

*State University of Makassar*

**INTERNATIONAL CONFERENCE ON MATHEMATICS,  
SCIENCE, TECHNOLOGY, EDUCATION  
AND THEIR APPLICATIONS**

*"Recent Research and Issues on  
Mathematics, Science, Technology, Education  
and their Applications"*

**PROCEEDINGS  
ICMSTEA 2014**

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## Conference Proceeding

# INTERNATIONAL CONFERENCE ON MATHEMATICS, SCIENCE, TECHNOLOGY, EDUCATION AND THEIR APPLICATIONS

Makassar, 20<sup>th</sup> – 21<sup>st</sup> August 2014

Recent Research and Issues on Mathematics, Science, Technology,  
Education and Their Applications



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Faculty of Mathematics and Science  
State University of Makassar

ICMSTEA 2014: RECENT RESEARCH AND ISSUES ON MATHEMATICS,  
SCIENCE, TECHNOLOGY, EDUCATION AND THEIR  
APPLICATIONS

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## THE FACTS ABOUT THE USE OF TECHNOLOGY IN ENGLISH LANGUAGE TEACHING AT SENIOR SECONDARY SCHOOLS

Nurdin Noni

State University of Makassar

### Abstract

The importance of English in most sectors, especially in international interaction should be in line with the effort provided for the mastery of the target language. The teaching of English at senior secondary school level as one of the efforts must be delivered creatively and innovatively. Teachers should provide more time and opportunities for students to practice and use the English language. This is a focal point since the time allotted for English lesson at senior secondary school in Indonesia according to Curriculum 2013 is only 2 teaching hours a week, which is actually only 45 minutes an hour. This is quite challenging for teachers to acquire maximum result with limited time. The use of technology, especially computer and other supporting facilities can answer the challenges if used appropriately. This paper will present a research result conducted in sixteen senior secondary schools in Makassar and other two neighboring districts, Maros and Gowa. The result shows that the schools do not adequately provide ICT (information and communication technology) hardware and software, such as computer lab, internet connection, LCD projectors, and CDs. It also shows that the teachers do not sufficiently implement the ICT tools and facilities to support their English teaching delivery.

**Keywords:** *information and communication technology (ICT), English language teaching (ELT), internet facility*

### Introduction

The teaching of English as a second or foreign has been developing from time to time for the sake of better result. The development has been indicated by the changes of approaches due to the dissatisfaction upon and reaction to the former ones. The changes have been shaping different outlooks and schemes in ELT. The outlooks on ELT have been shifting to communicative approach which give emphasis to language use rather than language usage, fluency rather than accuracy, and student dominance rather than teacher centered. According to Shearon, the history of language teaching is divided into some periods of approaches, namely initial approaches, the Guru Age, Integrating Approaches, and Recent Developments. Initial Approaches consist of Classical

Period, Grammar Translation Method, Direct Method, and Situational Language Teaching. The next period is the Guru Age which consists of Audio-lingual Method, Total Physical Response (TPR), the Silent Way, Community Language Learning, Suggestopedia, Whole Language, and Neuro-linguistic Programming (NLP). The third period is Integrating Approaches which consists of Multiple Intelligences, the Lexical Approach, Competency Based Language Learning, Communicative Language Learning, the Natural Approach, Co-operative Language Learning, Content Based Instruction, and Task Based Language Learning. The current period is Recent Developments which include the use of computer in language learning.

In line with the use of computer in language teaching, there have been three main phases

of approach, namely behaviorist CALL, Communicative CALL, and integrative CALL. CALL is a term used to indicate the application of computer programs in language learning which stands for computer assisted language learning. Each phase corresponds to a certain level of technology and certain pedagogical theories. Lee (2000) elaborates the three phases as follows: Behaviorist CALL: The first form of computer-assisted language learning emerged in the 1960's and 1970's and was based on the behaviorist-learning model. Since it featured repetitive drills, the computer was viewed as little more than a mechanical tutor that never grew tired. It was mainly used for extensive drill, explicit grammar instruction, and translation tests. Communicative CALL: In the 1970's and 1980's communicative CALL emerged as a reaction to the behaviorist approach to language learning. It stressed that CALL should focus more on the use of the target language rather than on the forms. Grammar should be implicitly presented and students should be encouraged to generate, situated communication by using the target language. This form of computer-based instruction made up learning as a creative process of discovery, expression, and development. Integrative CALL: Communicative CALL was, then, criticized for using the computer in a disconnected fashion and using the computer made a greater contribution to marginal rather than central elements of language learning. Integrative CALL has emerged to answer the reaction, and of course supported by the specification of recent multimedia computer. This integrative CALL emphasizes real language use in a meaningful, authentic context. It seeks both to integrate the various skills of language learning (listening, speaking, reading, and writing) and to

integrate technology more fully into language teaching. The changes on the approaches of CALL programs were in line with the ICT hardware, especially computers. In other words, the advancement of the technology brought implication on the shift of computer-mediated ELT programs. In developed countries, such as USA, Australia, Great Britain, and Singapore, computer use has become an integral part of education for both school and learning management. This implies that the education institutions, especially schools are well equipped with ICT tools and education practitioners are well prepared with relevant professional development. However, in developing countries, like Indonesia, ICT infrastructure and teacher skills in integrating appropriate ICT tools and facilities into ELT programs have not yet generally achieve the objectives and national goals as stipulated in the regulations. Based on the gap above, the objectives of the study are to give a picture of: (1) the ICT tools in terms of hardware and software provided by senior secondary schools in Makassar and surroundings, and (2) the use of ICT facilities by teachers in English language teaching at senior secondary schools.

#### **Some Related Studies and Ideas**

The integration of computer technology in ELT has been proved to be potentially beneficial to enhance the learner affective factors and learning outcome. Some research findings are put forward below: Giang and Minh (2014) found that numbers of good changes have been made to their Speaking and ELT Methodology classes after a semester of Edmodo use. The changes include a better way of management of large-sized class, an easier and more effective method of assigning homework, more

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convenient way of giving a test and assessment, and a more eye-catching and powerful way of giving preliminary discussion. Another study of Looi and Yusop (2011) found that 'Edmodo' can be potentially beneficial to improve reading comprehension among young adult learners of EFL learners since it could: (1) encourage positive learners' perceptions and attitudes, (2) improve learners' performance and (3) develop sense of community and engagement among learners. The two studies prove that Edmodo has been successfully blended into the curricula of English learning classes. For brief understanding, Edmodo is an online course management system (CMS) or a social learning platform developed for teachers and students. It enables teachers and students to share notes, links, and documents. It also allows students to access homework, grades, class discussions and notifications uploaded by teachers. This application can be accessed through this website address: [www.edmodo.com](http://www.edmodo.com). Blackstone, Spiri, and Naganuma reported that there are three features of blogging activities that seem to make students attractive and powerful curricular component for university-level English language classes: (1) their accessibility beyond the limits of the traditional classroom, (2) the personalized, student-centered nature of the interactions that they facilitate, and (3) their capacity for motivating students to work autonomously (whether alone, in pairs or small groups) to consider, produce and react to more content more frequently than a teacher might expect. This can be explained that the use of blog in the classroom enables students to access the content of blog any time they like. Hence, it is more flexible for students to access it. What's more, it can promote collaboration and discussion among students and teacher

and encourage them to be productive and creative. In the context of ELT, they also found that over 80% of students stated that they enjoyed posting, reading their classmates' posts and making comments on those posts, they almost unanimously stated that they liked having their classmates and the teacher write comments on their posts. A large majority also found the blogging buddy system useful, motivational and effective for improving their writing. This implies that blogging activities can be very potential means to be blended with face-to-face teaching in order to enhance the intensity of learning and practicing, especially reading and writing. UNESCO (2004) reported that teachers' interest in using ICT after their training is more likely to grow if they are provided with computers, training materials and software for classroom use. Another fact reported is that a number of teacher training institutions have introduced compulsory courses concerning computer use and the Internet. Teachers graduating from these institutions are expected to be able to use computers and the Internet in their teaching activities. Different computer literacy in-service training for teachers have also been conducted as an initiative by individual schools or by the Ministry of Education and Culture (MOEC). However, there is no explanation about how many teachers have been covered by the trainings and what sorts of trainings the teachers have received. In ELT, many computer applications and ready-use materials have been developed and made for the purpose of optimizing learning results. There are some common applications used for CALL programs, such as authoring software to create learning materials and exercises (e.g. *hotpotatoes* for creating interactive multiple-choice, short-answer, jumbled-sentence, crossword,



matching/ordering and gap-fill exercises; *Learn click* for creating online quizzes/exercises; and *Quiz Faber* for creating multimedia quizzes that can be published in the internet). The Jakarta Post (July 24, 2012) released the most frequently visited sites by Indonesia's internet users are consecutively facebook, Google, Yahoo, and YouTube. This implies that those sites are potentially manipulated by teachers of English to integrate into their learning process. It, of course, may happen if the teachers are familiar with the applications and are creative in developing their ELT programs. Gilakjani (2012) reported that if we expect to enhance teachers' uses of computer technology, we have to take for granted how teachers' current classroom practices are rooted in existing pedagogical beliefs. When considering ways to change teachers' practice, particularly their uses of computer technology, it is impossible to overestimate the influence of teachers' beliefs. It is essential to note that we are not demanded to change teachers' beliefs before we introduce them to various computer applications and programs. It is even more effective to introduce teachers to the kinds of computer applications that can cater their most immediate needs. This could boost up teachers' confidence to employ computer technology in order to be more familiar with higher-level uses. Since schools increasingly have better hardware and software, the benefit to students depends on the teachers' skill and competence to use the new applications. Given that these skills are implausible to be employed unless they fit with teachers' current pedagogical beliefs, it is essential that we increase our understanding of teachers' beliefs in order to increase teachers' computer technology skills and uses. This will not only support teachers

to optimally use computers but will empower students to reach theirs as well. In terms of ICT integration with ELT, Salehi and Salehi (2012) in their research to the high school English teachers in the city of Isfahan, Iran reported that the high school teachers are familiar with ICT and ICT usage; however, this does not necessarily mean that they integrate ICT into the curriculum. In addition, insufficient technical supports at schools and little access to Internet and ICT prevent teachers to use ICT in the classroom. Shortage of class time and time needed to learn using ICT were reported as two other discouraging factors for teachers to integrate ICT into the curriculum. These indicate that the teachers need to be equipped with skills and understanding on computer assisted language learning programs and how they incorporate it with their ELT programs. In other words, teachers should be guided to how they could properly integrate ICT use with the curriculum. Teachers' awareness and commitment are the other keys of successful integration.

Of course, there are more other studies about the use of ICT in education, especially in ELT that have been conducted either by individuals or institutions. Most showed positive effect, but some others reported shortages and challenges that must be anticipated. For replications of the best practices, one of the key points is the commitment by teachers of English as a foreign language and all other stakeholders to implement and integrate the use of ICT into the curriculum. Otherwise, it never achieves the expected goals. Beside the related studies portrayed above, I would like to explain some theories and concept of ICT uses in ELT. Hardware and software are the two sets of terms which are complementary.

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Hardware is unlikely to be used if it is not with software. Hardware which is already broadly known refers to the physical components that we can see and touch, such as monitor, keyboard, computer processor, hardisk, motherboard, and mouse. Software, on the other hand, refers to the set of electronic that directs the processor of computer to perform specific tasks or operations. System software and application software are the two main types of software. In ELT, The application software has been increasingly developing to meet the needs of students' learning. There are some which are dedicated or authoring programs. The dedicated programs are the learning programs that can be directly used, but cannot be manipulated; while the authoring programs are the ones that enable teachers to make or develop their own materials and/or exercises according to the provided modes. Hence, it is easier for them to suit their material or exercises with the targeted learning objectives. In relation to ICT integration with curriculum, Kainth and Kaur distinguish three roles for ICT in the curriculum, namely (1) Learning about ICT which regards ICT as a subject matter of learning in the school curriculum, such as computer literacy, computer skills and sciences and information literacy, (2) Learning with ICT which deals with the use of various computer facilities such as powerpoint for presentation, CDs of learning programs, internet or World Wide Web (WWW) as media to enrich learning activities or as a substitute for other media without changing beliefs about the approach to and the methods of teaching and learning, and (3) Learning through ICT in which ICT is integrated so completely as essential tool in a course/curriculum that the teaching and learning of that course/curriculum is no

longer possible without it. In Indonesian schooling context, the first role above was explicitly mentioned in the previous secondary school curriculum before the 2013 Curriculum, with the course name Information and Communication Technology/ICT (Teknologi Informasi dan Komunikasi/TIK). In the 2013 Curriculum, the subject was excluded and no longer regarded as a compulsory lesson. The policy of excluding has become cons and pros. The second type of role above has possibly much occur in which teachers just use computer tools as media to support their teaching delivery. They are not yet integrated into subject matters, like English Subject, as expected in the third type of role above. The third type is actually an ideal scheme of ICT use in teaching and should become the main consideration for future plan of ICT integration with ELT programs at schools as it has various benefits. Lee (in Lai and Kristonis, 2006), states that the use of computer technology in second language instruction is favorable because it can: (1) prove practices for students through the experiential learning, (b) promote learning motivation, (c) enhance student's achievement, (d) increase authentic materials for study, (e) encourage greater interaction between teachers and students and students and peers, (f) emphasize the individual needs, (g) regard independence from a single source of information, and (h) enlarge global understanding. What's more, it can keep students focused for longer periods of time, make students more excited to learn, enable students to learn at their own pace, and prepare students for the future.

#### Research Method

This study used descriptive method. It is intended to give a picture on the facts about

the use of technology, especially computer, in the teaching of English at senior secondary schools in Makassar and the surroundings. The respondents were selected based on the school locations where the teachers teach, namely city center and suburb. They consist of sixteen teachers from nine government senior secondary schools, 6 in Makassar, 2 in Gowa, and 1 in Maros. The instrument used was a questionnaire consisting of two parts, namely hardware and software and the use of ICT tools in English language teaching. The questionnaire also includes open questions about interesting things for teachers in using ICT in their teaching delivery, the obstacles faced by teachers in relation to the use of ICT to support their English language teaching at school, and teachers' suggestions and recommendation in relation to the use of ICT to support their English language teaching at school. The data collected was analyzed by percentage and qualitative description.

### Finding and Discussion

This section deals with the presentation of the data gathered from the research questionnaire. The data include the ICT tools in terms of hardware and software owned by schools where the respondents teach and the ICT tools and facilities used by teachers in their English language teaching.

#### Facts about the ICT hardware and software at Senior Secondary Schools

Based on the collected data, all teachers responded that their school has in average one or two computer labs. However, the number of computer units is not adequate compared to the number of students. The average ratio is one unit for twenty students (1:20). This means that it is difficult for students to have adequate access. Moreover, it is very difficult for all lessons to take place

in the computer lab. In this circumstance, the school must make a tight schedule with proper distribution for all lessons, if all teachers include computer assisted learning in their teaching programs, including English language teachers who incorporate computer assisted language learning (CALL) in their ELT programs. However, most of the computer labs are used for students to learn how to operate computer. Only 45% of the labs are used for the purpose of English classes. This make the situation worse because it can cut down the time to use the computer labs for subject matters, including the English subject. In addition, the number of CDs for English learning programs are not adequately provided (only 4 in average for each school). In conclusion, the computer labs cannot cater the learning needs of the students. The favorable thing is that most of the computers are connected to the internet. Besides, about 77% of the schools provide hotspot for internet connection. These indicate that both teachers and students may have the access to the internet either for information searching or online learning purposes. With these facilities, the schools can provide e-learning portal for teachers to offer interactive CALL programs. This potentially happens because all teachers have their own laptop or computer. However, the teachers should be equipped with good competence and skills in implementing the CALL programs. The LCD projectors in which the number in each school ranges from 2 to 30 units or 11 in average could be optimally utilized to facilitate the English classes and could lessen the problem caused by the shortage of computers at schools.

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### The Use of ICT tools in English Language Teaching

Most of the teachers have been familiar with computer use. Based on the data, most of them use computer almost every day. They use laptop in their daily activity. Some of them also use LCD projector, webcam, and scanner to support their ELT programs. However, their knowledge and skills in operating the computer tools and application are mostly in average to lower level. This may be caused by the lack of ICT training they attended. According to them, there are only 50% who have attended computer training either conducted by their school or district office of education. The trainings were about the use of ICT tools and computer applications.

In terms of the computer applications that they usually use in their daily activities, it is found that the most frequently used is Ms Word (75%), successively followed by internet browser (69%), powerpoint (62.5%), facebook (43.75%), email (31.25%), and excel (25%). The data do not show how they use the application in their ELT programs at school. However, it can be said that most of the teachers have at least basic ICT literacy which is auspicious for future development. In other words, the basic ICT literacy is very potential to be expanded and enriched with focused trainings of CALL for the sake of better achieving the curriculum target. Better skills of ICT supported by innovative and creative ideas, although with limited ICT tools and facilities, will result in great outcome. Therefore, the schools and government should facilitate teachers to better understand and grasp the CALL programs for their English classes.

In relation to the use of ICT application in ELT, it is found that most of the teachers used powerpoint (81.25%), followed

successively by video recordings (68.75%), audio recordings (50%), and Ms Words (37.5%). This can be estimated that the teaching deliveries are mostly in presentation mode. This is also strengthened by the high percentage of ICT tools used by teachers, namely laptop (87.5%) and LCD projector (87.5%). The other tools are in low percentage, namely desktop (12.5%) and scanner (12.5%). The first two ICT tools, laptop and LCD projector, are the most frequently used in presentation. With the two evidences, it can be ascertained that the ICT tools are simply used by teachers of English in presenting the materials in their classes. This mode of delivery promotes less interaction by means of ICT tools, unless the teachers provide classroom tasks after each of their presentation which may be done individually, in groups, or whole class. In other words, the students are not well-facilitated to work with the ICT tools to accomplish the tasks given. Another thing that is unfavorable to support the expected interactions is that no school surveyed provide e-learning portal. The practice of e-learning application provides varied activities and tasks for teachers and students, such as task uploading by teachers, task submission by students, quiz, chat, discussion forum, learning materials, and feedback. The internet facilities were one of the aspects that supports the learning process. 75% of the teachers claim that they use internet facilities to favor their ELT programs. The facilities they use are successively internet browser (68.78%), email (56.25%), you tube (50%), and social media (25%). However, there is no data about how they use those facilities in their English classes. But at least the data show that there is a positive indication to promote ICT use in English classes at schools. In terms of the motivation of using



ICT in English language learning at schools, the teachers responded that it is mainly from the their own initiation (75%), followed consecutively by colleagues (56.25%), students (50%), being demanded (43.75%), and principals (32.25%). The data indicate that the teachers are highly motivated to use ICT tools in their ELT programs. What's more, all teachers consider to include ICT in their lesson plan. In contrary, the school principals do not adequately support the teachers' initiative in applying ICT-supported teaching. Therefore, the school principals should be given an understanding that the use of ICT tools in facilitating the learning activities at schools is stated in the regulation, and hence they are obliged to promote and encourage the use of ICT tools to optimize the learning outcome in their school. The other aspect is the impact of the ICT use in learning activities. Based on the data, all teachers responded that there is an impact of ICT use in the improvement of the students' English skills/proficiency. Listening and speaking are two skills which are much impacted. However, this needs further investigation in which students are involved as the subjects. Based on the data from the teachers' response, there are some other aspects which significantly increase with the use of ICT, namely learning motivation (75%), interest (62.5%), coverage of learning content (62.5%), learning effectiveness (43.75%), and intensity of learning (12.5%). This indicates that the use of ICT in ELT at schools could be a potential medium to encourage students and boost up their interest to learn. Due to the flexibility and varied activities that ICT can offer, it is possible that it satisfies the coverage of learning contents. It enable teachers to supply more tasks and learning materials; on the other hand, students can access the uploaded

materials and tasks through it. For the open questions, the teachers responded that the interesting things for them to use ICT in their English classes are that: the display and exposure presented in the ICT tools are attractive, it fits the students' needs, it presents up-to-date information, students are more motivated, it offers varied activities, it facilitates teachers to browse authentic and appropriate materials for students, and it is efficient. This denotes that the teachers acknowledge the benefits and advantages of ICT use in ELT. Apart from the benefits above, there are some obstacles that the teachers describe, namely inadequate teacher's skill and capacity in using the existing ICT facilities, unlimited number of ICT tools, insufficient electric capacity, and slow internet connection due to low internet bandwidth. For these problems, the teachers put forward some suggestions for solutions. They suggested to conduct training on the ICT use in ELT, add more ICT facilities and infrastructure, and increase the internet speed or bandwidth.

### Conclusion

Based on the findings and discussion above, the conclusion on the facts of the use of technology in English language teaching at senior secondary schools in Makassar and surroundings is put forward as follows: (1) It is the fact that ICT facilities are not yet adequately provided at schools; (2) the use of ICT tools is beneficial for the increase of learning motivation, interest, coverage of learning content, learning effectiveness, and language skills; (3) the teacher's skill of ICT application in ELT is still in average to low level, therefore they need more training on it; (4) the teachers affirm that ICT use in English class could promote more display and exposure of materials, fit the students'

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needs, update information, vary teaching delivery, facilitate teachers to browse authentic and appropriate materials, and be more effective and efficient; and (5) the teachers suggested that they need more ICT trainings to for their capacity building and that the ICT facilities at schools meet the standard.

### Recommendation

- It is the fact that the senior secondary schools do not provide adequate ICT facilities. However, it is not wise for the teachers to always complain the shortage and to wait until the schools provide enough facilities, but it is recommended that the teachers are more creative and innovative to optimize the existing facilities. The teachers should not complain much, but they should do the best from the least they have. The fact that ICT facilities (email, internet browser, fb, twitter, Friendster, linkedIn, skype, yahoo messenger, blog, you tube) have been used by most young people, especially students should be taken for granted by teachers to support their teaching delivery. ICT integration is an individual process for every teacher and it should be carried out among peers and with the help of other teachers who already have some experiences. For the sake of encouraging teachers to implement ICT in their classes, there should be competitive grants for ICT integration either initiated by schools, local office of MOEC, or other possible institutions. Since this research did not get data from the students, it is recommended that a further research on the students' response and opinion about the use of ICT in English language teaching.

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