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How can technology assist in the effectiveness of after school programs?

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This review examines how technology assists in the effectiveness of learning in after-school programs. There are different types of after school programs available to parents with school-age children. Results describe the use of technology and the influence it has on the learning ability of students who are at risk. Meaningful, engaged learning can be promoted through the use of technology. Experts in the field state that technology facilitates learning by addressing the need of the individual learner. This review's conclusions indicate that a learning community can encourage personalized learning activities, collaboration, and motivation. The integration of effective technology into a learning environment will help students prepare for their future.

How Can Technology Assist in the Effectiveness of After School Programs?

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This review examines how technology assists in the effectiveness of learning in after-school programs. There are different types of after school programs available to parents with school-age children. Results describe the use of technology and the influence it has on the learning ability of students who are at risk. Meaningful, engaged learning can be promoted through the use of technology. Experts in the field state that technology facilitates learning by addressing the need of the individual learner. This review's conclusions indicate that a learning community can encourage personalized learning activities, collaboration, and motivation. The integration of effective technology into a learning environment will help students prepare for their future.

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Introduction

The need for after-school programs is increasing in the United States. After school programs are but one of many school-age child care (SACC) programs available to parents. According to Duffet, Johnson, Farkas, and Ott (2004), 9 of 10 youths state that it better for them to be a part of an organized activity based on encouragement by others. Parents are looking primarily for academic help for their children while others seek enrichment; many want activities that teach the value of hard work and commitment.

The demand for after-school programs is increasing. Partnership for Family Involvement in Education [PFIE] (2000) states that after-school programs can help advance the academic performance of youths participating in these programs. With the more relaxed and enriched activities, programs are connecting the learning of youths with school requirements. After-school programs provide safe environments for many children who need adult supervision at the end of the regular school day. Adolescents are less likely to engage in risky behaviors, such as tobacco use, when they have after-school programs to go to (PFIE, 2000). Given the important role after-school programs play in the development of children, it is essential that society try to provide such programs with the highest level of quality possible. Many after-school programs do not have the materials or tools to build an excellent program. PFIE (2000) states, "many programs allow children to spend too much time in passive activities such as television or video viewing" (p.15). Most after-school programs do not have the weekly use of library, computers, museum, art room, or music room. This problem is significant and deserves continued research because the children's future is at stake.

There are after school-programs that try to meet the needs of the children. For instance, an after-school program called Power Hour, which is housed at Logan Middle School in Waterloo, IA, help students who are failing or on the verge of failing certain subjects in the curriculum. This program was developed as an extension of an existing program called Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP). According to U. S. Department of Education (n.d.a), GEAR UP "is a discretionary grant program designed to increase the number of low-income students who are prepared to enter and succeed in post-secondary education" (¶1). The students range from middle to high school.

A majority of teachers are looking for ways to increase the standards and learning activities for students who are at-risks. Technology can have a significant impact on at-risk students who are failing. The use of technology allows students to obtain, organize, manipulate, and display information in which they learn. According to Becker (1994), technology holds promise for leveling the playing field and ensuring equity in educational opportunity for all students in all schools. At-risk students usually come from low income families and are more likely to have no access to a computer at home and attend schools with few computers. At-risk students normally lack the resources to support the use of technology.

In this literature review, I will give an overview of after-school programs, issues and dilemmas faced by after-school programs. In addition, I will address how the integration of technology into the teaching and learning environment is important for preparing students for the 21st Century. Also, that educational technology includes

multimedia technologies or audiovisual aids that enhance the teaching and learning process (International Technology Education Association [ITEA], 2004). I will provide recommendations for future developments and improvements of after-school programs with the use of technology. Overall, this review will attempt to answer the questions: What are after-school programs? What are the issues and dilemmas faced by after-school programs?

Methodology

The primary methodology used for this review involved searching the ERIC database for journal articles focusing on after school programs. Other education databases searched, included Academic Search Elite, Applied Science and Technology Abstracts, AriticleFirst, EBSCO Publishing, and ERIC (FirstSearch). In addition to databases; Internet sources, organizations supporting after school programs, and experts in the education field contributed to the resources for the review. This review includes an analysis and discussion of after school programs and factors that may contribute to their improvements.

Analysis and Discussion

After School Programs Defined

After-school programs have several definitions. These definitions vary for each program based on their goals. According to PFIE (2000), an after school program is a safe, engaging environment that motivates and inspires learning outside of the regular school day. It suggests "both practitioners and researchers have found that effective programs combine academic, enrichment, cultural, and recreational activities to guide

learning and engage children and youths in wholesome activities" (p.25). These activities help motivate children and youths to build self-awareness and self-confidence in themselves. An after-school program may also be described as a secure place to spend time after school with an organization that reinforces the school curriculum and constructs strengths that may not developed in the school (ERIC Clearinghouse, 1998).

According to the U. S. Department of Education (n.d.c), after-school programs offered by 21st Century Community Learning Centers [21st CCLC], provide academic enrichment opportunities for youths in schools performing below local and state standards. Tutoring services and academic activities are developed to help students meet academic standards in reading and math. In addition, 21st CCLC programs provide youth development activities, drug and violence prevention programs, technology education programs, art, and music. After-school programs provide safe, drug-free, supervised and cost-effective after school support and weekend or summer havens for children, youth, and their families. Even though definitions differ with each program, they share the same goals to provide an education, adult supervision, and care for children and adolescents.

After School Programs Types

There are different types of after-school programs. They differ in themes, participants, and activities. Various programs serve as a sound and safe place for children to have fun and learn. They may offer sport activities and enrichment activities. These programs are considered recreational programs (Shumow, 2001). Examples of

recreational after school-programs are school football, basketball, or soccer programs where students stay after school and prepare for competition and participation in a sport.

Another type of recreational after-school programs would be one that focuses on fitness. Dennis Docheff, Chair of the Physical Education Department at Central Missouri State University mentions: "There could be great value in a Health, Physical Education, Recreation and Dance (HPERD) professional leading a special fitness club or skills workshops for students after school" (as cited in Crawford, 2002, p.15). This program will help youth build self esteem and confidence.

The community-created or community-based types of after-school programs usually have their foundations in the community. They center their attention on the needs of the community and stress recreational, social, or cultural activities (ERIC Clearinghouse, 1998). One type of community-based after school program is the Young Men Christian Association (YMCA) and Young Women Christian Association (YWCA). According to Morton-Young (1995), programs are offered before and after school that are sponsored by these organizations. The YMCA and YWCA programs focus on nourishment, self-development, and education. In some instances, parents of the children also attend these programs offered by the YMCA and YWCA.

Earth Force may be classified as a community-based program. Earth Force is a program that focuses on experimentation with the environment combined with national academic standards. It is funded by the 21st Century Program. "Because one in five students has no adult supervision after school, programs such as Earth Force gives them a stimulating, educational way to spend their late afternoon"("After-School Programs in

Environment Action," 2001, p. 38). This program allows youth to participate in a controlled environment. Participants have the opportunity to get hands-on experience with being a community leader and participant in solving problems regarding the environment.

In the previous section, information regarding community-based programs was discussed. The focus will now turn to programs that support academics. There are four types of programs that are tied to academic accomplishment and/or enhancement. These academic types of after-school programs are language arts, study skills, academic subjects, and tutoring (ERIC Clearinghouse, 1998).

Language Arts programs focus on improving literacy and language skills. Study skill programs are for students who do not study or comprehend well. Academic subjects programs focus on a specific curriculum area and tutoring programs match tutors with students to assist them with their schoolwork. For example, there are after-school programs at Shaker Heights Middle School in Ohio that are homework based. Although the school provides extracurricular activities, their main focus is on helping the students get their homework completed. This middle school offers their students four different types of programs that include:

1. An academic session that is an hour of small group instruction with a schoolteacher.
2. The homework hotline where students can call to obtain homework assignments in case they are absent or if they misplace their assignment.

3. A homework center where students can go after the academic sessions to do their homework and/or be assisted with their homework by two staffed teachers. Finally,
4. A university tutorial program matches university sophomores and juniors with one or two of the middle school students to assist the students in certain subject areas. The university students also double as role models for the students (Glazer & Williams, 2001, p. 43).

The homework-based program that is offered at this middle school will help students with any questions or doubts they may have regarding their assignments. Many academic after school programs are theme-based. Students are given a topic and they learn about it in various ways over a period of time. This helps the student make connections with ideas and experiences (Bergstorm & O'Brien, 2001).

There are also technology-rich academic after-school programs such as Kids Learning in Computer Klubhouses (KLICK). KLICK give youths the chance to get familiar with technology in a safe environment. Youths become productive and develop technology savvy along with having an enjoyable time learning new skills. KLICK operates in ten middle schools in rural and inner cities communities that are located in Michigan. It focuses on increasing learning through the use of computers. The founders chose computer-based activities in part, because the communities they planned to serve lacked access to modern technologies and expertise in technology and academic areas. Its goal is to provide safe and engaging learning opportunities to students during after school hours (Zhao, Mishra, & Girod, 2000).

The types of after-school programs operating today have a wide range of variety. Some cater to individuals with special needs; others only offer a specific subject or extracurricular activities. Some offer a combination of these opportunities. After-school programs basically offer academic assistance and physical and mental development while providing a safe place for children.

Participants' Characteristics

Participants of after-school programs are school-age children, usually 5-14 years of age, in grades kindergarten through eighth. No study was found that showed a substantial gender difference. Most studies found for this literature review focused on low-income, urban, minority students, but programs exist for all types of students.

Many who attend after-school programs are school-age children and teens that would otherwise be unsupervised during the hours after school; they are also known as "latch-key" children. "Latch-key" children are children whose parents are not at home when school is out and stay home alone until the parents return. Approximately 35 percent of twelve-year old children are left home by themselves, while their parents are at work (PFIE, 2000).

Children in unsafe neighborhoods benefit more from after-school programs. The reason is because the increase for school care provides a safe haven for them. Children and teens who are unsupervised after school are far more likely to use alcohol, drugs, and tobacco. They are more likely to engage in criminal and other high-risk behaviors, receive poor grades, and drop out of school than those children who have the opportunity to benefit from constructive activities supervised by responsible adults (PFIE, 2000).

According to Shumow (2001), "Children from high-risk backgrounds have both the most to gain from after-school programs in terms of educational opportunity and the least access to school programs" (p.23). These programs can help at-risk youths with making positive decisions for their futures, mainly keeping them out of trouble or taking the wrong path by following others who are impressionable to them.

Funding

Funding after-school programs is always an issue. Many different sponsors fund after-school programs. The United States Government is a major supplier of financial assistance of many of these programs. The 21st Century Community Learning Center Program is a key component of President Bush's No Child Left Behind Act. It is an opportunity for students and their families to continue to learn new skills and discover new abilities after the school day has ended. The government also funds other after-school programs in addition to the 21st Century Program. For example, community-based programs, school community partnerships and academic programs with sponsors include, but are not limited to, local and state school funds, community education departments, non-profit organization, churches, and private contributions (EdSource, 2004).

According to the U.S. Department of Education (n.d.b), it will be "providing about $36 billion this year to states and school districts, primarily through formula-based grant programs, to improve elementary and secondary schools and meet the special needs of students" (¶ 1). To improve on the teaching and learning in higher education and other postsecondary institutions, the department, provided $2.5 billion and $3.3 billion to support rehabilitation, research and development, statistics, and assessment.

The previously mentioned academic after-school program, KLICK, was funded by a grant from the U.S. Department of Education and supported by the College of Education at Michigan State University (Zhao, Mishra, & Girod, 2000). The program, Earth Force, was funded by a grant from the 21st Century Program. The Charles Stewart Mott Foundation is a private foundation that has invested $83 million in after school educational services (Miller, 2001). All contributions that are awarded to an after-school program are vital to its success.

A key problem in developing quality after-school programs is inadequate funding for such programs.

> The need for programs is far from being met. More than 28 million school-age children have parents who work outside the home, and that number is growing. Applications for after-school program funds from the federal government's 21st Century Learning Center initiative outpace the resources available by two to one. While the initiative has grown exponentially in the past four years (from $40 million in 1998 to $600 million in 2000), the U.S. Department of Education had to deny 1,000 high-quality proposals for after-school funding in the last grant cycle. This gap reflected a need in 2000 that was more than double the available resources (U.S. Department of Education, 1999, ¶ 1).

Although the United States Department of Education (2001) allocated $1 billion for after school programs, it found that the financial requirements for after school programs actually doubled the allocation. The need for funding is imperative for after-school

programs. The numbers are increasing in the United States for youths who want to participate in these programs.

There are many after-school programs presently operating, which are in dire need of improvements. Among these needed improvements are facilities and qualified educators. More research on after-school programs is also important. Funding is needed for these improvements, as well as for the great demand for additional after-school programs in many areas around the United States.

Program Staffing

Staff members of after-school programs range from volunteers to paid personnel. GEAR UP, in Waterloo, Iowa, is staffed by college volunteers who are required to meet certain requirements for specific credentials. Most of the student volunteers are education majors. Some college students serve as tutors or mentors; while others are paid personnel who hold job positions in this program. Those who hold supervisory positions are working as graduate assistants and others are participating in work-study assistance programs. Parents and community members do a variety of jobs for the program and also serve as volunteers.

In other after-school programs, there are teachers on staff. Some are certified teachers and some have not obtained certification. Some teachers do volunteer to help out while others are on the payroll. The homework-based program at Shaker Heights Middle School in Ohio is a good example of this type of staff. They employ teachers and administrators, and they also have volunteer tutors from nearby universities who serve on their staff (Glazer & Williams, 2001). Qualified teachers and volunteers are important

elements, contributing to the success of an after-school program. However many after school programs do not have adequate staffing for their programs.

Program Facilities

After-school programs are usually operated on a school campus for convenience and easy accessibility to educational material. However, some after-school programs are held elsewhere; such as churches, recreation centers, colleges, or libraries.

The Robert Taylor Boys and Girls Club of Chicago is an example of a recreation center that offers after-school care. It is another safe haven for children and it is open from 2 p.m. until 6 p.m. (Coleman, Lahey, & Orlando, 1999). Other examples include St. Ann's of Morrisania church in New York which houses an after-school program for neighborhood children (Kozol, 2000). Many libraries throughout the country have developed programs to serve children during after-school hours (Dowd, 1995).

Issues and Dilemmas Faced in After School Programs

Enrollment. Keeping students enrolled in after-school programs is hard for program administrators to accomplish and it continues to be a struggle. Students' registration in a program does not assure their continuance in the program. The rate of dropout has grown significantly with high-risk students. According to Weisman and Gottfredson (2001), students who are high-risk in comparison to those who stay in school, eleven out of twelve dropout out of after-school programs. Their study showed that because students with higher risk factors dropout more than students who are at lower risk, many after-school programs are catering to the needs of the lower risk

students instead of the higher risk population that they were intended to assist. After-school programs need to successfully recruit and retain all participants.

Qualified staff members. The lack of qualified staff is a disadvantage to any educational program. In after-school programs, this problem is critical because so much is involved in staffing enough qualified people to make the program a success. Many qualified persons already teach during the regular school day and therefore may be overwhelmed with an extended workday. "Principals and staff may already feel overburdened by school reform imperatives to address the needs of our increasingly diverse student population, state and national standards, assessment and evaluation, as well as improved school safety" (Noam, 2003, p.20). Also, many qualified persons want to be paid for their services, but low budgets do not allow for this compensation.

The education level of the staff members is an issue. They are generally only high school educated. According to Halpren (2000), the majority of frontline staff has no more than a high school education. Program coordinators and directors tend to have an associate degree or a bachelor's degree. Many public school teachers generally do not participate in after school programs, but are willing to work with in-school programs instead.

There is a large turnover rate of 40 percent in after-school programs (Miller, 2001). Most staff work part-time and some see this as an additional burden to their existing responsibilities. Finding money to pay qualified staff is a major problem in the hiring and training aspects of the after-school programs (Miller, 2001). However, Morton-Young (1995) states "An effective recruitment process should produce the right

number and right kind of new personnel at the right time so that the program's needs are met" (p.32).

Sufficient facilities. The availability of appropriate space is critical to the program, affecting quality of the program (Grossman, Walker, & Raley, 2001). Although some after-school programs are operated in libraries, churches, or recreation centers, most operate from school-based facilities. Ninety-two percent of voters favor school-based after-school programs in their communities because they view schools as safe trusted and conveniently located (Noam, 2003).

Facilities for school-based after-school programs are sometimes limited due to lack of communication or sharing between the school staff and the after-school staff (Noam, 2003). Also, after-school programs often have to compete with teachers, sports teams, and other organizations for space, especially the gymnasium or computer labs because traditional classrooms crowded with desks are not suitable for various enrichment activities (Grossman, Walker, & Raley, 2001).

Research on after school programs.

The demand for after-school programs is steadily increasing, but there still remains little research on the effectiveness of such programs. Over a decade ago, Widdows and Powell (1990) stated that research on after-school childcare was in its early stages. Still today, adequate research remains a challenge for after-school programs. Experts note that program evaluation by after-school program participants would be essential to access program quality, but no well-developed evaluation scale has been

found to properly measure results. Some existing research is controversial due to the populations studied (Zhang, et al., 2001).

Technology

Technology is used to enhance the world in which citizens live. The use of technology helps people to live easier and better lives. According to Wenk, a former White House Science Advisor, (as cited in Illinois State Board of Education, 1996) "technology is the 'combination' . . . of human imagination, inventiveness, and the electronic tools that transform ideas into reality" (p.5). People use technology to improve their ability to do work.

Through technology, people can communicate better. Technology is the technical means people use to improve their surroundings. It is also the knowledge of using tools and machines to do things efficiently. Technology is an individual improvement in action that engages knowledge and practices to expand on systems that solve problems and broaden a person's ability (ITEA, 2004). Society is increasingly depending upon technology. Those who are comfortable and understand the concepts of modern technology are able to part take in society and the marketplace.

Education Technology

Education technology is the use of multimedia technologies or audiovisual aids as a tool to enhance the teaching and learning process (ITEA, 2004). Technology has become an integral part of life for educators and their students. According to Lamb (1999), the purpose of education is to promote learning. The integration of technology into the teaching and learning environment is important for preparing students for the 21st

century. Technology involves different kinds of hardware and software. The hardware consists of computers, CD-ROMs, scanners, videos, and over-head projectors. Types of software include word processing, spreadsheet, database, and multimedia. Multimedia is a fun and easy way to incorporate text, audio, and video materials into informational and instructional projects. Multimedia provides educators with the tools to bring learning alive for students of all ages (Lamb, 1999).

According to Association of Educational Communications and Technology [AECT] (as cited in Seels and Richey, 1994), instructional technology is "the theory and practice of design, development, utilization, management, and evaluation of processes and resources for learning" (p.9). Technology is used to influence learning. Technology facilitates learning by addressing the need of the individual learner. There are ways technology can be used to facilitate learning. The Internet is one of those ways. The Internet is an exciting way to get learners to explore the World Wide Web. This use of technology brings a real life experience into the classroom. Another use of technology that can be use to facilitate learning is educational software. Educational software can provide an active learning environment for youths. Students can create and explore the use of graphics, photographs, animations, audio, and videos.

According to Zhao, Hueyshan, and Mishra (2001), teacher-centered configurations and practices of technology teach students to be serious about the computer. Students do not see computers as just a machine but a tool for learning. A computer can be viewed as a student's machine and not just a teacher's tool (Garner, Zhao, & Gillingham, 2000). Students can use technology to solve problems that help

them become better students. Educational technology is used to ensure effective choices in learning opportunities with emphasis on the importance of networking and community beyond the immediate physical boundaries.

For example, the after-school program KLICK (Kids Learning in Computer Klubhouses) allows participants in middle schools to engage in activities requiring resources and proficiency that are not provided during the regular school day (Zhao, Hueyshan, & Mishra, 2001). This program was developed to provide participants with meaningful experiences with the use of technology. KLICK is a program that uses technology that encourages students to produce both personally meaningful work as well as products that are useful for their community. Zhao et al. (2001) suggest, "through this program participants can develop a better sense of 'localness' and identity in their works because they now belong to a larger community with more potential collaborators" (p.352). Technology in a learning community can encourage personalized learning activities, collaboration, and motivation. KLICK would provide the necessary plan for participants to have access to others' points of view, which will help them complete their assignments. In addition, it allows students new ways to identify and value others as sources of knowledge. This program will have a great impact on how technology can be used to help facilitate learning (Zhao, Hueyshan, & Mishra, 2001).

Technology and equity are issues affecting the education of youths in the schools, according to Jameson (1999). Equal opportunity has been a technology issue since the 1960's. Technology is now the new challenge in today's culture as technological changes are focusing on the haves and haves not in schools everywhere (Sayers, 1997).

If technology were equally spread between schools then this would help remove the inequity in education. Technology can be the force that equalizes the educational opportunity for all. Since schools are now advocating for standards and basics, resources are being spent more on technology becoming a supplement for teaching beliefs (Jameson, 1999). Meaningful, engaged learning can be promoted through the use of technology.

Beliefs surrounding technology in schools are changing. Educators are noticing the importance of technology. According to Jameson (1999), there is an awareness and obligation to understand that there are different levels of access and that inequalities are to be expected among schools. However, students have to be technologically proficient in order to survive and succeed in the world today. According to Soloway, et al. (2001), there is evidence suggesting that daily use of technology leads to increased learning. They also state that classrooms with computers are responsible for these learning gains of the students. However many schools do not have access to technology for its students to use. This challenge is daunting, but there are indicators we can measure to determine how effectively educators are preparing students for the technological work world they will enter. According to Dede (1998), "research shows that new technology-based teaching models result in at least four kinds of improvements in educational outcomes" (p.17). The four improvements are: a) increased learner motivation, b) advanced topic mastered, c) students acting as experts, and d) better outcomes on standardized tests. This experience goes beyond the information given by the teacher. With directed inquisition, collaboration projects, and mentoring, students' motivation is measured by

better attendance, more focus, and more time spent on assignments. Dede (1998) states that mastery of advanced topics is what parents want for their children in order for students to be successful in the 21st century. Parents wanting their children to become successful citizens identify the primary goal as acquiring knowledge, especially in science and mathematics. Another improvement in education is students acting as experts by developing the ability to problem solve like experts do as a challenging process. Students need to gain skills that will help them succeed in the future. He suggests that students do better on standardized tests with the use of technology and that technology-based instructional models are expected by many communities. According to Dede (1998), "standardized tests are designed to assess only a narrow range of knowledge, and the other three types of improvement fall largely outside the scope of what they measure" (p.18). In order for students to succeed, educators must prepare them for technology-based education.

Technology and At-Risk Youths

It is important to be clear about what is meant by at-risk youths. Owens (as cited in McGuirk, 2001) offers that at-risk youths are those in risk of not being able to participate in society in ways that are meaningful and purposeful for their lives or for society in general. Educational technology can benefit at-risk students. The use of technology is an essential piece of a 21st century education for all students, rich and poor, black and white, able and disabled.

One way technology can benefit a learner is to know what problems the individual is facing. According to Jonassen (1997), there are two ways to problem

solving. The first is ill-structure problems, which are common on the job and in everyday situations. The second is well-structured problems, which are common among schools and institutions. Ill-structured problems are the kinds of problems that are encountered in everyday practice, so they are typically developing. Hong, Jonassen, and McGee (in press) found that "solving ill-structured problems in a simulation called on different skills than well-structured problems, including metacognition and argumentation". Jonassen, Howland, Moore, and Marra (2003) offer that case/systems analysis problems and design problems are considered to be ill-structured problems. Case/system analysis problems allow the learner to understand complex, multifaceted situations. It is difficult to find a solution for these problems since it is not clear what the problem may be. Design problems address using domain knowledge to strategically plan in order to develop an original design. These problems are unclear and blurred with many solutions or no solution at all. Typically, there are multiple solutions to the problem with many ways to evaluate the solutions. Jonassen (1997) states that learners are required to express their personal opinion or belief about the problem that they encountered. On the other hand, well-structured problems have a well-defined statement, it is clear, with logic operators. According to Jonassen, (1997), well-structured problems present all fundamentals of problems. Well-structured problems engage in restricted numbers of rules and principles that are controlled in a prognostic and rigid arrangement. In addition, they possess correct, convergent answers and have preferred, prescribed solution process (Jonassen, 1997). Algorithms and story problems are types of well-structured problems. For example, algorithmic problems are encountered in the classroom, mostly in mathematics

course. Students learn to solve problems with fixed and firm set of procedures. Clearly more research is needed to substantiate this finding, yet it appears that well-structured and ill-structured problem solving engages different skills.

Technology can be an important factor in helping learners solve problems. There are activities that can help facilitate how learners problem solve. These activities include information searching, modeling tasks or content, decision making and designing. First learners can do an information search. According to Jonanssen and Colaric, 2001), an information search requires a four step procedure which is: (a) brainstorm, (b) use different approaches to search the Web, (c) assess, and (d) triangulate sources. An information search allows learners to make meaning and problem solve. Learners will do the search in order to find an answer to a problem, which must have a reason or purpose to it. Information searching is needed but not required for problem solving. Sequentially, for students to recognize a problem, they must be able to create some type of representation of a problem (Jonassen, Howland, Moore, and Marra, 2003).

Modeling tasks or content also help with facilitating problem solving with technology. Jonassen et al. (2003) suggest "a good mental model allows someone to 'see the problem' in such a way that his or her model of phenomena can be tested" (p.27). In order words, this gives a learner a visual picture of how to approach a problem.

Good decision making can help a learner to become independent. Decision making allows a learner to select one choice from a set of alternative choices. Decision making can be aided by technology when it is used to model the process. Mullen and Roth (as cited in Jon, Howland, Moore and Marra, 2003) suggest that decision making as

a procedure should consist of problem recognition and values analysis; creating alternative options; assessing options; and entrusting to those decisions while disregarding effort already finished.

Another way that technology can help in problem solving is in the designing process. Technology engages students in design problem solving. This process allows learners to be in charge of their own project and become original. When learners are using technology to create a video, a multimedia project or a web page, they are engaging in the ill-structure problem of design (Jonassen, Howland, Moore, and Marra, 2003).

According to Jameson (1999), technology can be a great equalizer for students at-risk of school failure. Educational technology can help improve students' motivation to learn, increase engagement in learning, and improve academic outcomes. Kellmayer (1998) states, "because their need is greater, students who attend alternative programs should have the same level of access to technology as students who attend a traditional program" (p.30). Since, most of these programs are in areas that isolate these students it is hard to access appropriate technology.

In most schools, the quality of technology has a particular appeal for supporting the participation of students with learning difficulties in intellectual activities that are beyond their immediate grasp. Technology can bring the endpoint to the beginning of the learning process, enabling more complicated levels of performance through instructional assistance. This process enables students to schedule, organize, and employ mental functions before they can normally accomplish those activities for themselves (Cole &

Engestrom, 1999). Students develop the ability to believe in themselves and to strive for excellence.

Due to advances in computer technology and the availability of large storage devices, there are numerous educational programs that can be beneficial to students who are at risk. Some multimedia programs serve as a large sensory database of information; others create practical simulations for content learning. However, students who are at-risk will not benefit from these programs unless there are knowledgeable teachers and staff who can facilitate the instruction (Wissick, 2000). Teachers are challenged to understand multimedia terminology, to become knowledgeable about multimedia technology demands related to the hardware and software, and to create uses for multimedia to enhance the learning environment.

Teachers can select multimedia programs to apply in different learning environments: (a) as a teaching and demonstration tool, (b) as an individual learning station or tutor, or (c) as a small group creation station where multimedia becomes the tutee (Wood, 2001). In developing lessons that use multimedia, the integration process can be facilitated if teachers predict in what part of the lesson they will use the technology. By following a model such as Gagné and Briggs's (1979), the teacher could demonstrate or teach with multimedia to gain attention, inform students of the objectives, stimulate recall of prerequisite information, or present important content. The choice to use multimedia as a creation station indicates that the teacher is in the final instructional stages of a lesson and is continuing independent practice, assessing the learning, and providing experiences for transfer.

Youths in foster care and juvenile facilities are at-risk youths and may also be subject to a watered-down education. According to Donlevy (2000), these at-risk youths receive less work that is academically challenging and are more likely to be exposed to mediocre careers when compared to students who attend public and private schools. These youths tend to fail state tests and are typically unprepared for success in the workplace. Technology can be the motivational factor in the effectiveness of learning in these youths. Therefore, technology can help prepare these youths academically and professionally

McGuirk (2001) states students will benefit and have a positive outcome from the use of technology. Technology is enjoyable for students. When self-esteem is improved, students' confidence in using technology will increase. The Adult Literacy Research Network Node for Victoria, (as cited in McGuirk, 2001) offers that the possibilities of technology can increase students' involvement, their enthusiasm, and their interest. Students become self-regulated, take charge of their learning, and begin to value the skill of working with others.

Conclusion and Recommendations

After-school programs are but one of many school-age child care programs available to parents and their children. The demand for after-school programs is increasing everyday. Many parents are looking primarily for academic help for their kids while others seek enrichment. Many want activities that teach the value of hard work and commitment.

Youth can benefit from several types of after-school programs. Most after-school programs are theme-based. Many different sponsors fund after-school programs although financial support is one of the issues after-school programs may face. After-school programs also have problems with adequate staffing. So often finding qualified teachers to participate in these programs is challenging and one way to get them to partake is to offer them better pay.

At-risk youths are those adolescents who are likely to engage in risky behaviors, such as drug and alcohol use, when they have no place to go. Therefore, after-school programs provide safe environments for many children who need adult supervision at the beginning and at the end of the regular school day. The objectives for each program vary, however their goals are common. After-school programs can have a positive impact on students' learning through the use of technology.

Society is increasingly dependent upon technology. Through technology, people are communicating better. Technology has become an integral part of life for educators and their students. Technology facilitates learning by connecting knowledge to the need of the individual learner. The use of technology can help students solve problems that allow them to become better learners.

Educational technology is the use of multimedia technologies or audiovisual aids as a tool to enhance the teaching and learning process (ITEA, 2004). It can assist in learning through the use of educational software. Educational software can provide an active learning environment for youths. Students can produce and investigate the use of graphics, photographs, animations, audio, and videos. There are other ways technology

can be used to facilitate learning. Technology in a learning community can encourage personalized learning activities, collaboration, and motivation. Meaningful, engaged learning can be promoted through the effective use of technology. Problem solving is just one of the ways technology can be used effectively. Through problem solving learners will be challenged and engaged in meaningful activities that will allow them to brainstorm, evaluate, and critically think. The integration of technology into a learning environment will help students prepare for their future.

For future development, after-school programs working with at-risk students can increase their enrollment and participation by implementing technology into their curriculum. Technology motivates students and gives them a sense of self-assurance. When after-school programs use technology, they allow students to be self regulated and responsible for their own learning. With the use of group activities, which are a great way to build social skills that at-risk students lack, students learn to value the skill of working with others. Consequently, the potential of effective technology integrated into an after-school program will prepare students for the future.

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