

Implementing Educational Technology into a Literacy Classroom

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Introduction

Educators can incorporate educational technology into adult literacy classrooms to enhance learning by engaging learners in meaningful ways. My report will show how using adult learning theory and effective pedagogy combined with educational technology will benefit students, instructors and the major stakeholders involved in a literacy classroom by enhancing learning and overcoming barriers to education.

Background

Literacy classes are learner centred with adult students working at different literacy levels or having varying abilities that may include English as a Second Language Learners (ESL). Typically, a literacy class consists of 1 teacher to 15-20 students. There is no set curriculum; therefore, teachers develop their own material which usually includes using workbooks and reading text based stories. Classes are future focused and foster independence and lifelong learning for students. Students work at their own paces and levels according to their abilities. The Ministry of Training, Colleges and Universities (MTCU) determines these literacy levels. Assessment includes completing literacy activities that are evaluated by the instructor.

Traditionally, the definition of literacy included learning to read, write or do math. However, the face of literacy is changing. Today, technology is part of everyday life and can be found in jobs and in further education. Therefore, literacy practitioners need a new definition of literacy that includes computer and communication skills that

suit the current job market. In many literacy classes in Ontario, students rarely use technology unless it is to research, email or use word processing.

Furthermore, when teaching adults, teachers must be aware of barriers to learning like time restraints, child care issues, transportation and learning disabilities. By introducing educational technology into the literacy classroom, teachers can teach students collaboration, interaction and problem solving skills while introducing computer knowledge. Students will learn these skills as well as basic literacy. All stakeholders will benefit by helping students become more independent and employable. By combining the principles of adult learning theory and good education, teachers can then choose the appropriate educational technology for the classroom which will benefit all involved.

Adult Learning Theory

Adult learning theory includes learner centred instruction, active learning, formative assessment, prompt feedback and meaningful course curriculum. Literacy instructors should adhere to these principles in order to help students achieve success in the classroom.

Learner centred instruction includes centring material and instruction around each student's needs. Instructors use meaningful course curriculum that is relevant and transferable to real life (Sabatini, 2001, p.5). Instructors teach students how to read, write and do math that will help them achieve independence, continue education or find a job.

Secondly, instructors can use active learning activities in a student paced environment in order to help students succeed (Palloff, 2004, p.5). Instructors teach to kinaesthetic, visual and auditory learning styles in order to ensure student needs are met.

Instructors can keep learning active by fostering engagement and repetition which helps students learn and improve their memories.

An initial assessment is conducted to determine student literacy levels; this assessment assists instructors in determining which material to begin with. Formative assessment includes the continuous assessment of student activities as students achieve small goals at each literacy level. Students complete literacy demonstrations before moving up to the next literacy level.

Instructors give prompt feedback to students to help build student self esteem and to teach students the value of their own successes. Also, teachers use assessment and feedback to help students overcome barriers to learning such as negative school experiences and procrastination.

Furthermore, lessons are individualized and learner centered to ensure each student finds meaning in the course curriculum. Students value lessons that apply to real life like computer literacy. Traditionally, course curriculum included reading, writing and math. However, Ginsburg (2004) suggests that educators should teach the skills needed to succeed in today's society which includes computer skills. Students need these skills to compete in the workforce and in higher education. Because the definition of literacy has changed, instructors should include computer literacy, critical thinking and problem solving skills in their lessons.

Secondly, Ginsburg (2004) suggests that students should be able to access computers at schools to learn these skills. Today is the age of technology, collaboration and communication; therefore, students need these skills to succeed in the workforce in Canada (Palloff, 1999a, p.3). Even how people communicate has changed to include

email and instant messaging. This suggestion is in conjunction with MTCU changes to the literacy program which now include the computer skills that many jobs require.

For many students, literacy courses serve as a bridge to further education and jobs. Therefore, instructors need to consider the principles of adult education to help the varied array of learners with their differing motivations. Sabatini (2001) discusses lifelong learning, attributes of adult learners, defining goals and using material that is meaningful to students. He believes that literacy educators need to adhere to the principles of adult learning in order to engage learners in meaningful education. Instructors who follow the principles of adult education should then look at defined principles of good education before choosing technology for the classroom.

Principles of Good Education

In order for learning to be useful to students, principles of good education and pedagogy must be met. Sound pedagogy includes collaboration and communication in accordance with constructivist learning theories. Chickering and Gamson (1987) suggest there are seven principles of good education which include interaction, cooperation, active learning, prompt feedback, time lines, expectations and the acceptance of diversity (p.1.). These principles are not rules but “guidelines” to help “improve teaching and learning” (Chickering, 1987, p.1.). Chickering and Gamson’s suggestions are based “on 50 years of research” into the principles of effective learning (1987, p1). Overall, this research looks at the ‘how’ of good teaching. Although details of the research are not explained, instructors in the field of educational technology refer to this study and many of the principles correspond to the theories of adult education.

After the initial principles were developed, Chickering and Ehrmann (1996) incorporated them with the use of modern day technology. They explain how using new technology fits with the original seven principles. For example, instructors can encourage interaction using the internet, online resources and communication tools like email. They can foster collaboration using the same tools.

Instructors can promote active learning using interactive computer software, social media, research tools and virtual websites. Students can obtain immediate feedback from online quizzes and discussion forums. Guidance through feedback is very important in a literacy class. Literacy instructors can assist students in learning by creating an atmosphere of high expectations combined with guidance and support. Furthermore, literacy instructors teach to various learning styles which show their support for diversity.

These seven principles are similar to the theories of adult learning. Both suggest that active learning, the use of meaningful material, continuous assessment and feedback in a learner-centred environment are conducive to learning. However, there are limitations to these articles such as the implication that teachers and students know the principles and understand their importance. Therefore, course designers and trainers should ensure that teachers understand the pedagogy behind using technology.

Overall, literacy educators can use the principles of adult learning combined with the principles of good education to choose the right educational technology for their literacy classrooms. Several technology suggestions follow.

Educational Technology

Once educators have determined the needs of their learners, educational technology must be evaluated and chosen according to the principles of adult learning and good education. Instructional goals for literacy learners include basic literacy, collaboration, interaction, communication and computer skills. Instructors should use formative assessment and prompt feedback to ensure goals are being met. Several types of educational technology would work well in a literacy classroom such as communication tools, social media, learning management systems (LMS) and adaptive technology. These forms of interactive software can engage visual, kinaesthetic and auditory learners with audio, visual and hands on activities.

Instructors can use open source ware, interactive software, social media and communication tools to create an environment conducive to teamwork or collaboration. Chickering and Gamson (1987) suggest that “working with others often increases involvement in learning” (p. 2). Instructors can encourage interaction using communication technology like discussion forums and chat tools. In his study about computers in the classroom, Sandholtz (1997) found that “technology encouraged student-centered, cooperative learning” (p.1). Furthermore, Sandholtz suggests that “teachers should be provided with sufficient information to be able to choose multimedia and Internet resources that enhance and extend learning” (1997, p.1.).

Suggested Educational Technology

Communication Tools

Communication tools include synchronous tools like chat rooms and asynchronous tools like discussion forums and email. Literacy instructors can create an interactive environment that encourages communication between students and instructors as well as students and each other. Instructors can begin forum discussion threads for whole classes or divide students into groups by literacy levels. This form of active learning benefits students by helping them feel comfortable and free to contribute by allowing them to take their time writing answers (Palloff, 1999a, p.7). Instructors can use chat tools to allow synchronous communication using writing or audio which accommodates visual and auditory learners. Audio chat tools benefit students with writing difficulties who may find it difficult to communicate in text. Both tools are relatively easy to use. However, challenges include inappropriate content and a barrage of messages. Instructors must facilitate the discussions to ensure posts contain appropriate content and students do not become overwhelmed with messages.

Social Media

Instructors can use social media tools like wikis and weblogs to encourage collaboration and interaction in the literacy classroom. Wikis help create a sense of community because the students can work together on something meaningful. Instructors can encourage writing individually and in groups. Students can edit each other's work and instructors can help them develop online writing skills. Wikis promote group work skills which students may need in further education or work.

Instructors can use weblogs or online journals to promote writing and reflection. Students can work with partners for writing and editing. Then they can reflect on their writing which promotes thinking skills. Students should also know “how to assess themselves” (Chickering, 1987, p.3) which can be done in the form of reflection.

Challenges include privacy and security. Instructors must ensure that students understand what they put on the Internet and understand how to keep their work secure. Instructors need to teach Internet safety to students before they begin. Furthermore, instructors must be sensitive to students who may be uncomfortable with public writing.

Learning Management System

Instructors can combine communication and social media tools together using a learning management system (LMS) like Moodle which is free and intuitive. Instructors can create literacy modules which students can access online or in the classroom. Students could use this system in the classroom to access their lessons online from home or a local community centre. Instructors could build literacy courses that include individual lessons, interactive assessment tools, quizzes, collaborative discussion forums or chats and various types of media.

Principles of good education also suggest that “students need appropriate feedback on performance to benefit from courses” (Chickering, 1987, p.3). Feedback and assessments are important in literacy field; therefore, students are assessed for literacy levels and reassessed after each activity and demonstration they perform. Instructors can use discussion forums and quizzes to provide immediate feedback to students. An LMS is safe because students and instructors use passwords to access the site. One barrier to

using an LMS is the training needed to get started. Instructors must learn the program, create the course material and train students. However, Moodle is very intuitive and instructors can use the literacy courses that are already developed in Moodle (Sinclair, 2007, p.7.).

Adaptive Technology

Many adult students come to literacy classes with learning disabilities. Therefore, instructors could use adaptive software to assist these students. Kurzweil is a text to speech program that reads text to students; Dragon Naturally Speaking allows students to put their thoughts on the computer by speaking instead of typing. Students can use this technology to gain independence and reach their goals in ways they never could before. The main limitation to these programs is the cost. However, once initial costs are met, many students can use the programs in the classroom over an extended period of time.

Overall, there are many benefits to using technology in the classroom. Students can overcome time and travel barriers accessing course material at home or in community centres. Teachers can create a modern environment conducive to teaching communication, collaboration and computer skills. The school and the ministry can help students become more employable. There are challenges when using technology including costs, out of date computers, lack of IT support, lack of computer training, teachers who are resistant to change, time constraints, and little pedagogical training in the area of educational technology. However, challenges can be overcome by addressing the needs of all stake holders which includes supporting students and staff with implementing technology into the classroom.

Ensuring Success

In order for technology to be incorporated successfully, developers must consider all the major stakeholders involved because the implementation of educational technology in the classroom can affect the whole school. These stakeholders include students, instructors, support staff, principals and members of (MTCU).

Ginsburg (2001) investigates instructors' technological comfort level in the classroom and concludes that teachers need training and support. Support can extend to faculty, support staff and students in the form of training, professional development days, IT assistance, curriculum development time and funding. Ginsburg's findings are based on the analysis of literacy learners and classrooms directly. Chickering and Ehrmann (2001) suggest that faculty and students need support from the schools incorporating the principles and implementing technology. Their article demonstrates that faculty support and training are important to success which is what I found in my own literacy classroom.

Herod's (2000) report suggests using a process of collaboration and investigation to determine curriculum needs including how technology fits with literacy. Furthermore, Herod (2000) suggests hiring a curriculum specialist to determine needs because most literacy curriculum is content based and developed by practitioners who have not been trained in pedagogy. One way to ensure adult learning principles are followed is to hire a course designer who has the ability to help choose the right technology for the literacy classroom. Furthermore, Sabatini (2001) analyzes course design and suggests that course designers research media in accordance with adult learning principles. Designers can then

choose the technology best suited for the literacy classroom. His article analyzes goal setting, classroom interaction and student collaboration which are factors important to the literacy classroom.

Secondly, Herod (2000) suggests the use of curriculum deliberation in order to discuss the needs and methods of using educational technology in the field. Similarly, Sabatini (2001) suggests using course designers to help create a technological environment conducive to learning. A curriculum specialist may be best at determining which technology adheres to the principles of adult education and effective teaching. Sabatini (2001) suggests course designers look at principles of adult learning and apply them to the media they choose when implementing educational technology.

Conclusion

Overall, my findings suggest that technology alone will not create an atmosphere conducive to learning. Instead, educators must remember that technology is a tool. Therefore, instructors should ground their teaching in sound pedagogy by following the principles of adult learning and the principles of good education. Once they have determined their goals, they can analyze and determine which technology would be most conducive to learning in the literacy classroom. Because society is always changing, educators must be aware that student goals and technology will change. Advantages of educational technology include collaboration, communication and computer skills which are all needed in today's society.

Several types of educational technology that would enhance learning in the literacy classroom include communication tools, social media and an LMS. In order for

the implementation of technology to succeed, educators need the continued support of all major stakeholders in order to overcome limitations. Using educational technology to foster collaboration, interaction and engagement is the next natural step for the literacy classroom which is already student centred, active and focuses on current societal needs.

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