

In a document entitled teaching and learning with ICT, G. Galea () explains how ICT can promote teaching and learning. According to her there are two main reasons behind increasing the use of ICT in education in UK.

In order to prepare students for this knowledge society they should be provided with what are called skills for the 21st century. These skills refer to abilities such as critical thinking, collaboration and skills to use different information and communication technologies. From this perspective the use of ICT for teaching and learning along with collaborative pedagogies can be seen very well justified. Based on the background above, we know that in delivering English lesson in a classroom ICT can give important things to teaching and learning process. I am very interested with this method because in the future I will be a teacher. We can mix between traditional and modern learning. In traditional learning that the students get the materials just from the teachers but in modern learning we can get the materials from outside. In traditional learning, we just use a whiteboard or blackboard, marker, or book. In modern learning, we usually use modern tools too, for example: Because of that, we can say that ICT in teaching and learning process especially for English lesson is so important for us, as teachers, and of course it is very useful for students. Therefore, the essay is written for all teachers who want to learn more about ICT. The purposes of the essay: To add more important information about ICT in language teaching and learning process. To suggest and motivate especially the English teacher to be able to use ICT in the teaching and learning process. As English is one of difficult lessons, teacher must create interactive teaching and learning to make students interest. In the history of the development of education, information technology is part of the medium used to convey the message of science to many people, ranging from printing technology a few centuries ago, such as printed books, such as telecommunications to media, voice recorded on tape, video, television, and CD. The development of information technology, the Internet, directs the history of educational technology in the new groove. Nothing the positive impact of various studies on the use of ICT to support learning in the school, it is a must if the school is not excessive in this country also have the prospect of a future that allows for deploying ICT in supporting learning and they are: Electronic Books Electronic book or e-book is one that utilizes computer technology to deliver multimedia information in the form of a compact and dynamic. This method enables learners to access learning resources provided by the speakers or facilitators whenever desired. If it is necessary that may also be provided mailing list specifically for the learning website that serves as a forum for discussion. This facility enables the learning activities are managed in the absence of face-to-face between the parties involved administrators, facilitators, learners or learners. The sensitivity of the technology helps one in attending a more important task and in attaining a higher achievement in the area of education, professional career, and social relationship at which its literacy is a major requisite. ICT covers any product that will store, retrieve, manipulate, transmit or receiving information electronically in a digital form. For example, personal computers, digital television, email, robots. So ICT is concerned with the storage, retrieval, manipulation, transmission or receipt of digital data. Importantly, it is also concerned with the way these different uses can work with each other. Information means the processed data in a meaningful and purposeful form according to Shore in Hartoyo Brown stated communication is transfer of information from one person to another, whether or not it elicits confidence. But the information transferred must be understandable to the receiver. Therefore, technology can be defined as a scientific knowledge of art or skill. Based on the definitions of the three components, ICT as a whole can be described as the utility of technology to support the effort of conveying information and communication particularly in the area of education. The technique includes digital technologies mostly of electronic information processing technologies, such as computers, internet, mobile phones, networks, broadband, and so on. ICT help people in order to get information and to communicate each other in wider range. ICT Tools in Language Context There are some kinds of technologies classified into information and communication technology commonly used in language context, such as: Interactive multimedia Interactive media is the integration of digital media including combinations of electronic text, graphics, moving images, and sound, into a structured digital computerized

environment that allows people to interact with the data for appropriate purposes. The digital environment can include the Internet, telecoms and interactive digital television. It consists of CPU, monitor, keyboard and some other apparatus. Audio devices can be used with other media to form an interactive multimedia. However, it can also be utilized separately as an independent tool. Audio devices include speaker, earphone, CD, and etc. Internet can be used as a medium of language learning through email, www world wide web, text, audio and video conferencing. Mobile gadgets such as cell phone and smart phone which are equipped with programs like computer, which enable it to perform as a mini personal computer. By using this gadget and its internet connection, everybody could enjoy chatting, browsing, and discuss each other with the wider range. The advancement of science and technology makes the size and price of those gadgets are getting cheaper and reachable. Social interface This media provides facility or example that enables an interaction between human and computer. People set up more interaction with computer in a more intuitive way with less effort-through writing, voice, touch, eye movements, and other gestures.

Interactive whiteboard An interactive whiteboard or IWB, is a large interactive display such as a touch screen monitor which is connected to a computer and projector. Current application of ICT in English language teaching and learning

ICT defined as technology which the function is to support the process of conveying information and communication. The development of ICT makes the process of communication between the communicator and the communicant can be conveyed in easy ways. They can communicate through telephone, internet, e-mail, satellite, television, video conference and so on. The process of those communications applies in language learning. In language learning, there is a communication between teacher and student. The process of learning is not always carried out by subjecting teacher and students in the certain room or a certain place directly. As the example, teacher can use internet as the medium to give lessons, assignments, or other information to their students. Fitzpatrick and Davies in Hartoyo sets out the seven ways in which ICT used in language learning:

- Presentation helps learners in understanding the learning material well. This media used to testing and assessing students understanding after learning some courses.
- ICT may use by the teacher and learners to help them publish their work in these ways: Word processors and Desk Top Publishing DTP software
- Doing audio recording and editing tools to record interview, discussions, learning material and etc
- Using digital camera and camcorder to record presentations, drama, role play, and so on
- Power point can be used as the medium to publish presentations
- Web pages using web authoring tools
- Communications Technology can help learners and teachers to communicate with another. Some ICT tools which can use as the medium of information are: Program which include simulations are especially effective as stimuli.

The positive things of the integrated ICT in language teaching and learning process: The process is more interactive with the students because the students can see not only just texts but can also see pictures, graphics and diagrams are combined. The process is more effective for the teachers to deliver their materials. In reading comprehension, we as teachers can develop our method in delivering the materials. We can display the program of reading text in story telling digital. It can be more effective than we teachers just show it in paper and the students must read it by themselves. Most of them positively will feel confused and difficult to understand the whole of text means. After we use ICT in delivering the material by displaying a reading text in model of story telling digital, the students feel more excited and more focus in understanding the text. Because in story telling digital, the students can not only see the text but they will know the plot of the story actually.

The problems of ICT integrated in language teaching and learning process and the Handling of the problems. In general, there is no perfect thing. Therefore ICT itself also like the statement. There are some problems in holding teaching and learning process with ICT. First, the teachers can not accept the ICT for their teaching and learning process. Secondly, if there is no enough facilities in a school and no enough electricity. The teaching and learning process with ICT will be useless. The last problem is that ICT will not be conducted when the location of the school is far away from web-connection. As teachers also can increase their quality of teaching and learning in classroom. The second problem, if a school is really want to develop their ICT facilities so that the school must improve their ICT facilities and do maintenance regularly.

Summary and Recommendation ICT is a form of advanced science technology must be optimized function, especially in the implementation of learning. ICT provides opportunities for students in the era of global competition needs to

obtain adequate supplies. Mastering current tick is necessity for every human being inedible age. We must be aware about the changing of technology. We must stop thinking that just enough for delivering materials by using notes but we can be more creative to display our materials by using ICT. This writing is recommended for all teachers who want to have spirit in a new thing for their quality as teachers. Longman Group Victoria L. Modificating teaching through ICT.

Chapter 2 : ICT in Education/The Uses of ICTs in Education - Wikibooks, open books for an open world

ICT enables self-paced learning through various tools such as assignment, computer etc as a result of this the teaching learning enterprise has become more productive and meaningful.

How are ICTs actually being used in education? What do we know about the impact of ICTs on student learning? What do we know about the impact of ICTs on student motivation and engagement for learning? Through business programs and early stage financing, we help developing countries in the Caribbean, Africa, and Asia go green and develop solutions to local problems. In the past, infoDev worked with ICT and education. While our programs do support some entrepreneurs and start-ups that develop educational technologies like Afroes and ListenMi, ICT and education are no longer the focus of our mission. However, there are currently very limited, unequivocally compelling data to support this belief. ICTs are very rarely seen as central to the overall learning process. Even in the most advanced schools in OECD countries, ICTs are generally not considered central to the teaching and learning process.

Impact on student achievement The positive impact of ICT use in education has not been proven. In general, and despite thousands of impact studies, the impact of ICT use on student achievement remains difficult to measure and open to much reasonable debate. Need for clear goals ICTs are seen to be less effective or ineffective when the goals for their use are not clear. While such a statement would appear to be self-evident, the specific goals for ICT use in education are, in practice, are often only very broadly or rather loosely defined. Mismatch between methods used to measure effects and type of learning promoted In many studies, there may be a mismatch between the methods used to measure effects and the nature of the learning promoted by the specific uses of ICT. For example, some studies have looked only for improvements in traditional teaching and learning processes and knowledge mastery instead of looking for new processes and knowledge related to the use of ICTs. It may be that more useful analysis of the impact of ICT can only emerge when the methods used to measure achievement and outcomes are more closely related to the learning activities and processes promoted by the use of ICTs.

ICTs are used differently in different school subjects Uses of ICTs for simulations and modeling in science and math have been shown to be effective, as have word processing and communication software e-mail in the development of student language and communication skills. Access outside of school affects impact The relationships between in-class student computer use, out of class student computer use and student achievement are unclear. However, students in OECD countries reporting the greatest amount of computer use outside school are seen in some studies to have lower than average achievement the presumption is that high computer use outside of school is disproportionately devoted to computer gaming. Users believe that ICTs make a positive difference In studies that rely largely on self-reporting, most users feel that using ICTs make them more effective learners.

Impact on student motivation ICTs motivate teachers and students There appears to be a general consensus that both teachers and students feel ICT use greatly contributes to student motivation for learning. Access outside of school affects user confidence Not surprisingly Students who use a computer at home also use them in school more frequently and with more confidence than pupils who have no home access. The appropriate ages for introducing computers to students are hotly debated On a general level, appropriate ages for student ICT use, in general, are unclear. However, it is clear that certain uses are more or less appropriate, given student ages and abilities. Emerging research cautions against widespread use at younger ages. ICTs can promote learner autonomy Evidence exists that use of ICTs can increase learner autonomy for certain learners. Gender affects impact Uses of ICTs in education in many cases to be affected by the gender of the learner.

Chapter 3 : The Use of ICT in Teaching and Learning Process | risqinoorh

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What do we know about successful pedagogical strategies utilizing ICTs for teaching and learning? What is known about effective teacher professional development? What do we know about the impact of ICTs on teacher performance? What do we know about the impact of ICTs on teacher motivation? Through business programs and early stage financing, we help developing countries in the Caribbean, Africa, and Asia go green and develop solutions to local problems. In the past, infoDev worked with ICT and education. While our programs do support some entrepreneurs and start-ups that develop educational technologies like Afroes and ListenMi, ICT and education are no longer the focus of our mission. Role of the teacher Teachers remain central to the learning process A shift in the role of a teacher utilizing ICTs to that of a facilitator does not obviate the need for teachers to serve as leaders in the classroom; traditional teacher leadership skills and practices are still important especially those related to lesson planning, preparation, and follow-up. Lesson planning is crucial when using ICTs Teacher lesson planning is vital when using ICTs; where little planning has occurred, research shows that student work is often unfocused and can result in lower attainment. Pedagogy Introducing technology alone will not change the teaching and learning process The existence of ICTs does not transform teacher practices in and of itself. However, ICTs can enable teachers to transform their teacher practices, given a set of enabling conditions. ICTs can be used to reinforce existing pedagogical practices as well as to change the way teachers and students interact. Using ICTs as tools for information presentation is of mixed effectiveness The use of ICTs as presentation tools through overhead and LCD projectors, television, electronic whiteboards, guided "web-tours", where students simultaneously view the same resources on computer screens is seen to be of mixed effectiveness. While it may promote class understanding of and discussion about difficult concepts especially through the display of simulations, such uses of ICTs can re-enforce traditional pedagogical practices and divert focus from the content of what is being discussed or displayed to the tool being utilized. Teacher technical abilities and knowledge of ICTs Preparing teachers to benefit from ICT use is about more than just technical skills Teacher technical mastery of ICT skills is not a sufficient precondition for successful integration of ICTs in teaching. However, the development of appropriate pedagogical practices is seen as more important than technical mastery of ICTs. While the development of technology skills is seen to have a role in the teaching and learning process, it is more important as an enabler of other teaching and learning practices, and not too important in and of itself. Schools that report the highest levels of student ICT-related skills and experience are often not those with heavy computer course requirements, but rather ones that made use of ICTs on a routine basis throughout the teacher professional development and the teaching and learning process. Students are more sophisticated in their use of technology than teachers In OECD countries, there appears to be a great disconnect between student knowledge and usage of ICTs the knowledge and abilities of teachers to use ICTs. This suggests that teacher inexperience and skill deficiencies may often be an important factor inhibiting the effectiveness of ICT use in education by students. More knowledgeable teachers rely less on "computer-assisted instruction" Teachers more knowledgeable in ICTs use utilize computer-assisted instruction less than other teachers who use ICTs, but utilize ICTs more overall. How teachers use ICTs is dependent on their general teaching styles Types of usage of ICTs correlate with teacher pedagogical philosophies. Teachers who use more types of software tend to practice more "constructivist" pedagogies. Teaching with ICTs takes more time Introducing and using ICTs to support teaching and learning is time-consuming for teachers, both as they attempt to shift pedagogical practices and strategies and when such strategies are used regularly. Teacher confidence and motivation Few teachers are confident users of ICTs Few teachers are confident in using a wide range of ICT resources, and limited confidence affects the way the lesson is conducted. ICTs motivate some teachers, at least at the start At least initially, exposure to ICTs can be an important motivation tool to promote and enable teacher professional development. Incentives must be developed to promote effective teacher participation in

continuing professional development Teachers require additional motivation and incentives to participate actively in professional development activities. A variety of incentives can be used, including certification, professional advancement, pay increases, paid time off to participate in professional development, formal and informal recognition at the school and community levels and among peers, reduced isolation, and enhanced productivity. Teacher content mastery and understanding of student comprehension make ICT use more effective The evidence shows that when teachers use their knowledge of both the subject and the way pupils understood the subject, their use of ICT has a more direct effect on student achievement. Teacher professional development On-going teacher training and support is critical to the successful utilization of ICTs in education Teacher training and professional development is seen as the key driver for the successful usage of ICTs in education. Teacher professional development is a process, not an event Traditional one-time teacher training workshops have not been seen as effective in helping teachers to feel comfortable using ICTs, let alone in integrating it successfully into their teaching. However, ICTs can be important tools to help meet such increased needs, by helping to provide access to more and better educational content, aid in routine administrative tasks, provide models and simulations of effective teaching practices, and enable learner support networks, both in face to face and distance learning environments, and in real time or asynchronously. Successful teacher professional development models can be divided into three phases Successful on-going professional development models can be divided into three phases: Effective teacher professional development should model effective teaching practices Effective teacher professional development should approximate the classroom environment as much as possible. In addition, professional development activities should model effective practices and behaviors and encourage and support collaboration between teachers. Training in assessment methods is important Professional development should include methods for evaluating and modifying pedagogical practices and expose teachers to a variety of assessment methods. Effective professional development requires substantial planning A needs assessment should precede the creation of and participation in teacher professional development activities, regular monitoring and evaluation should occur of these activities, and feedback loops should be established, if professional development is to be effective and targeted to the needs of teachers. On-going, regular support for teachers is crucial On-going and regular support is essential to support teacher professional development and can be facilitated through the use of ICTs in the form of websites, discussion groups, e-mail communities, radio or television broadcasts. Enabling factors A variety of changes must be implemented to optimize teacher use of ICTs Shifting pedagogies, redesigning the curriculum and assessment, and providing more autonomy to the schools help to optimize the use of ICT. Functioning technical infrastructure is obviously crucial Teachers must have adequate access to functioning computers, and be provided with sufficient technical support if they are to use ICTs effectively. Introducing ICTs takes time Adequate time must be allowed for teachers to develop new skills, explore their integration into their existing teaching practices and curriculum, and undertake necessary additional lesson planning if ICTs are to be used effectively. Support from school administration and the community can be important Support of school administrators and, in some cases, the surrounding community, for teacher use of ICTs is seen as critical if ICTs are to be used at all, let alone effectively. For this reason, targeted outreach to both groups is often necessary if investments in ICTs to support education are to be optimized. Communities of practice can be important tools to support teacher professional development The existence of formal and informal communities of practice and peer networks can be important tools to support ICT in education initiatives and activities. Such support mechanisms can be facilitated through the use of ICTs. Lessons learned from introducing ICTs in education need to be shared As the introduction of ICTs to aid education is often part of a larger change or reform process, it is vital that successful uses of ICTs are promoted and disseminated.

Chapter 4 : Impact of ICTs on Learning & Achievement | infoDev

3 ICT enhancing teaching and learning process The field of education has been affected by ICTs, which have undoubtedly affected teaching, learning and research (Yusuf,).ICTs have the potential to accelerate, enrich, and deepen.

It has become a major issue in education world and has been used from preschool through to university that could facilitate students and teacher in teaching and learning process. ICT has been publicized as potentially powerful enabling tools for educational change and reform. The computers play significant role in the learning process especially in learning language. As Hartoyo stated in his book, a computer is a tool and medium that facilitates people in learning a language, although the effectiveness of learning depends totally on the users. The technology in this era has been grown up not only from the quality but also the efficiency. They are moving fast without any limit from every product. The need of technological innovation has brought the communication revolution and rapid development of technological application in teaching and learning. This technology made contribution on improving language communication in Indonesia. Every school has used the ICT to facilitate the teacher to teach the students in the classroom. Many kinds of application that they use in the classroom improved and enhanced the better lesson. Regardless of whether the focus of instruction has been reading, the grammatical rules and vocabulary of the target language e. Consideration of Computer Assisted Language Learning is using computer. This tool is flexible, rich and interactive. It is flexible in the term of time and place. It has also assumed that more than other media can encourage students in learning language. In addition, CALL is able to generate interaction and improve communicative competence, including providing authentic material to the class or self " learning. The method focuses in computer utilization to enhance language learning. Integration of ICT in teaching and learning process is a topic of interest to many researchers, including education practitioners. Based on the use of ICT can be applied in three different scopes such as: ICT also in terms of finding learning materials from original sources and recognized. In finding articles from international journals, the students can get it just by sitting in front of computers connected to the Internet network. All information about science can be presented in a short time just by using the Internet. Learning materials that have been obtained and copied and transferred to the USB, it can also be printed directly so that it can be used as learning materials. At the recent time teaching and learning are facilitated by computer has been the demand. This essay proposes description to help the institution, teacher and student that the role of technology is being used to ease them to achieve the objective of education. Besides, it is aimed to introduce teacher and learner about the effect of technology in language teaching and learning. At the latest decades, technology becomes the most important things in which many people regard technology as the result of science. By the technology people are eased to accomplish the complicated and sophisticated problem. As English is one of difficult lessons, teacher must create interactive teaching and learning to make students interest. In the history of the development of education, information technology is part of the medium used to convey the message of science to many people, ranging from printing technology a few centuries ago, such as printed books, such as telecommunications to media, voice recorded on tape, video, television, and CD. Moreover, the term information and Communications Technologies includes technologies in which the computer plays a central role, i. Computer Assisted Language Learning CALL , the internet, and variety of generic computer application Fitzparick and Davies, The development of information technology, the Internet, directs the history of educational technology in the new groove. Online services in the education of both degree and non-degree are basically providing educational services to users using the Internet as a medium. Online services can be composed of various stages of the process of educational programs such as: Nothing the positive impact of various studies on the use of ICT to support learning in the school, it is a must if the school is not excessive in this country also have the prospect of a future that allows for deploying ICT in supporting learning and they are: Electronic Books Electronic book or e-book is one that utilizes computer technology to deliver multimedia information in the form of a compact and dynamic. Type e-book of the simplest is a mere transfer of conventional books into electronic form displayed by the computer. A more

complex and require more rigorous designs such as the Encyclopedia Britannica and Microsoft Encarta encyclopaedia which is in multimedia format. Multimedia format allows e-book provides not only written information but also sound, images, movies and other multimedia elements. A description of the type of music, for example, can be accompanied by footage of the sound of music so that the user can clearly understand what is meant by the renderer. For most of the process of learning that takes place with the help of the Internet is often referred to as online learning. Although a variety of definitions but basically agreed that the e-learning is learning by using electronic technology as a means of presenting and distributing information. Included in the definition of educational television and radio broadcasts is a form of e-learning. Although radio and television education is a form of e-learning, it is generally agreed that e-learning reaches peak form after synergize with internet technology. This method enables learners to access learning resources provided by the speakers or facilitators whenever desired. If it is necessary that may also be provided mailing list specifically for the learning website that serves as a forum for discussion. Current running LMS-based Internet technology so it can be accessed from anywhere over the available access to the internet. Facilities provided include the management of students or learners, learning materials management, learning management, including management of learning evaluation and management of communication between learners with facilitators. This facility enables the learning activities are managed in the absence of face-to-face between the parties involved administrators, facilitators, learners or learners. The sensitivity of the technology helps one in attending a more important task and in attaining a higher achievement in the area of education, professional career, and social relationship at which its literacy is a major requisite. ICT covers any product that will store, retrieve, manipulate, transmit or receiving information electronically in a digital form. For example, personal computers, digital television, email, robots. So ICT is concerned with the storage, retrieval, manipulation, transmission or receipt of digital data. Importantly, it is also concerned with the way these different uses can work with each other. Information means the processed data in a meaningful and purposeful form according to Shore in Hartoyo Brown stated communication is transfer of information from one person to another, whether or not it elicits confidence. But the information transferred must be understandable to the receiver. 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However, it can also be utilized separately as independent tool. Audio devices include speaker, earphone, CD, and etc. Internet Internet can be used as a medium of language learning through email, www world wide web , text, audio and video conferencing. Television According to Oxford dictionary, television is a system for converting visual images with sound into electrical signals, transmitting them by radio or other means, and displaying them electronically on a screen. Telephone This telephone medium has not been widely used for language teaching because of the poor quality of analogue transmissions. However, there is new invent of digital quality and lower connection cost which potential for conference calls. Mobile gadget Mobile gadgets such as cell phone and smart phone which are equipped with programs like computer, which enable it to perform as mini personal computer. By using this gadget and its internet connection, everybody could enjoy chatting,

browsing, and discuss each other with the wider range. The advancement of science and technology makes the size and price of those gadgets are getting cheaper and reachable. Social interface This media provides facility or example that enables an interaction between human and computer. People set up more interaction with computer in a more intuitive way with less effort-through writing, voice, touch, eye movements, and other gestures. Interactive whiteboard An interactive whiteboard or IWB, is a large interactive display such as a touch screen monitor which is connected to a computer and projector. Current application of ICT in English language teaching and learning ICT defined as technology which the function is to support the process of conveying information and communication. The development of ICT makes the process of communication between the communicator and the communicant can be conveys in easy ways. They can communicate through telephone, internet, e-mail, satellite, television, video conference and so on. The process of those communications applies in language learning. In language learning, there is a communication between teacher and student. The process of learning is not always carried out by subjecting teacher and students in the certain room or a certain place directly. As the example, teacher can use internet as the medium to give lessons, assignments, or other information to their students. Language learning program can be created to enable students to learn the lessons with guidance, instruction, information or further explanation. ICT in language learning used as a reference-book. Computer can store unlimited lessons or references, which can be accessed anytime, anywhere and accurately. Fitzpatrick and Davies in Hartoyo sets out the seven ways in which ICT used in language learning: Presentation helps learners in understanding the learning material well. This media used to testing and assessing students understanding after learning some courses. ICT may use by the teacher and learners to help them publish their work in these ways: Word “ processors and Desk Top Publishing DTP software Doing audio recording and editing tools to record interview, discussions, learning material and etc Using digital camera and camcorder to record presentations, drama, role play, and so on Power point can be used as the medium to publish presentations Web pages using web authoring tools f Communications Technology can help learners and teachers to communicate with another. Some ICT tools which can use as the medium of information are: Program which include simulations are especially effective as stimuli. ICT in language learning reduces the intimacy of students “ teacher relationship that it may negatively contributes to students affective feelings in the process of learning. In case of distance, teachers can use ICT through video conference to enable them teach or monitor the students learning process. Therefore, the development of ICT is seen as a better way of teaching and learning a certain language compared to the existing methods.

The ICT-REV 2-day workshops provide training for a maximum of 20 participants in the application of pedagogical principles in teaching languages with technology, and raise awareness about the need for self-training in the use of ICT.

How have radio and TV broadcasting been used in education? There are three general approaches to the use of radio and TV broadcasting in education: The radio lessons, developed around specific learning objectives at particular levels of mathematics, science, health and languages in national curricula, are intended to improve the quality of classroom teaching and to act as a regular, structured aid to poorly trained classroom teachers in under-resourced schools. And with its economies of scale, it has proven to be a cost-effective strategy relative to other interventions. The programme was launched in Mexico in as a cost-effective strategy for expanding lower secondary schooling in small and remote communities. Perraton describes the programme thus: Centrally produced television programs are beamed via satellite throughout the country on a scheduled basis 8 am to 2 pm and 2 pm to 8 pm to Telesecundaria schools, covering the same secondary curriculum as that offered in ordinary schools. Each hour focuses on a different subject area and typically follows the same routine—15 minutes of television, then book-led and teacher-led activities. Students are exposed to a variety of teachers on television but have one home teacher at the school for all disciplines in each grade. The strategy meant combining community issues into the programs, offering children an integrated education, involving the community at large in the organization and management of the school and stimulating students to carry out community activities. For these institutions, broadcasts are often accompanied by printed materials and audio cassettes. Each course consists of 15 minute lectures broadcast nationwide once a week for 15 weeks. Courses are aired over University-owned stations from 6 am to 12 noon. Students are also given supplemental print materials, face-to-face instruction, and online tutorials.. But unlike direct class instruction, school broadcasting is not intended to substitute for the teacher but merely as an enrichment of traditional classroom instruction. School broadcasting is more flexible than IRI since teachers decide how they will integrate the broadcast materials into their classes. In developing countries, school broadcasts are often a result of a partnership between the Ministry of Education and the Ministry of Information. In a sense, any radio or TV programming with informational and educational value can be considered under this type. Some notable examples that have a global reach are the United States-based television show Sesame Street, the all-information television channels National Geographic and Discovery, and the radio programme Voice of America. The Farm Radio Forum, which began in Canada in the s and which has since served as a model for radio discussion programs worldwide, is another example of non-formal educational programming. Audioconferencing involves the live real-time exchange of voice messages over a telephone network. When low-bandwidth text and still images such as graphs, diagrams or pictures can also be exchanged along with voice messages, then this type of conferencing is called audiographic. Videoconferencing allows the exchange not just of voice and graphics but also of moving images. Web-based conferencing, as the name implies, involves the transmission of text, and graphic, audio and visual media via the Internet; it requires the use of a computer with a browser and communication can be both synchronous and asynchronous. Teleconferencing is used in both formal and non-formal learning contexts to facilitate teacher-learner and learner-learner discussions, as well as to access experts and other resource persons remotely. In open and distance learning, teleconferencing is a useful tool for providing direct instruction and learner support, minimizing learner isolation. For instance, an audiographic teleconferencing network between Tianjin Medical University in China and four outlying Tianjin municipalities was piloted in as part of a multi-year collaboration between Tianjin Medical University and the University of Ottawa School of Nursing funded by the Canadian International Development Agency. The audio-graphic teleconferencing network aims to provide continuing education and academic upgrading to nurses in parts of Tianjin municipality where access to nursing education has been extremely limited. How have computers and the Internet been used for teaching and learning? Learning about computers and the Internet, in which technological literacy is the end goal; Learning with computers and the Internet, in which the technology facilitates learning across the curriculum; and Learning through computers and the Internet,

integrating technological skills development with curriculum applications. What about learning with computers and the Internet? Presentation, demonstration, and the manipulation of data using productivity tools Use of curriculum-specific applications types such as educational games, drill and practice, simulations, tutorials, virtual laboratories, visualizations and graphical representations of abstract concepts, musical composition, and expert systems Use of information and resources on CD-ROM or online such as encyclopedia, interactive maps and atlases, electronic journals and other references. However, there have been attempts to integrate the two approaches. What does learning through computers and the Internet mean? For example, secondary school students who must present a report on the impact on their community of an increase in the price of oil for an Economics class may start doing research online, using spreadsheet and database programs to help organize and analyze the data they have collected, as well using word processing application to prepare their written report. How are computers and the Internet used in distance education? The Virtual University of the Monterrey Institute of Technology in Mexico uses a combination of print, live and recorded broadcasts, and the Internet to deliver courses to students throughout Mexico and in several Latin American countries. Similarly, the African Virtual University, initiated in with funding support from the World Bank, uses satellite and Internet technologies to provide distance learning opportunities to individuals in various English-speaking and French-speaking countries throughout Africa. But even in Korea, where infrastructure is among the best in the world, and government has put considerable financial and other resources behind an ambitious ICT-based re-tooling of its educational system, challenges to online education persist. Internet- and Web-based initiatives have also been developed at the secondary education level. The Virtual High School is a result of efforts of a nationwide consortium of school districts in the United States to promote the development and sharing of Web-based courses. In Canada, Open School offers a wide range of courses and resources to grades K teachers and students that meet the requirements of the British Columbia curriculum. Course delivery is done through a mix of broadcast and video, while some courses are delivered totally online. John Chambers, CEO of Cisco, famously predicted that e-learning would be the next big killer application, and corporations are moving aggressively to fulfill this prediction. Corporate universities are primarily in-house organizations in large multinational companies that make use of videoconferencing and the Internet for employee training. However, it is by no means the only application. Web-based collaboration tools, such as email, listservs, message boards, real-time chat, and Web-based conferencing, connect learners to other learners, teachers, educators, scholars and researchers, scientists and artists, industry leaders and politicians—in short, to any individual with access to the Internet who can enrich the learning process. The organized use of Web resources and collaboration tools for curriculum appropriate purposes is called telecollaboration. Much educational telecollaboration is curriculum-based, teacher-designed, and teacher-coordinated. Most use e-mail to help participants communicate with each other. Many telecollaborative activities and projects have Web sites to support them. There are currently hundreds of telecollaborative projects being implemented worldwide and many more that have either been completed or are in development. The Voices of Youth website also provides background information on the different discussion topics as well as resource materials to help teachers integrate the Voice of Youth discussions in their other classroom activities. The International Telementor Program ITP [43] links students with mentor-experts through email and discussion forums. Founded in with support from Hewlett Packard, ITP provides project-based online mentoring support to 5th to 12th grade and university students, especially from at-risk communities. The ITP telementor typically meets online with the student at least once every two weeks to answer questions, discuss key issues, recommend useful resources, and comment on student output. Government-sponsored programme launched in that links primary and secondary students and teachers from over 10, schools in more than 95 countries to the scientific research community. GLOBE gives students the opportunity to collaborate with scientists in conducting earth science research. Participating students periodically take measurements of the atmosphere, water, soils, and land cover at or near their schools, following strict protocols designed by GLOBE scientists. They then enter this data to a central Web-based database. The database may be accessed by scientists, researchers and the general public. Students can also go to the GLOBE website for visualizations of the data they and other students have collected. In which year for

Haddad and Draxler? Could you cite a few telecollaboration tools that can be embedded in learning?

Chapter 6 : ICT in Teaching and Learning online course

The teaching and learning process with ICT will be useless. The last problem is that ICT will not be conducted when the location of the school is far away from web-connection. How to handle the problems, for the first problem, we can motivate the teachers to be aware in ICT that can give much positive thing in increasing the competence of their.

If the fixed costs of a technology project are high and its variable costs are low, then there will be cost advantages to scaling up. This is the case with general educational radio and television broadcasting. Programs such as Sesame Street and Discovery are more cost-efficient the larger their audience since the high cost of production is distributed over a larger viewer base while no staff expenditures are made for learner support. On the other hand, the case of Telesecundaria in Mexico demonstrates that the impact of higher variable costs related to learner support may be offset if the scale of the project is sufficiently large to the point where per student costs compare favorably with those of traditional schools. Open and distance learning institutions have also achieved cost-effectiveness through economies of scale. Data on cost of computer use per student in both primary and secondary schools in fact suggest cost-ineffectiveness. In secondary schools, spending money on computers may be justified by the curriculum but this will come with significant increases in total school expenditure. In projects that involve computers connected to the Internet, either the school or student or both bear the variable costs related to operations such as maintenance, Internet service charges, and telephone line charges. In contrast, with radio programming the learner has to pay only for a radio and a set of batteries. Is there equity of access to ICTs in education? Ideally, one wishes for equal opportunity to participate. But access for different actors—both as users and producers—is weighted by their resources. Hence, initial differences are often reproduced, reinforced, and even magnified. A formidable challenge, therefore, continues to face planners of international education: For example, women have less access to ICTs and fewer opportunities for ICT-related training compared to men because of illiteracy and lack of education, lack of time, lack of mobility, and poverty. Not surprisingly, boys tend to enjoy working with computers more than girls. Furthermore, while girls benefited more from the programme in terms of improved academic performance and communication skills, boys were able to hone their technological skills more. A complex of economic, organizational, and sociocultural factors account for these differences: Equal attention must be paid to ensuring that the technology is actually being used by the target learners and in ways that truly serve their needs. The technical teams for each centre are composed of three students, two teachers, and the centre administrator, with at least one female student and one female teacher. It seeks to provide literacy and numeracy instruction built around lessons of interest to around 15, nomadic women, and to create income opportunities for them. Among the programme topics are livestock rearing techniques; family care family planning, health, nutrition and hygiene ; income generation using locally available raw materials; and basic business skills for a new market economy. Ironically, using technology for remedial purposes rather than for authentic productive and creative purposes, broadens the digital divide between underserved students and their counterparts in wealthier school districts. At the end of the article, Ms. Zielezinski and her colleagues provide five Actionable Tips for improving the quality and effectiveness of technology implementation in low-income schools. Recently, several Educational Technology graduate students at Michigan State University worked collaboratively to generate practical applications for each of the five Actionable Tips mentioned in the article. In the space below, you will find their ideas of technologies that can be used to match these applications for each tip suggested by Zielezinski. Stop using technology for remediation! Rather than using technology for skill and drill activities, teachers as well as students, should be using Web 2. Listed below are resources to help accomplish this in the classroom. Twitter What is it? Twitter is a free social media microblog website that allows users to board cast posts. These post are called tweets. Why is it useful? Students could use this tool to communicate and collaborate via sharing links, giving feedback, and advice. The use of hashtags can also be beneficial to organize discussion. What are some examples of ways to use it in the classroom? Students can form discussion groups using hashtags or conduct research following different twitter handles. They may also seek help from other experts online as twitter users from different professional accounts often tweet back to

help. Wordpress What is it? Wordpress is a platform where students can design and publish their own multimedia content. Wordpress is useful because designing and creating original web content gives students the opportunity to be content-creators rather than content-consumers. In a classroom, Wordpress can be used to create a portable, digital portfolio. Students are able to collaborate and communicate by commenting on articles written by other students and bloggers. Wordpress also allows you to add various forms of media such as images, video, widgets, and linking to various social media.

Virtual Dissection of Frogs What is it? Online website that allows you to virtually dissect a frog. This website provides some general information about frogs as well as dissections that could be used as an introduction to a live dissection What are some examples of ways to use it in the classroom? If resources or time is limited to actually perform a live dissection in class, it allows you to do a virtual dissection. This tool explains even more about what the different organs and systems students would be observing during the dissection as well as offers a more accurate representation of a dissection compared to face-to-face.

Creately What is it? Online flowchart maker Why is it useful? This website allows users to create flowcharts from various templates and manipulate the chart. There are also examples of flowcharts to search. Students could use a flowchart to show the sequence of steps in an experiment, visually represent a food chain, or organize their thoughts for a written essay.

Padlet What is it? This can be a useful discussion tool that allows students to quickly view and share thoughts and ideas with other students. Often, students in remediation rooms, sitting at a computer, watching the screen as it feeds them ideas and expecting them to later regurgitate these same ideas on a quiz or test. With Padlet, students are communicating with one another, sharing knowledge, or comparing and contrasting their ideas about a particular topic. Padlet is great for idea sharing in the classroom. Here is a video tutorial of how to use Padlet to encourage students to describe their mathematical thinking.

MakeBeliefsComix What is it? MakeBeliefsComix is a basic comic book style platform that can be used for digital storytelling. Rather than having students complete a traditional retelling of a story, allow them to create their story using a digital storyboard. Learn how to make a comic using MakeBeliefsComix here. Let students create original digital content. Creative thinking spans disciplines and can involve real world learning. It allows the creator to take intellectual risks and try new things. Many times, students feel a sense of pride in sharing something they have created. This can lay a foundation for future skill development.

Educreations What is it? Educreations is an iPad app that functions like a recordable whiteboard. Because it captures voice and handwriting and also allows the user to upload pictures to create interactive lessons and stories, Educreations is a powerful presentation tool. Students can write or dictate and then illustrate their own stories or create an animated re-telling of an existing story. It can also be used to annotate presentations.

Scratch What is it? Scratch is a program that introduces visual, block-style computer coding. This free website allows students to create games and stories through the use of visual block style coding. Utilizing problem-solving skills, and a design-thinking approach, students animate their avatars sprites to act in certain ways. This is a great collaborative, creative tool that helps develop important Digital Literacy Skills. Students can use Scratch to animate stories and create games.

Piktochart What is it? Piktochart is a free easy to use website that allows users to create info-graphs. Students will be able to visually display their thoughts through info-graphs. Whatever they choose to convey can be aided by custom or provided visuals. Piktochart can be used in any learning activity that requires students to respond to a question or topic. For example, students are given the topic of Water Cycle. This must teach about the Water Cycle using Piktochart. Students can now create whatever they would like to achieve this goal.

SketchUp What is it? SketchUp is a 3-D modeling platform. This website allows students to create manipulable 3-D models. As they create their models, students will also learn the mechanics of using an online drawing program. Students could use SketchUp to design a building for an architecture class, to model a physical or mathematical concept, or to recreate scenes from a literary text.

Book Creator app for iPad and other devices What is it? Book Creator is an app that students can use to create digital books with photos, videos, sound, and narration. Book Creator is useful because it allows students to have a digital platform to share their synthesis of various topics. Book creator could be used to publish a piece of writing that students have spent time putting together. This app could be used with various genres of writing.

Chapter 7 : Integration of ICT into Classroom Teaching

International Journal of Research in Education and Science (IJRES) In addition, teachers' readiness and skills in using ICT are playing essential role in the use of ICT in education.

These changes have not just been of a technical nature but more importantly of a structural nature. Many of the major institutions of our society have changed and the way we live our daily lives have been impacted. However, the impact on education may just beginning to be felt as teachers integrate this new technology into their teaching. In the early stages of the use of ICT in teaching, looking at the experiences of teachers at a high school in the forefront provides some clues as to what possibilities and problems may be presented with this new technology. The purpose of this study is to answer the following research questions: Methods A qualitative case study research method was chosen because it would provide thick and rich descriptions of how these changes are being experienced by teachers. In the early stages of the use of a new technology it is useful to use a open ended research method which allows unexpected findings to emerge that might otherwise be missed. The school has 38 teachers and offers grade to students. With the permission of the School Board and Principal, a written request to conduct interviews were made directly to all teachers at the school. Thirteen teachers, from various subject areas, responded to the request and interviews were conducted in person at the school at a time suitable to the participants. The semi-structured interviews lasted from 45 minutes to one hour. All interviews were transcribed verbatim by the researcher, then coded by categories used in the interview protocols and other categories which were added as a result of information raised during the interviews. Findings Changing Teaching Teachers could give many different and specific examples of how technology had changed their work. A number of things were being done with Web sites, from giving students notes which one teacher described as a "low end thing," to getting students to create their own Web pages. One teacher was using a Web site to enhance an actual field trip. The Web site introduces students to the animals and tells them what they are going to be doing while on the field trip. It shows them techniques they can use to analyze the ecosystem and record the data. The prior preparation through the Web site helps students benefit from the actual field trip. Several teachers mentioned that they used Power Point and other computer programs to improve their presentation of material to class. Teachers explained that technology enabled teachers to deliver more material to students and it also eliminated several basic problems such as; poor hand writing, poor artistic skill, contrast, lighting, and visibility. Another teacher makes extensive use of software programs to help teach physics. The students go into the laboratory and collect their data using the computer. Then they use word processing programs along with Excel to do graphs and presentations. The software allows the students to collect different kinds of data using various attachments that are plugged into the computer. Using computer technology, students have more time to explore beyond the mechanics of counting dots and setting up the experiment. It actually lets them look at it and understand the concepts better. Another teacher made the point that resource-based teaching or resource-based learning is almost becoming "seamless, almost natural" in everything that teachers do because information is becoming easier to access. Many teachers mentioned that they had students show them how to use technology. One teacher commented that when students could help teachers, it gave the students a big confidence boost. Some teachers went as far as to use terms like "co-learners" to describe the new relationship between teacher and student. Teachers also saw the potential for technology to be isolating and realized that classroom and other activities had to be arranged in a way that reduce the likelihood of isolation. Another point made, was that in some ways the use of new technology may be increasing socialization in some ways. People may be able to find someone who has interests similar to their own to converse with, through the Internet. One teacher put forth the idea that the use of technology in the classroom will mean the Arts and Music as areas where students interact, will increase in importance to increase socialization. Administration and Expanding Professional Networks The use of information technology has changed school administration in several ways. One teacher explained that when she started teaching six years ago, it was not expected that teachers know how to type their own test. Now teachers are expected to know how to use word processors and have their tests done in a proper format.

Several teachers noted that there is a move toward recording grades and attendance electronically. Teachers are expected to check their e-mail, and a lot of things that used to be done at a staff meeting are now done via e-mail. Also, e-mail is becoming an important communication tool between parents and teachers. In addition most of the teachers use e-mail to keep in touch with other teachers and friends. Concerns Teachers have about the use of Technology While recognizing that there were some concerns and problems with integrating the use of information and communication technology, teachers thought it was beneficial to the educational process and should be continued. Several concerns emerged from the interviews. The problem most often noted by teachers was the maintenance of the equipment needed to operate a technologically enhanced school. Another frequently mentioned problem was the disparities between students who have access to computers at home and those who do not. Teachers provided evidence of the importance of the efforts in-school to promote professional development in integrating information technology into classroom teaching. The professional development days held and the flexible mentor type training available at the school was viewed as being very important by the teachers interviewed. Teachers recognized that sometimes students are overwhelmed with the amount of information available and with the task of filtering through the information. Pace of Change and Stress. Teachers have a hard time keeping up with the pace of change. One teacher said, "People are stressed. Families are stressed", and she felt this level of stress is being transferred to young students. She said, "there is a lot of cutting and pasting going on. Another emerging issue, is the possible loss of control of the education process to business partners. Balancing the interests of these partners and that of the students might be an increasingly challenging role for administrators as business involvement in education becomes more common. Teachers stated that information technology was placing more demands on their time. Teachers noted that extra time was needed to learn new software and also to create new things for teaching because greater expectations were being placed on them. Discussion The use of ICT is changing teaching in several ways. With ICT, teachers are able to create their own material and thus have more control over the material used in the classroom than they have had in the past. Rather than deskilling teachers as some scholars claim, it seems that technology is requiring teachers to be more creative in customizing their own material. Also, using Web pages to enhance an activity demonstrates that technology can be used to complement other aspects of good teaching rather than replace them. It is evident that involving students in the creation of useful material as a part of a learning exercise is a way to make school more meaningful for students. While the use of Power Point presentations have been criticized by some, teachers at this school provide examples of how it helps them with their teaching. The use of peripheral devices on computers to help with physics experiments again shows how ICT can be used to aid the learning process and help students focus on higher level concepts rather than less meaningful tasks. The changes caused by the introduction of information technology into learning environments, are not without some potential problems which must be considered by administrators. The information from this school indicates that some fundamental rethinking of the education process may be necessary because of the use of ICT. This will also put pressure on the school system to restructure the way education is organized. Further Reading A more extensive report of this research has been published: The integration of information and communication technology into classroom teaching, Alberta Journal of Educational Research. Scott Reid is a Ph. Candidate at the University of Ottawa and his research interests include the integration of technology into teaching and human reaction to change. He can be contacted at: For more information about these research reports and other activities of the Trent Valley Centre contact:

Chapter 8 : Use of ICT in support of Language Teaching and Learning

related to ICT use in teaching and learning can assist teachers in overcoming the obstacles and become successful technology users. Therefore, the main purpose of this study is to.

Chapter 9 : Teachers, Teaching and ICTs | infoDev

We need to do more to embrace ICT in schools. If employed effectively, innovative teaching practices can result in

high-quality learning. Information Communication Technology (ICT) is an ever-evolving animal and it continually gives birth to new innovations.