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AT-RISK IN THE VIRTUAL CLASSROOM:
A HANDBOOK FOR STUDENT SUCCESS

by

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An Applied Research Project Presented in Partial Fulfillment
Of the Requirements for the Degree
Master of Education

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Chapter 1

INTRODUCTION

Online education, also known as "the virtual classroom", has proliferated in the United

States, as well as in much of the world, in the last few years. Indeed, virtual schooling is one

of the fastest-growing areas in K-12 education. "In its 2005 report, the National Center for

Education Statistics found that 36% of all school districts had students participating in virtual

courses, for a total of 300,000 students, and this number is projected to explode in the next

decade." (Roblyer, 2006, p. 32). Many students who are considered "at-risk" are looking to

the virtual classroom as an alternative to the traditional classroom where they were not

successful. Yet the virtual classroom, while offering many advantages to at-risk students, also

presents new challenges for this type of student. This paper will examine both the positives

and negatives for the at-risk learner, and present strategies to help parents of at-risk students

decide whether an online education is best for their student.

Statement of the Problem

The problem is that online education is being used as a last resort for many students

who have been labeled "at-risk", without proper guidelines for identifying students who are

unlikely to succeed in such an environment, and without proper strategies in place for

increasing the likelihood of success for these students. Students deemed "at-risk" face a

variety of challenges which ultimately lead to failure and dropping out of the regular

classroom. This failure leads many parents of at-risk students to seek out alternatives to a

traditional classroom education in order to avoid or mitigate these challenges. Oftentimes

online education, or the "virtual classroom", is seen as a panacea to the problems these

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students face in traditional schools and an easy road to obtaining a high school diploma. Unfortunately, while the virtual classroom offers advantages to at-risk students, many of the same challenges remain, and new challenges are introduced. In a virtual classroom, identifying at-risk students may actually become more difficult, because "the usual cues associated with (at-risk behaviors such as) student anxiety, inattentiveness, or apathy are not present in the virtual classroom." (Wang & Newlin, 2002, p. 1).

Background of the Problem

Students who have been described as at-risk share many characteristics. The root causes of at-risk behaviors include many factors, such as family socioeconomic factors, family instability, teen pregnancy or parenthood, learning disabilities, developmental challenges, or language barriers (Edmonds & Li, 2005). However, the behaviors of this population of students typically manifest themselves in common ways. Attendance, discipline, and motivation are the key challenges, along with a lack of management skills and a tendency to become frustrated. These factors contribute to student dropout rates in online learning environments as well as traditional classrooms, and much research has been done on how they can contribute to failure in the virtual classroom. However, very little research has been done to identify learner characteristics pointing to success or failure, specifically in the virtual classroom (Kim, 2008).

Purpose of the Project

The purpose of this project is to review the literature related to at-risk learners in a virtual classroom setting, and compile a list of strategies to help these students succeed in online education. The proposed audience is parents of students who are failing in the traditional classroom, who have already dropped out and are looking at an on-line classroom as a means to obtain a diploma, or any other students deemed at-risk and looking at

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alternatives to the regular classroom environment.

Other potential audiences may be teachers or administrators of a virtual classroom who are concerned with improving the success rates of their at-risk student population.

Definitions of Terms

The terms "virtual classroom", "online classroom", "computer education" and "distance learning" are used throughout this paper interchangeably. The terms "virtual classroom" or "virtual school" are used to describe educational settings where learning is primarily done via the internet, and students are either in a dedicated online school, where most, if not all, learning is done via computer, a computer lab at a traditional school, or logged on to an online class from home. Many levels of the virtual classroom exist in American secondary education today, ranging from students taking one or two classes via the internet in order to supplement their traditional classroom education, to students taking their entire secondary curriculum via the internet. In either case, different levels of support are offered to students as well. The focus of this paper is on students and educational settings where students spend the majority of their time in online classes, with or without supplemental instructional help.

The term "cyber-student" refers to students taking online classes, either as a supplement to traditional classes, or exclusively online. "At-risk" refers to students who, for various reasons, have been determined to be unlikely to graduate from high school. These factors may include transient lifestyles, teen pregnancy or parenthood, absenteeism, cultural or language factors, socio-economic issues, or drug and alcohol or other medical conditions (Podoll & Randle, 2005).

Chapter Summary

Online education is growing at an astounding rate in the U.S. and around the world.

This new type of education holds much promise for at-risk youth who are not succeeding in the traditional classroom. However, it may also create new challenges for at-risk students. It is in the best interests of educators and parents to examine online education closely before assuming it to be the last or even the best choice for this type of student. Only when parents and educators are properly informed of the unique requirements for success in an online school, as well as its inherent limitations, can they make the correct decision to send their children to the virtual classroom.

The next chapter will review literature concerning at-risk students in the virtual classroom. In Chapter 3, the author will present strategies for determining if an at-risk student is likely to succeed in an online educational setting.

Chapter 2

REVIEW OF LITERATURE

The Virtual Classroom Today

"A revolution in U.S. secondary education is underway. Classes taught over computer networks will soon be remaking today's high schools", says Clarence Edwards in The Internet High School: A Modest Proposal (1995, p. 68). More than ten years later, the "revolution" continues. Statistics on the actual growth of online education in the U.S. are surprisingly hard to come by: according to one study, 40,000 to 50,000 students had enrolled in a K-12 virtual school course in 2001 (Clark, 2001), yet in a 2007 report, the National Center for Education Statistics found that as of 2003, the total had jumped to more than 300,000 (U.S. Department of Education, 2006). Regardless of the actual numbers, it is clear that the virtual classroom is here to stay, and will play an ever-increasing role in K-12 education in America.

Most online classes are offered at the secondary level. Approximately 70% of online courses are secondary, while "dual enrollment" high school-college classes and elementary and middle school course offerings make up the remainder. Within the secondary level, there are also different levels of online education, and different types of virtual schools. At least 24 states have set up online programs, and several states have opened completely "virtual" high schools, with their own unique curricula and courses and online-only teachers. Types of virtual schools include virtual schools operated by districts, virtual charter schools, and virtual private schools. Online programs can range from 100% internet-based, home-school virtual classrooms, to computer labs within traditional schools, to "blended learning',

whereby traditional classroom curricula are supplemented with online courses (U.S. Department of Education, 2005).

Regardless of whether online courses are used to supplement the traditional classroom, or if the virtual classroom has supplanted the brick and mortar school, "There is a growing realization that learning the same things the same way we learned twenty years ago isn't enough to prepare students for today's "global" environment", says Kate Sawyer in her treatise Online For At-Risk (Sawyer, 2004, p. 3). Radical advances in communications technology and the omnipresence of computers in the new "information age" of the 21st century may spell the end of the traditional lecture and textbook educational model. This perhaps explains the astounding growth in online education or virtual classrooms in the last decade.

Benefits of the Virtual Classroom

There are many benefits and advantages to an online learning environment over a traditional classroom. Some of these benefits are quite obvious to parent and teacher alike. For example, schedule flexibility and convenience are often cited by students as the most important advantages to online learning (Podoll & Randall, 2005, Roblyer, 2006). Indeed, these factors are what attract many students to this type of program in the first place. Many students sign up for online classes to free up space during the day for other classes (Cavanagh, 2006).

Some students take advanced classes not offered at their neighborhood schools, and some take online classes in order to accelerate their pace of study. At the other end of the student spectrum, students who have fallen behind or have dropped out completely turn to the virtual classroom as a means of credit recovery.

Less obvious advantages to online classes concern the asynchronous and even

anonymous nature of the virtual classroom. Research has shown that "asynchronous discussions in an online course allowed the learner time to think and reflect on presented content material. Rather than trying to formulate an answer on the spot, the learner gives more consideration to the response, which seems to result in more engaged learning" (Podoll & Randle, 2005, p. 3). Students who are shy or socially awkward "excel when removed from the pressures of the (traditional) classroom. Others who struggle with group discussions thrive when they produce written work online" (Cavanagh, 2006, p. 5). The anonymous nature of the internet "levels the playing field. Everybody's equal online, and it's easier to take part in a discussion. Online, they're respected immediately" (Cavanagh, p. 5). This anonymity also allows students to more freely ask for help through email, without the risk of embarrassment of asking repeated or simple questions (Edmunds & Li, 2005).

Some teachers of online classes feel that the "long distance" nature of online learning brings a unique benefit to the virtual classroom. "Students from different geographical areas bring different political and social perspectives to classroom topics – a diversity of opinion the teacher can't always find in a traditional class setting" (Cavanagh, 2006, p. 4).

Many of the benefits of online education come from a dearth of the factors frequently found in the traditional classroom. Students "clearly profit from the absence of issues that often slow learning to a crawl in a traditional school: dealing with the physical plant, behavior problems, special needs, and lack of motivation" (Roblyer, 2006, p. 36).

Along with benefits to the students attending online classrooms, there may be powerful benefits to those students who *remain* in the traditional classroom. According to Edwards (1995):

> Educating disobedient, unmotivated students outside conventional high
> schools will significantly improve attendance, discipline, and student
> performance for everyone. In the Internet age, many of these students will

receive their high school education in a setting where their behavior cannot adversely affect others. (p. 69).

Students who have shown themselves to be behavior problems in a traditional school can be assigned to an out-of-school computer lab where these reluctant students, no longer able to create classroom management problems, receive one-on-one instruction which may not be available in their regular classrooms.

Drawbacks of the Virtual Classroom

With the many clear benefits to online education, it may be tempting to see the virtual classroom as a panacea for whatever ails the traditional classroom. A study of literature concerned with the effectiveness of this type of educational environment, however, reveals a different finding. While many researchers may disagree on exactly how effective distance learning is, "one aspect of online schooling on which all agree is that students do not succeed equally well in all (distance) programs" (Roblyer, 2006, p. 32). Students in an online educational environment face many of the same challenges as their traditional classroom counterparts, plus a set of challenges unique to the virtual classroom.

Some drawbacks to online education stem from practical considerations. There are obvious shortcomings, such as a total reliance on technology. Podoll & Randall (2005) state that "Teachers and students alike expressed concern that system failure is a major disadvantage of online learning" (p. 4). Technical failures such as system crashes, computer failures, and the resulting loss of time and work are inevitable in a virtual classroom.

Lack of interaction, both teacher-student and student-student, is considered by many to be a considerable drawback to distance education. Many students need a sense of being connected in the classroom, not just to a computer, but to both a teacher and their classmates (Podoll & Randall, 2005). Working alone at a computer day after day can isolate a student,

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making it easy to neglect or abandon a class. The lack of social interaction may prevent some students from fully connecting to their classes. Instead, they develop other social links away from school and let course duties slip. This lapse can lead to neglect and even failure. This disconnect factor can be exacerbated by the design of the online curriculum itself. A lack of interactivity with the program may cause students to lose interest in the topic and has been seen as a major reason for dropping out of online programs (Kim, 2008).

In a traditional classroom environment, students in the same class can decide to work on their assignments together or form a study group. While virtual class members can do the same, it may take longer to get to know classmates if they only meet online in a discussion forum or through course-related email; in fact, it may not happen at all. In many online educational settings, there are no other students to facilitate peer learning activities. Current educational theory recognizes the importance of peer learning, so without this helpful service, learning may not be as meaningful.

Tied closely to the lack of social interaction in the virtual classroom is the belief that the communication skills learned in traditional discussion and lecture classrooms are an important part of the educational experience, and should not be overlooked. Students reading through an online lecture can miss out on verbal cues, facial expressions, gestures, and voice inflections to deepen or enrich the meaning of the ideas. Receiving printed feedback in an email response from a faceless virtual instructor is not the same as having a dialog face-to-face with a teacher. Students may find themselves spending time trying to interpret their teacher's meaning or attitude from a punctuation mark or an extra space in an email (Johanyak, 2002).

Keeping students motivated and focused on completing their work in a timely manner is often a problem in an online environment. When students work at their own pace,

procrastination could more easily occur. This puts students in the virtual classroom at greater risk of failure or dropping out. Students tend to drop out of virtual courses at a much higher rate than they do in traditional classes. In fact, the failure and dropout rate for online K-12 programs is approaching 70% in some areas (Kim, 2008, Roblyer, 2006, Roblyer & Marshall, 2003).

Objections to online education are based not only on practical grounds, but on political and philosophical grounds as well. Some critics maintain that in addition to being socially undesirable, online education is also morally and ethically wrong. According to these critics, real teaching and real learning can only take place when there is face-to-face human contact, and to believe otherwise is to deprive students of real learning (Roblyer, 2006).

At-Risk in the Virtual Classroom

With virtual learning ever-increasing in popularity, the tendency is to implement online classrooms for all types of students regardless of their success or failure in the regular classroom. Is online learning for everyone? Can students deemed at-risk be successful in a virtual classroom? At-risk students struggle with learning. They bring with them a variety of learning impediments to the classroom requiring educators to find suitable ways to help them succeed. Is the virtual classroom the best way to achieve success (Edmunds & Li, 2005)?

Successes

There are many ways to measure the success of K-12 virtual education programs. Fundamental indicators, including academic performance and achievement, retention, attendance, and graduation rates, all are valid measures of academic success. Currently, there is no single universally accepted indicator to evaluate success (Ronsisvalle, 2005). And because virtual schools are relatively new, evidence of student achievement in an online environment is still being gathered. Furthermore, at this time most research on the academic

success or failure of online education programs is anecdotal in nature (Rice, 2006). In other words, there is no definitive data about the effectiveness of online education for at-risk students. Nevertheless, teachers and students appear to be excited about the opportunities for success that the virtual classroom can provide (Pape, 2005).

The nature and environment of online learning provide qualities or characteristics which are missing in the lives of many at-risk students. For example, inherent in the nature of online learning is a characteristic critical to the at-risk student: that of empowering the learner. Many at-risk students feel a total lack of control over many aspects of their lives, and that includes their education. The virtual classroom provides an element of control. Hornbeck (1991) put it this way: "The computer motivates. It is non-judgmental. It will inform a student of success or failure without saying by word or deed if the student is bad or good" (p. 2) Richardson and Newby, in their 2006 study of cognitive engagement in online learning, point out that a shift in student cognitive behavior takes place as students gain experience with the online curriculum. "This shift implies that students are in fact learning to take more responsibility for their own learning in online environments, perhaps even becoming more self-directed" (p. 32). This is of immense importance to at-risk students.

The computer also individualizes learning, permitting learning at student's own pace. In fact, in many instances of the virtual school, the learner has far more autonomy than in most teacher directed settings. (Hornbeck, 1991) At-risk students often, for a variety of reasons, work at a slower pace than other students. The virtual classroom allows students to work at their own pace and return to materials often. Kim's 2008 study of motivational influences in online learning environments pointed out that

> most of the participants (in the study) indicated they felt positive about being
> able to control the pace of their learning…and also preferred the control over
> the sequence of instruction so they could skip the parts they were already

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familiar with and spend more time on the parts they were not familiar with (p. 465).

Because of this learner control, Edmunds and Li (2005), in their study of at-risk students and computer-based learning environments, summarized, "It was evident that the use of technology contributes to the increased success rates for at-risk learners" (p. 4).

It seems clear that, even lacking quantifiable data to support the success of the virtual classroom for at-risk students, anecdotally, at least, online learning has helped some at-risk students overcome obstacles.

> A number of (at-risk) sub-groups found the online environment favorable to their academic progress. These included teen parents, those taking care of family members, students with severe medical conditions, those who work to contribute to family finances, and those problematically distracted by peers in a traditional classroom environment, including students with attention deficit issues…It is clear to us that this self-paced, online program holds tremendous potential to bring out previously unseen strengths in some students (Hurley, 2002, p. 7).

Challenges

Is virtual education the answer for students who are failing in a traditional classroom environment? Can the online classroom be the answer to dropout prevention in America's high schools? While there seems to be little doubt that some at-risk students can benefit from the self-pacing and autonomous nature of online classes, learning exclusively online may not be the answer for every student. "For some it was just one more way to fail" (Edmonds & Li, 2005, p. 4).

In some cases the reason for failure may be having to use the technology itself. For some at-risk students, using technology immediately creates another learning barrier. Students with lower self-efficacy skills, characteristic of many at-risk students, are less likely to succeed in a virtual classroom if their lack of confidence is associated with computer knowledge and skills. (Edmonds & Li, 2005; Ronsisvalle, 2005; Wang & Newlin, 2002).

Although the use of technology offers independent learning opportunities, this could be overwhelming for some students. "Having to manage themselves, their learning, and their work was uncomfortable for them." (Edmonds & Li, 2005, p. 4).

Students' learning styles and cognitive skills have been explored as possible contributors to success or failure in distance learning environments. "There is evidence to support the contention that online learning environments impose different types of cognitive loads on the learner" (Clem, 2004, p. 183). Many at-risk students may share the belief that their success or failure in the classroom, as well as other endeavors, is largely a matter of chance, and not generally something they have much control over. This cognitive trait, called locus of control, was the focus of several studies. One study found that students who succeeded in telecourses had a stronger locus of control than those who did not succeed. (Dille & Mezack, 1991, as cited in Roblyer & Marshall, 2003). Wang & Newlin (2002) similarly conclude that locus of control

> is correlated with performance in the virtual classroom. Specifically, students
> with an internal locus of control ('The success I have is largely a matter of my
> own doing') are more likely to succeed in an online class than students with
> an external locus of control ('The success I have is largely a matter of
> chance') (p. 3).

Profiling At-Risk Cyber Students

Can students be identified prior to enrolling in the virtual classroom as possessing certain characteristics that might limit their success in an online learning environment? Do some students share certain characteristics that can identify them as unlikely candidates for online education? Despite the fact that "very little research has looked at how students engage with their online courses, especially in terms of learning strategies and motivations" (Richardson & Newby, 2006, p. 23), some researchers have begun to develop strategies to identify at-risk cyber-students. Wang & Newlin (2002) have developed a profile to help

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teachers identify which at-risk students may not be good candidates for the virtual classroom. These researchers have identified a set of skills or characteristics which include the following:

1. Locus of control

   External locus of control (success or failure depends on factors beyond my control) suggests that student may not be as successful in the virtual classroom.

2. Self-efficacy regarding computer skills

   Low self –efficacy (the belief that one can perform a specific behavior in order to achieve a desired goal) in this area may indicate that a student will struggle in an online class.

3. Self-efficacy regarding course content

   Low self-efficacy in this area may indicate that a student will be less successful in a virtual classroom.

4. Previous experience with online learning

   At-risk students with little or no previous online learning experience are less likely to succeed in a virtual classroom.

5. Student choice

   At-risk students who enrolled in a virtual classroom because it was seen as a last resort or were not placed into a virtual classroom by choice were less likely to succeed.

Ronsisvalle (2005) adds the following characteristics to her profile of at-risk cyber students:

6. Self-regulatory learning skills

   Students who are who lack learning skills such as meta-cognition, self-concept,

self-monitoring, and decision-making strategies are less likely to succeed in an

online environment.

7. Motivation

Lack of motivation to succeed in education or to graduate places a student

at a much greater likelihood of failure in the virtual classroom.

Strategies for Teaching At-Risk Students in the Virtual Classroom

Several researchers have explored teachers' perspectives and approaches for teaching

at-risk students in an online educational setting. The following paragraphs provide an

overview of strategies that have proven successful. Much of this research has focused on

adult learners. It should be noted that while it may be logical to infer that the data would also

apply to secondary students, further research is needed before such a correlation could be

considered conclusive (Roblyer, 2006).

If there is one over-riding strategy that repeatedly leads to success for at-risk students

in a virtual classroom, it would be frequent student interaction between both teachers and

other students, just as in a traditional classroom. "Students have a real need to make

connections with their instructors and their peers and research consistently supports the

concept that faculty to student and student to student interactions are important components

in student satisfaction and student retention" (Downs & Moller, 1999; Kuh & Huh, 2001; as

cited in Rice, 2006, p. 438). Other authors agree: Zeig (2003, as quoted in Rice, 2006) stated

that "students who experience consistent, positive relationships with their teachers are less

likely to drop out. Students who don't experience these kinds of positive relationships often

become disconnected and drop out " (p. 439). Pape (2005) suggests that this interaction is an

integral part of a well designed online curriculum. The author points out that "well-designed

online courses foster a high level of student-with student and student-with teacher

interaction" (p. 14). Vrasidas & Zembylas (2003, as cited in Rice, 2006) explained: "The

qualities most responsible for success can be attributed in part to high quality materials and

frequent teacher-student interaction" (p. 439).

Along with a robust curriculum, Pape (2005) includes teacher quality as an essential

element in helping at-risk students succeed in an online learning environment:

> it is critical that teachers play a daily role in online classes- guiding students
> in their learning experiences, providing timely and appropriate feedback,
> moderating and facilitating in depth online discussions, and modifying course
> delivery and assessments to meet a variety of learning styles (p. 15).

Another essential ingredient for success for at-risk students in the virtual classroom is

the element of choice. Students *must* choose freely to work in a virtual classroom. They must

be aware of what to expect in online learning. Students who are placed into the virtual

classroom out of belief that it is a last resort, without knowing exactly what to expect, are less

likely to succeed than students who have chosen the online option (Edmunds & Li, 2005,

Kim, 2008).

"Research has shown that at-risk students, like regular students, are motivated by

diverse methodology and experience." (Madison, Marson, & Reese, 1999, p. 16). Roblyer

(2006) suggests achieving that diversity by using interactive, flexible course designs, while

Edmunds and Li (2005) also point to the power of a diverse curriculum. Teachers in the

virtual classroom should provide a variety of ways for students to communicate, learn, and

complete work, and assume nothing about students' ability or experience. Whenever

possible, computer work should be supplemented with demonstrations, graphical

explanations, extra resources, and self-assessments.

Pape (2005) suggests that at-risk students in a virtual classroom benefit greatly when

"a philosophy of student-centered learning is evident throughout all course documents,

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activities, discussions, and assessments" (p. 14). Making the online experience student-centered can best be served by customizing learning experiences with rich activities, discussions, scaffolded content, constructive feedback, and different formats (Kim, 2008). Teachers need to encourage the use of a variety of tools, and teach online as though "each student were the only one" (Edmunds & Li, 2005, p. 5).

For example, one online high school course in biology presents the study of physiology through the dissection of a "virtual pig". Students are then encouraged, through individual and group discussions, to explore their own attitudes and the ethical issues surrounding both virtual and real-life dissection and euthanasia (Pape, 2005). This process of self-reflection and self-exploration can be repeated throughout the semester in a variety of topics. Students will find learning more meaningful if they can discover relevance to their own experiences through exploration of their beliefs and attitudes.

At-risk students in an online environment should have a variety of assessments to meet each individual's needs and learning styles, with an emphasis on authentic assessments over tests and quizzes. These assessments "should include research assignments, weekly journal entries, discussions and postings, team projects, along with tests, quizzes, and papers." (Pape, 2005, p. 15) Short-term postings and discussions can keep students engaged on a daily basis. Breaking down long term assignments into smaller sections also helps to keep students engaged (Pape, 2005, Roblyer, 2006).

At-risk students in the virtual classroom, as in traditional settings, need plenty of structure. Edmunds & Li, (2005) suggest using "organizers, calendars, webpage postings, email announcements, and lists of deadlines. Set expectations, clear-cut expectations for passing the course" (p. 5). Along with these, Pape (2005) maintains that strong management and support systems can help provide needed structure, including services "similar to brick

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and mortar schools: registration and grading systems, counseling services, teaching assistance, library resources, and guidance services" (p. 15).

Teachers in online environments, as in traditional classrooms, need to provide a safe learning environment in order to help at-risk students succeed. This safe environment includes physical, emotional, and intellectual elements. Students must have appropriate hardware, software, internet access, and schools must have security measures in place to prevent students from visiting inappropriate websites (Pape, 2005). Teachers must show open acceptance to all, encourage (instead of reprimand) for poor or late work, meet students in person when beginning a course, and develop trusting relationships with at-risk students, because it is entirely possible they have never have had one before (Edmunds & Li, 2005). As part of a safe environment, teachers "should provide opportunities for students to advocate for themselves on grades or assignments, which fosters maturity and independence" (Pape, 2005, p. 15).

Finally, Edmunds & Li (2005) point out that the virtual classroom need not and should not mean that all learning takes place via computer. "Face-to-face and online learning compliment each other" (p. 5). The ideal virtual school contains elements of the traditional brick and mortar school as well. Blended learning combines the best elements of both environments to achieve success for the at-risk student.

Chapter Summary

The value of online education has never been in dispute as far as credit recovery or expanding course offerings in a traditional setting. Yet what about exclusively online curricula, and what promise does the virtual classroom hold for those students who are not making it in the traditional classroom?

While the advantages of online schools for K-12 students are becoming more and

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more apparent as data is collected from online schools across the country, there remain many questions as to the value of the virtual classroom for at-risk students. Studies showing clear successes for at-risk students have been mostly anecdotal, but quantifiable data is becoming more readily available (Pape, 2005).

Some advantages of virtual schools are obvious: schedule flexibility and being able to work at one's own pace are frequently cited as important features. Less obvious are the benefits of anonymity, allowing shy or socially awkward students the same voice as more outgoing students. The asynchronous nature of online learning allows students more time to reflect on material and construct responses (Podoll & Randle, 2005).

In addition to the benefits to students in the virtual classroom, online education also promises benefits for those students who remain in the traditional classroom, as the virtual classroom offers an alternative setting for disruptive students (Edwards, 1995).

There are drawbacks to online education, some shared with the traditional classroom, and some unique to the virtual classroom. Among the potential obstacles to success not shared by the traditional classroom, technical failure is of primary concern. Computer or system failures cause loss of work and time for students and teachers alike (Podoll & Randall, 2005).

Lack of interaction between teacher and student (as well as between students), lack of motivation, and procrastination are problems that are seemingly exacerbated by an online environment. The disconnectedness that students may experience in a virtual classroom can lead to disinterest, neglect, and failure (Podoll & Randall, 2005, Kim, 2008).

The opportunity for success in online learning environments has exciting potential for at-risk students. The virtual classroom can provide qualities and characteristics which are missing in the lives of many at-risk students. (Pape, 2005). But at-risk students present a

challenge to the virtual classroom as well. At-risk students bring various impediments to the classroom that still require educators to find appropriate ways to help these students succeed. "New technology has and will have the potential to change the learning process as never before in history" (Sawyer, 1994, p. 3). The virtual classroom may be the best technology to change the learning process for many at-risk students.

Chapter 3

METHODS

Purpose of the Project

The purpose of this project was twofold: first, to help parents, teachers, and administrators identify those at-risk students who, if placed in an online education environment, would potentially find themselves again at-risk of failure or dropping out of the program altogether; and second, to compile a list of strategies to help these students succeed in a virtual classroom.

Target Audience

The proposed audience was parents of K-12 students who are failing or who have already dropped out of a traditional classroom, and were looking at an on-line or virtual classroom as a means to obtain a diploma, or any other students deemed at-risk and considering alternatives to the regular classroom environment. Other potential audiences were teachers or administrators of a virtual K-12 school who are concerned with improving the success rates of their at-risk student population.

Goals of the Project

As a result of this project, parents, teachers, and administrators are able to identify students who will struggle to succeed in an online learning environment, and be equipped with strategies which will enable them to better help these at-risk cyber-students achieve success in the virtual classroom.

Procedures

The procedures for this project were as follows: examine studies done on online

learning environments or virtual classrooms, specifically dealing with the success or failure of at-risk students in this environment. Of particular interest were those studies done on K-12 online schools. Based on the results of this examination, a profile of characteristics and skill sets (or lack thereof) which would indicate that a student might have difficulty in a virtual classroom was compiled. Finally, a list of strategies for improving the virtual classroom and increasing the likelihood of success for at-risk cyber-students was then compiled.

Peer Assessment

The project was assessed by two experienced, knowledgeable colleagues to determine the relevance and serviceability of the project by the target audience. These colleagues reviewed the project and provided feedback to the author. This feedback has been reported in Chapter 5.

The colleagues chosen to evaluate this project were asked to answer a series of questions designed to assess the project in terms of target audience, effectiveness, clarity, and relevance. Five questions asked reviewers to rank the project on a scale of one to five. Three additional open-ended questions asked the reviewers to expand on their opinions of the project based on the same criteria.

Two colleagues were chosen to review the project. Mr. Troy Braley is the current principle of Brady Exploration School in Lakewood, Colorado. Brady Exploration School is an alternative high school serving at-risk students in the Jeffco School District. The school has recently transitioned from a traditional school environment to a full-time online curriculum. Mr. Braley has been principal of the Brady school for three years, as well as Assistant principal at Bear Creek High School in Lakewood. In addition, he has taught mathematics and science at several schools in Michigan and Florida school districts. Before moving to Colorado, Mr. Braley was involved in the initial development of the Florida

Virtual High School program, an online curriculum developed in the early 1990s.

Mr. Frank Guajardo is currently the Assistant Principle of Brady Exploration School in Lakewood. He has held this position for one year, and has been directly involved in transitioning the school from a traditional school to a full-time online school. His educational background includes being Assistant Principal for four years at Alameda High School in Lakewood, Colorado, which serves a high population of at-risk students. He has also taught for many years at school districts in Texas.

The reviewers were asked to rank the project according to the following scale:

1. Strongly disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly agree

Questions:

1. The handbook is appropriate for the target audience of parents, teachers, and administrators of at-risk students considering an online educational environment.

2. The handbook clearly and accurately indicates characteristics of students which would place them at-risk in an online educational environment.

3. The handbook clearly and accurately indicates strategies for teaching at-risk students in an online educational environment.

4. The handbook presents viable, effective, and useful strategies for teaching in an online educational environment.

5. The strategies presented are relevant to teaching at-risk students in an online educational environment.

In addition, the reviewers were asked to evaluate the project and add comments or suggestions based on these questions:

1. Do you feel that the handbook has achieved its stated purpose?

2. Based on your knowledge and experience of the topic, do you feel that the author left out any important information from the handbook?

3. Based on your knowledge and experience of the topic, is the handbook worthy of presentation to the target audience?

4. Did the handbook present new findings or information?

5. Based on your experience, what are the strengths and weaknesses of the handbook?

Chapter Summary

The studies of students in virtual schools examined in Chapter 2 serve as a springboard to the applied project presented in Chapter 4. The results of these studies were then used to create a manual of strategies for parents and teachers to help identify at-risk students in a virtual classroom. They were also be used to create a handbook of approaches and tactics that teachers in online schools can use to increase learning and better the chances of success for the at-risk student. The handbook was presented to several peers for review, the results of which are found in Chapter 5.

Chapter 4

RESULTS

As more parents, teachers, and administrators turn to the virtual classroom as an alternative to the traditional classroom educational setting, the ability to identify and help students who are at risk of failure in these new settings is critical. The handbook presented in this chapter is designed to help parents and teachers identify students likely to struggle in an online environment, and to provide strategies for increasing the success rate of at-risk students in the virtual classroom. The handbook will be distributed to parents who are considering online education for their children, and to teachers and administrators who are entering the field of online education and want to increase the chances of success for at-risk students in their virtual classrooms.

The handbook was submitted for assessment to two educators with extensive experience dealing with at-risk students. These educators are administrators at the Brady Exploration School in Lakewood, Colorado. The school was founded in 2004 to specifically serve the needs of the Jeffco School District's at-risk student population. During its third year of operation, the school has gradually phased from a traditional classroom environment to a completely online curriculum. These administrators are concerned that their teaching staff be armed with the most effective strategies for serving the needs of their at-risk student population.

After examining the handbook, these educators were asked for their evaluation by answering a series of questions concerning the validity and usefulness of the handbook for its intended audience. Their responses are discussed in chapter 5.

Introduction

The Challenge

Students deemed "at-risk" face a variety of challenges which ultimately lead to failure and dropping out of the regular classroom. This leads many parents of at-risk students to seek out alternatives to a traditional classroom education in order to avoid or mitigate these challenges.

Oftentimes online education, also called "the virtual classroom", is seen as an easy answer to the problems these

students face in traditional schools. It is also often seen as an easy road to obtaining a high school diploma.

Unfortunately, while the virtual classroom offers advantages to at-risk students, many of the same challenges remain, and new challenges are introduced. In a virtual classroom, identifying at-risk students may actually become more difficult, because many of the usual cues associated with at-risk behaviors are not present in the virtual classroom. This booklet will help to answer these questions:

- How can parents and teachers identify those students who may struggle in a virtual education environment?

- How can teachers and administrators increase the chances for success of at-risk students in the virtual classroom?

Background

Students who have been described as at-risk share many

characteristics. The root causes of at-risk behaviors include

many factors:

- **Socioeconomic factors**

- **Family instability**

- **Teen pregnancy or parenthood**

- **Learning disabilities**

- **Developmental challenges**

- **Language barriers**

However, the behaviors of this population of students typically manifest themselves in common ways:

- **Attendance**

- **Discipline**

- **Motivation**

- **Lack of management skills**

- **Tendency to become frustrated**

These factors contribute to student dropout rates in online learning environments as well as traditional classrooms. Much research has been done on how each of these factors, especially the lack of motivation, contributes to failure in the virtual classroom. Little has been done to identify specific learner characteristics which may point to success or failure in the virtual classroom.

This handbook is designed to help parents, teachers, and administrators to identify students who will most likely struggle to succeed in an online learning environment, and to provide strategies which will enable them to better help at-risk cyber-students achieve success in the virtual classroom. Part One of

the handbook describes characteristics of students who may struggle to succeed in an online environment so that teachers and parents can identify and help these students. Part Two of this handbook provides strategies that can be used by teachers, administrators, and parents that can increase the success of at-risk students.

Identifying At-Risk Students

Studies have shown that there are characteristics and skill sets (or lack thereof) that will indicate that a student might have difficulty in a virtual classroom:

- **Locus of control**
- **Self Efficacy**
- **Previous Experience with Online Learning**
- **Student Choice**
- **Self-Regulatory Learning Skills**
- **Motivation**
- **Connections**

Locus of Control

- *External* locus of control ("success or failure depends on factors beyond my control") suggests that a student may not be as successful in the virtual classroom.

- *Internal* locus of control ("success or failure depends on my actions") suggests that a student will have a greater likelihood of success in a virtual classroom.

Self-Efficacy and Computer Skills

- *Low* self–efficacy (the belief that one *can* perform a specific behavior in order to achieve a desired goal) in this area may indicate that a student will struggle in an online class. If a student believes they are inept or lacking in sufficient computer skills or knowledge, they are less likely to be successful in a computer environment.

- *High* self-efficacy is an indicator of success in the virtual classroom. Students who believe they have the computer knowledge and skills needed to complete online courses are more likely to be successful in the virtual classroom.

Self-Efficacy and Course Content

- *Low* self–efficacy in this area may indicate that a student will struggle in an online environment. If a student believes that he doesn't possess the skills needed to learn algebra, for example, his chances of successfully completing an online algebra class are reduced.

- *High* self-efficacy in this area is an indicator of success in the virtual classroom Students who believe they do have the skills necessary to learn algebra are more likely to succeed in an online algebra class.

Previous Experience with Online Learning

- At-risk students with little or no previous online learning experience are less likely to succeed in a virtual classroom.

- Students who are more familiar with both the technology and the learning methodology of a virtual classroom have a greater likelihood of success in an online course.

Student Choice

- At-risk students who enrolled in a virtual classroom because it was seen as a last resort or were not placed into a virtual classroom by choice were less likely to succeed.

- Students who freely choose to enroll in a virtual classroom and know what they are getting into are more likely to succeed in an online environment.

Self-Regulatory Learning Skills
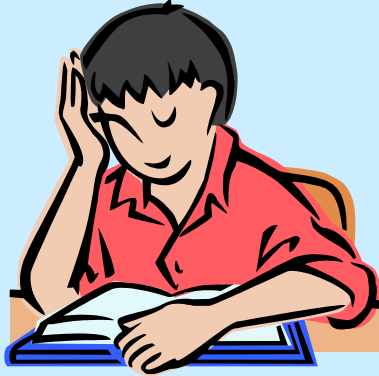
- Students who lack learning skills such as meta-cognition, self-concept, self-monitoring, and decision-making strategies are less likely to succeed in an online environment.

- Self-regulated learners who utilize the "right tool for the job", and are aware of their own learning styles as well as their strengths and weaknesses can modify their learning strategies and skills based on this awareness. These students can identify blocks to learning as early as possible and can change strategies to ensure success.

Motivation

- Lack of motivation to succeed in education or to graduate places a student at a much greater likelihood of failure in the virtual classroom.

- Students with high levels of motivation to graduate from school are far more likely to be successful in a virtual classroom.

Connections

- Students who don't experience consistent, positive relationships become disconnected and drop out.

- Students who can build strong, positive relationships with teachers and connect with other students are more likely to be successful in the virtual classroom.

Strategies for At-Risk Students in the Online Classroom

We have looked at characteristics to help identify students who are likely to struggle in an online environment. But what can teachers do to improve the chances that these cyber-students will succeed? Are there strategies and teaching techniques that can help? **Yes!** Research has shown that by using the strategies presented below for improving the virtual classroom, the likelihood of success for at-risk cyber-students increases dramatically!

- Whenever possible, design the curriculum to have rich activities, more learning cues, online discussions, and scaffolded content.

- Approach online teaching as though each student were the only one you had. Teaching should be tailored to individualized learning.

- Along with online content, use diverse methodologies and teaching strategies. Include partner and small group learning activities integrated into online curriculum.

- Provide a variety of means for students to communicate, learn, and complete work. Include demonstrations, graphical explanations, extra resources, and self assessments.

- Create a learning plan for each student.

Differentiation

- Students need to freely choose to work in a technology-based environment.

- Students must be aware of what to expect in online learning, including technological and content demands, as well as behaviors linked to success in the virtual classroom.

- Give students a short survey to determine their motivations for taking the class, so they are aware of the choice they have made.

- Allow students to choose different formats by which to produce work. Be open to creativity. This will maintain student interest and increase perseverance.

Choice

- Provide timely communication and frequent positive feedback. Post announcements and updates frequently, respond to email quickly, communicate via email and phone calls.

- Provide plenty of structure by using deadlines, organizers, calendars, webpage postings, email announcements.

- Set a tone of expectations, respective of both behavior and coursework. Establish clear-cut expectations for passing a course, but be flexible in terms of due dates for individual assignments.

- Provide regular "virtual" office hours.

Structure
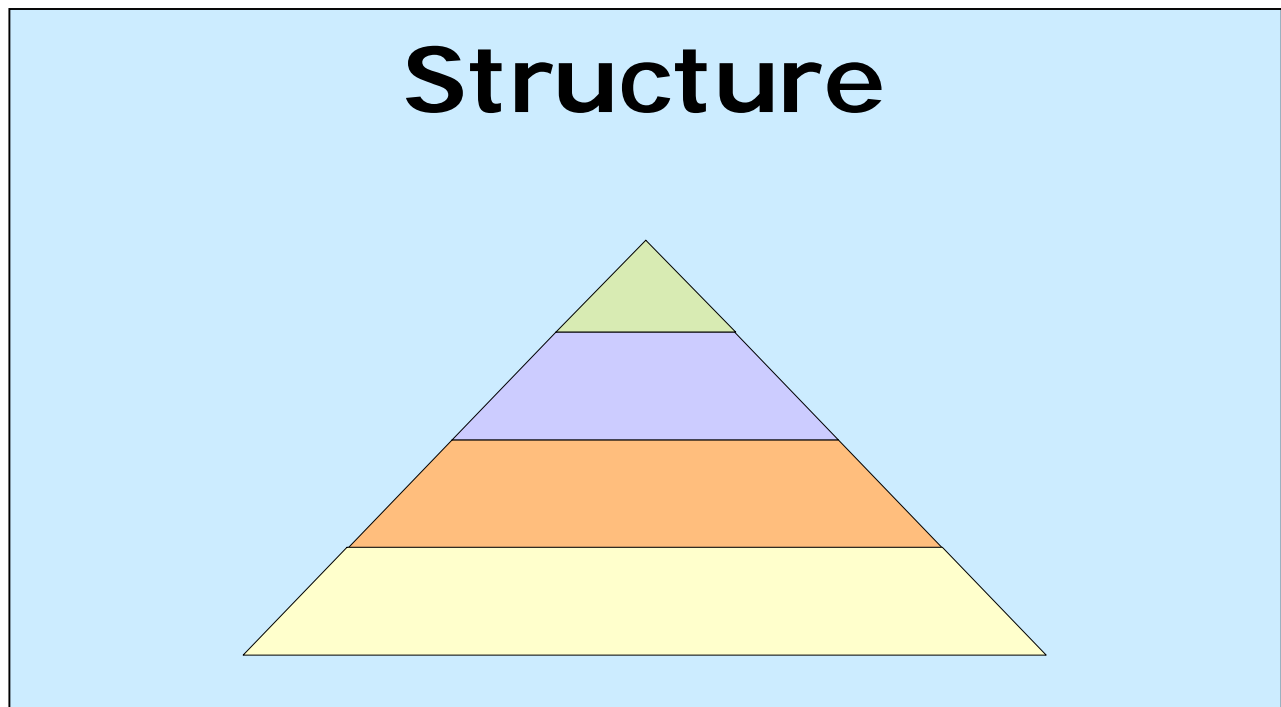
- Provide curriculum that encourages self-motivation, self-assessment, and independence.

- Actively engage students in researching information; using technology to accomplish a task and make meaning out of their assignments allows all students to flourish – especially at-risk students.

- Animations and simulations which are interactive help to motivate and keep students engaged.

- Emphasize what students can do well, not just what they need work on.

Motivation
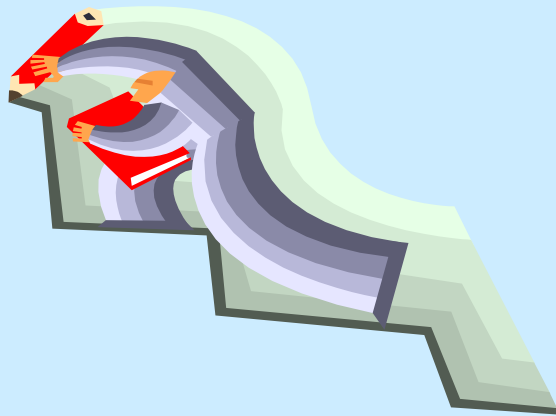
- Use lots of teacher-parent contact, both to keep parents informed of their child's progress, and to create positive connections.

- Use blended learning: face-to-face and online learning compliment one another. Face-to-face meetings between teacher and student help build connections.

- Provide group-learning activities – facilitate the formation of cyber-study partnerships and communities.

- Instruct students how to use online chat rooms and forum postings to "meet" other students and form study groups.

Connections
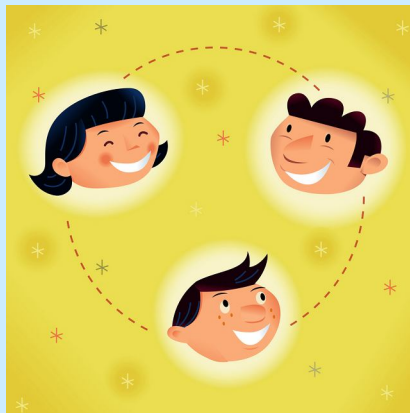
- Provide a safe learning environment: everyone is valued, accepted, and supported.

- Encourage instead of reprimand for poor or late work. Being patient is vital.

- Activities should focus on students' strengths, not weaknesses.

- Activities and class work should be broken into smaller components and short-term goals.

- Make learning connected to real life.

- Provide support when work becomes challenging.

- Provide opportunities for success through games and activities.

- Provide assessment based on *progress.*

Student-Centered

Summary

Online education is growing at an astounding rate in the U.S. and around the world. This new type of education holds much promise for at-risk youth who are not succeeding in the traditional classroom. However, it may also create new challenges for at-risk students. It is in the best interests of educators and parents to examine online education closely before assuming it to be the last or even the best choice for this type of student. Only when parents and educators are properly informed of the unique requirements for success in an online school, as well as its inherent limitations, can they make the correct decision to send their children to the virtual classroom. After examining both the positives and negatives of online education for the at-risk learner, parents and teachers can make the best choice for each student.

Chapter Summary

This handbook will be presented to the faculty of Brady Exploration School in the fall of 2008, and offered to parents of prospective students. The handbook will help parents decide if an online school is right for their child, and offer strategies to both new teachers and experienced staff that will help to provide at-risk students their greatest opportunity for success at Brady.

Chapter 5

DISCUSSION

This applied project has presented characteristics and criteria by which at-risk

students can be evaluated for their chances for success in a virtual classroom. It has also

suggested real-life strategies to use in an online learning environment to increase the

likelihood of success of at-risk student in the virtual classroom. I will now reflect on this

presentation, and discuss the evaluations and suggestions of the two administrators who

reviewed the handbook. I will also discuss the sources and implications for future study in the

area of at-risk in the virtual classroom.

Handbook Review and Evaluation

As stated previously in Chapter 3, the handbook was submitted to two

administrators at a school for at-risk students for their review. The reviewers were asked

to rate the handbook based on several criteria, and to assign a ranking of 1 – 5, with 1

being "Strongly Disagree", and 5 being "Strongly Agree". In addition, the reviewers were

asked to evaluate the project and add comments or suggestions based on five questions

related to the relevancy of the handbook to its intended audience, its strengths and

weaknesses, and suggestions for improvements.

Both reviewers ranked the handbook with a 4 or 5 for all criteria. They both agreed

that the handbook was appropriate for the target audience of parents, teachers, and

administrators of at-risk students considering an online educational environment, with one

reviewer rating it as "strongly agreeing" with this statement. Both reviewers strongly agreed

that the handbook clearly and accurately indicated characteristics of students which would

place them at-risk in an online educational environment. Both reviewers agreed that the handbook clearly and accurately presented strategies for teaching at-risk students in an online educational environment, with one reviewer rating it as "strongly agreeing" with this statement. The reviewers also agreed that the handbook presented viable, effective, and useful strategies for teaching students in an online educational environment, with one reviewer rating it as "strongly agreeing" with this statement. Both reviewers decided that the strategies presented are relevant to teaching *at-risk* students in an online educational environment, again, with one reviewer rating it as "strongly agreeing" with this statement.

The reviewers also provided several additional comments on the strengths and weaknesses of the handbook. Although both reviewers felt that the handbook was appropriate for its target audience, one reviewer felt that it was most suitable for teachers, stating that the language of the handbook was oriented more towards teachers and administrators, and could be more "parent friendly". One reviewer felt that the handbook should include a sentence or two describing the two different sections of the handbook. Based on these suggestions, I added a brief description of the handbook's two sections to the introduction.

Both reviewers praised the handbook as providing "very important information" about online learners and "great strategies" on how to work with at-risk students online. The reviewers were alike in their opinions that although most of the strategies presented were already familiar to them, the handbook presented valuable information in a concise format that would be very useful for teachers as well as parents.

In questions about the strengths and weaknesses of the handbook, one reviewer again mentioned that the language used in the section about identifying at-risk students could perhaps present a "negative" to parents, and referred specifically to the titling of a segment "The Problem". Based on this suggestion, I changed this to "The Challenge" to make it more parent-friendly. Both reviewers commented on whether or not the handbook would be more

credible if the research mentioned in the studies citied on page thirty should be footnoted. As for strengths, the reviewers liked the concise, easy to read format and graphics, and felt that the strategies were on target.

Limitations and Recommendations for Future Study

The suggestions and strategies presented here have been compiled from the results of several studies and surveys of teachers in online environments. Many of the strategies have applications in both traditional classroom settings as well as in a virtual classroom. The observations come from teachers with several years of teaching in a virtual classroom, to teachers brand-new to online education. With such a wide spectrum of teachers surveyed, the results are surprisingly similar. Most of these teachers have found that the strategies that work well in the traditional classroom to engage at-risk students will work with similar success in the virtual classroom.

However, the results of these studies should be regarded with caution. The field of online education is relatively new, and few studies exist about the subject, especially as it relates to at-risk students in a secondary classroom. In addition, most of the studies having been completed thus far are anecdotal: little hard data exists about at-risk students in a virtual classroom. There appears to be a need for additional qualitative research into the success of at-risk students in online secondary environments.

Existing Online Curricula

Given the fact that there are many different examples of "computer curricula" on the market, differing amounts of "tweaking" may have to be done with course materials in order to achieve a good fit for at-risk students. Some programs, such as the Florida Virtual School's online course material, seem well structured for serving the needs of at-risk students. This program, like several others, includes a variety of off-computer activities, as well as required experiments, project development, and even interaction with local

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communities (Roblyer, 2006). Other online programs may likely require diligence and a great deal of supplementation in order to aid and accommodate at-risk students. Administrators, teachers, and even parents may wish to look closely at different online programs in order to decide which is best-suited for at-risk students, or if the necessary additions and adjustments can or will be made to accommodate this type of student.

Conclusions

Online education can be an effective way to teach at-risk students, provided certain guidelines, policies, and tactics are in place. Parents must be aware of characteristics which put children at-risk in an online education environment, and be aware of tools and strategies available to help overcome this obstacle. They need to know if the online curriculum available to them is designed to address the needs of at-risk students, and whether or not the online school they are considering has the skills and strategies in place to attend to those needs.

Teachers and administrators need to be aware that in order to address the needs of at-risk students in the virtual classroom, a combination of the right online curriculum, specific teaching strategies, and teacher awareness and training can greatly increase the chances of success for at-risk youth.

REFERENCES

Cavanagh, S. (2006) To tailor schedules, students log in to online classes. *Education Week*, *26*(9), 22-24. Retrieved March 5, 2008, from ERIC database. (No. EJ 752617)

Clark, T. (2001) Virtual schools, trends, and issues: A study of virtual schools in the United States. *WestEd website*. 42 pp. Retrieved March 5, 2008, from http://www.wested.org/online_pubs/virtualschools.pdf

Clem, F. A. (2004) Culture and motivation in online learning environments. *Association for Educational Communications and Technology*. Chicago. Retrieved March 13, 2008, from ERIC database. (No. ED 485100)

Edmonds, K., & Li, Q. (2005) Teaching at-risk students with technology: teachers' beliefs, experiences, and strategies for success, *Online submission, paper presented at the Annual Meeting of the American Educational Research Association* (Montreal, Quebec, Canada, Apr 11-15, 2005). 1-7. Retrieved March 5, 2008, from ERIC database. (No. ED 490354)

Edwards, C. M., Jr. (1995) The internet high school: A modest proposal. *NASSP Bulletin*, *79*(573), 67-71. Retrieved March 5, 2008, from http://www.sagepub.com/cgi/content/abstract/79/573/67

Hornbeck, D. (1991) Technology and students at risk of school failure. *Paper commissioned for the Chief State School Officers' State Technology Conference* (Minneapolis, MN, April 29-May 2, 1990). North Central Regional Educational Lab., Elmhurst, IL. Retrieved April 4, 2008 from ERIC database. (No. ED 327175)

Hurley, Rushton, (2002) Fine-tuning an online high school to benefit at-risk students. *T. H. E. Journal, 30*(4), Retrieved March 12, 2008 from Academic Search Premier database.

Johanyak, D. (2002) *Drawbacks to taking online academic courses.* Retrieved April 20, 2008 from Pagewise website http://www.essortment.com/family/onlineacademic_sggq.htm

Kim, K. (2008) *Motivational influences in self-directed online learning environments: A qualitative case study.* Association for Educational Communications and Technology, 27th, Chicago, IL, October 19-23, 2004.

Madison, M., Marson, A., & Reese, K. (1999) Passageway: An avenue into the future. *Conference Proceedings of the American Council on Rural Special Education (ACRES)* (19th, Albuquerque, NM, March 25-27, 1999). Retrieved March 22, 2008, from ERIC database (No. ED 429740)

Pape, L. (2005) High school on the web. *American School Board Journal, 192*(7), 12-16. Retrieved April 24, 2008 from Academic Search Premier database. (No. AN 17307710)

Podoll, S., & Randle, D. (2005) Building a virtual high school…click by click. *T.H.E. Journal*, *33*(2), 14-19. Retrieved March 21, 2008, from ERIC database. (No. EJ 762430)

Rice, K. (2006) A comprehensive look at distance education in the K-12 context. *Journal of Research on Technology in Education*, *38*(4), 425-448. Retrieved March 21, 2008, from Academic Search Premier database (No. AN 21278421)

Richardson, J., & Newby, T. (2006) The role of students' cognitive engagement in online learning. *The American Journal of Distance Education, 20*(1), 23-37. Philadelphia: Lawrence Erlbaum Associates, Inc.

Roblyer, M. D. (2006) Virtually successful: defeating the dropout problem through online school programs. *Phi Delta Kappan*, *88*(1), 31-36, Retrieved March 5, 2008, from ERIC database. (No. EJ 758059)

Roblyer, M. D., & Marshall, J. C. (2003). Predicting success of virtual high school students: Preliminary results from an educational success predication instrument. *Journal of Research on Technology in Education*, *35*(2), 241-255.

Ronsisvalle, T. (2005) Student success in online k-12 education. *Quarterly Review of Distance Education*, 6(2), 117-124. Retrieved April 20, 2008, from Academic Search Premier database. (No. AN 17913776)

Sawyer, K. (1994) *Online for at-risk students: A success story*. Pittsburgh Technical Institute. 8 pp. Retrieved March 18, 2008 from ERIC database. (No. ED377830)

U.S. Department of Education, Institute for Education Sciences, National Center For Education Statistics (2006) *Computer and internet use by students in 2003*. Retrieved March 28, 2008 from the IES website http://nces.ed.gov/pubs2006/2006065

U.S. Department of Education, Institute for Education Sciences, National Center For Education Statistics (2005) D*istance education courses for public elementary and secondary school students*, *2002-2003*. Retrieved March 28, 2008 from the IES website http://nces.ed.gov/pubs2005/2005010

Wang, A., & Newlin, M. (2002) Predictors of performance in the virtual classroom. *T.H.E. Journal*, (2002, May). Retrieved March 19, 2008, from T.H.E. Journal website http://thejournal.com/the/printarticle/?id=15973