When considering the skills related to the World Wide Web, Altering browser preferences, only a 14% of the participants stated that they were competent in this skill. They mentioned that this module helped them to access internet and find the webpages which they wanted and create an e-mail account. These findings are in accordance with the findings of Egbert, Paulus, Nakamichi, (2002) and Abuhmaid , (2011).Participants were asked the teachers to state whether the ICDL training resulted in their use of new software applications in the classroom. Only 51% of the ICDL participants stated that ICDL training resulted in their use of new software applications in the classroom while 49% of the participants responded that ICDL training did not result in their use of new software applications in the classroom. At the interview, 55% of teachers mentioned that power point presentation was the element of ICDL training that they would most likely to transfer in to class room because of its applicability. At the interview, only, 25% of the interviewees indicated that they would be using spreadsheets to maintain grades and prepare students' performance charts. At the interview, 75% of the teachers mentioned that database application was the least applicable in their teaching learning process.

54% of teachers had stated that their use of ICT in teaching and learning has adversely affected a lot by the insufficient number of computers and also 64% teachers have stated that their use of ICT in teaching and learning has adversely affected a lot by the insufficient number of internet-connected computers. 61% of teachers have stated that the insufficient Internet bandwidth or speed adversely affect a lot of their use of ICT in the teaching learning process. When considering the interactive whiteboards, 71% of the teachers have stated that their use of ICT in teaching and learning has been adversely affected a lot by the insufficient number of interactive whiteboards. On the hand while a very high number of the teachers (79%) stated that the insufficient number of laptops/notebooks affected their teaching and learning a lot and 56% of the teachers had stated that the School computers were out of date and needed repairing. This indicates that a majority of the teachers' use of ICT in teaching and learning had been adversely affected a lot by the insufficient number of computers, insufficient number of internet-connected computers, insufficient Internet speed, insufficient number of interactive whiteboards, insufficient number of laptops/notebooks and damaged computers. while 76% of teachers had stated that their use of ICT in teaching and learning had not been affected at all by their ICT knowledge. This indicates that it has not affected a lot the ICT skills among a majority of the teachers who had followed ICDL training to use ICT in the teaching learning process.

However, the findings show that computer knowledge and skills have not affected them at all in the use of ICT in the teaching learning process among the teachers who had undergone ICDL training.

5. CONCLUSION

Finding revealed that a high number of ICDL participants were competent in basic skills related to ICDL software applications while only a minority of the participants competent in advanced skills. However, the findings revealed that those who had prior knowledge in certain area in ICT skills with regard to different software applications were more competent after ICDL training in those skills. Obstacles teachers face when using computer technology in the teaching learning process can be summarized as follows. A majority of teachers' using of ICT in teaching and learning were adversely affected a lot by the insufficient number of computers, insufficient internet-connected computers, poor Internet speed, insufficient whiteboards and laptops, damaged computers, lack of electricity facilities, difficult to cover the work load in the syllabus, high costs of equipment, preparing students for exams and schools time organizations, and dislike of students to use ICT in teaching process and poor support given by the school authorities. However most of teachers who do not use computers have given first preferences to the difficulties in the covering the syllabus and inadequacy of computer facilities. This indicates a lack of knowledge for planning lessons using new technology; teachers may not have experience to prepare lessons using management of time.

However, the findings show that computer knowledge and skills did not affect at all the use of ICT in the teaching learning process among the teachers who had followed ICDL training. This finding supports previous research of Ismail et al., (2010) that the least important barrier noted by teachers was deficiency of knowledge and skills in technology integration".

It was recommended the duration for ICDL training needs to be extended. Additional vendor-specific training might be required for all teachers after obtaining ICDL certification. These findings, conclusions and recommendations would be useful to the authorities to improve ICDL training.

6. REFERENCES

Al Hatmi, F. (2009). How Effective Is ICDL Training For Omani Teachers? A dissertation submitted to the University of Manchester, http://www.scribd.com/doc/21253726/How-Effective-is-ICDL-Training-for-Omani-Teachers. Retrieved on July 24 2013.

Csapo, N. (2002). Certification of computer literacy. T.H.E. Journal, 30(1), 46-53.

Dillon, P. & Tearle, P. (1999). Ensuring effectiveness of ICT training. Telematics Centre, School of Education, University of Exeter.

Egbert, J., Paulus, M.T., & Nakamichi, Y. (2002). The Impact of Call Instruction on Classroom Computer Use: A Foundation For Rethinking Technology In Teacher Education. Language Learning & Technology. September 2002, Volume 6, Number 3. pp. 108-126. http://llt.msu.edu/vol6num3/egbert/default.html. Retrieved on 23 January 2014.