



INFORMATION CAPSULE

Research Services

Volume 1303
September 2013

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AT-RISK STUDENTS AND ONLINE COURSES: STRATEGIES FOR SUCCESS

At a Glance

Educators across the U.S. are discovering that online courses can be an effective way to engage and teach at-risk students. This Information Capsule summarizes research on the effectiveness of online courses and the characteristics of students most likely to succeed in online courses. A review of research-based strategies that promote positive outcomes for at-risk students enrolled in online courses is provided.

School districts across the country are implementing online learning programs to address a wide variety of educational challenges. Online learning is defined as learning that takes place over the Internet using an online delivery system. Instruction is usually teacher-led, but the teacher and student are not in the same location. Communication between teacher and student may be synchronous (interactive) or asynchronous (non-simultaneous) (Olsen, 2012; Goldberg et al., 2011).

Online courses are introduced to meet the needs of many different types of students. Some students enroll in online programs to accelerate the pace of their study or to take a course that is not available at their own school. Others take online courses for remediation purposes or to recover credits needed in order to graduate. Still others turn to online learning when physical disabilities or disciplinary problems prevent them from attending a traditional classroom (Kennedy & Archambault, 2012; Education Portal, 2011; Watson & Gemin, 2008; Roblyer, 2006).

Popularity of Online Courses in the U.S.

Online learning is one of the fastest growing trends in educational technology. Many students attend full-time online (or virtual) schools. In addition, the number of single-district online programs, in which school districts create and operate online programs for their own students to supplement their existing academic programs, is increasing rapidly across the U.S. (Watson et al., 2012; Goldberg et al., 2011; Means et al., 2010).

The number of students enrolled in online courses has been increasing steadily (Kennedy & Archambault, 2012; Olsen, 2012; Schaeffer & Konetes, 2010). In 2000, about 45,000 U.S. K-12 students took an online course (Hanover Research, 2011; Horn & Staker, 2011; Clark, 2001).

By 2010, enrollment had increased to between 1.5 and 1.8 million students (Kennedy & Archambault, 2012; Queen & Lewis, 2011; Watson et al., 2010; Wicks, 2010). Watson and colleagues (2012) stated, "The total number of students taking part in all of these programs [virtual schools and online district programs] is unknown, but is likely several million, or slightly more than 5% of the total K-12 student population across the United States." Researchers have concluded that by 2019, half of all American students will be enrolled in online learning programs (Smart Horizons, 2012; Hanover Research, 2011; Horn & Staker, 2011; Joyce & Brown, 2009).

The International Association for K-12 Online Learning (iNACOL) estimated that over 80% of school districts offered at least one online course in 2010 (Education Portal, 2011). The majority of surveys of school districts across the U.S. have found that credit recovery is the most common reason students enroll in online courses. For example, the National Center for Education Statistics reported that students enrolled in online courses for the following reasons: credit recovery (62%), dual enrollment (47%), Advanced Placement (29%), career and technical education (27%), and other types of academic courses (65%) (Queen & Lewis, 2011).

Online courses are more likely to be offered at the high school level. Goldberg and colleagues' (2011) survey of nearly 600 K-12 curriculum directors and technology administrators found that 78% of the school districts surveyed reported offering online courses in their high schools, compared with 33% offering online courses in middle schools, and 14% in elementary schools.

Online Courses and At-Risk Students

Educators are discovering that online courses can be an effective way to teach at-risk students. Students may be described as at-risk for a variety of reasons, but most educators define an at-risk student as one who is at risk of leaving school before successfully completing his or her education. At-risk students are those who have become disengaged, do not meet graduation or promotion requirements, fall behind other students of their age or grade level, fail one or more courses, do not read at grade level, struggle in conventional classrooms, or need greater flexibility than is generally permitted in traditional classrooms (Barbour & Siko, 2012; Ash, 2011; Hanover Research, 2011; Hubbard & Mitchell, 2011; Archambault et al., 2010; Schaeffer & Konetes, 2010; Watson & Gemin, 2008).

At-risk students are more likely than other students to have one or more of the following characteristics: come from low-income, single-parent families; have parents with a history of drug or alcohol abuse; have an older sibling who dropped out of school; have changed schools two or more times; or have repeated a grade. Factors that may help to identify at-risk students include poor attendance, excessive tardiness, academic failure, apathy, low motivation, and disciplinary problems (Barbour & Siko, 2012; Hanover Research, 2011; Kronholz, 2011; Bromley, 2009).

Several unique features of online courses make them especially suited to the needs of at-risk students. Online courses allow students to proceed at their own pace and study during non-school hours. This flexibility puts students in control of their own learning and at times that are convenient for them. Online courses provide at-risk students with personalized instruction and immediate feedback and are often considered to be more engaging than traditional courses. In addition, many at-risk students feel more comfortable expressing themselves and asking their

teachers simple or repeated questions in an online environment (Ash, 2011; Blackboard K-12 & Project Tomorrow, 2011; Education Portal, 2011; Goldberg et al., 2011; Hanover Research, 2011; Metz, 2011; Edmonds & Li, 2005).

While online instruction is gaining in popularity, it is not free from criticism. Since at-risk students are more likely to come from low-income homes, many educators are concerned that their limited access to technology will prohibit their enrollment in online courses and serve to widen the digital divide. Furthermore, opponents of online learning have suggested that these types of courses make it difficult to establish the positive teacher-student relationships that many at-risk students need in order to remain motivated (Metz, 2011; Lehman et al., 2001). Finding enough teachers to teach online also remains a challenge. Blackboard K-12 and Project Tomorrow's (2011) *Learning in the 21st Century* survey of over 35,000 teachers nationwide found that only one-third of respondents said they were interested in teaching a course online.

High rates of attrition are one of the biggest concerns regarding online courses. Students tend to fail or drop out of online courses at a much higher rate than they do in face-to-face courses. Studies have reported that dropout rates in online courses are between 15% and 50% greater than those in face-to-face classrooms. Students most frequently report isolation as the reason they withdraw from online courses. Feelings of isolation are more likely to develop when students have no physical interaction with their classmates or teachers and when they do not feel connected to a learning community (Schaeffer & Konetes, 2010; Ali & Leeds, 2009; Joyce & Brown, 2009; Roblyer & Davis, 2008).

Research on the Effectiveness of Online Courses

Although the use of online learning is growing, there are only a small number of studies contrasting K-12 student performance in online and face-to-face courses. In particular, there is a lack of research related to the success of at-risk students in online learning environments. Studies are needed to determine if online courses are more likely than face-to-face courses to lead to positive outcomes for at-risk students and to identify strategies that will increase at-risk students' success in online courses. In addition, researchers must ascertain the type of online course design that will best support at-risk students, including the appropriate balance between online and face-to-face instruction, the most effective types of interactions with online teachers, and the supplemental support services that will be of most benefit to at-risk students (Bakia et al., 2012; Barbour & Siko, 2012; Figueiredo-Brown, 2012; Metz, 2011; Archambault et al., 2010; Means et al., 2010; Schaeffer & Konetes, 2010; Super, 2010; Zehr, 2010).

The U.S. Department of Education (DOE) published a meta-analysis and review of online learning studies. Findings indicated that "students in online conditions performed modestly better, on average, than those learning the same material through traditional face-to-face instruction." The effect was greater when students worked collaboratively or were led by an instructor than when students worked independently. In addition, blended learning showed a larger advantage compared to purely face-to-face or online learning (Means et al., 2010). Although this analysis found promising results for online courses, results cannot be generalized to at-risk K-12 students for two reasons. First, study results were reported across all types of students and did not focus on at-risk students. Second, most of the studies included in the meta-analysis were based on university students and older graduate and medical students, not elementary or secondary learners.

Some online programs have reported anecdotally that they have experienced positive outcomes with at-risk students, as measured by increased course completion rates, decreased student absences, and higher graduation rates (Archambault et al., 2010); however, without rigorous studies, policymakers lack the evidence needed to determine if enrollment in online learning programs has a positive impact on at-risk students' academic achievement.

The *Keeping Pace with K-12 Online and Blended Learning: An Annual Review of Policy and Practice* report (Watson et al., 2012) concluded that overall, online learning results in better student outcomes when implemented well, but flat or negative outcomes when implemented poorly. As with all educational initiatives, it is the quality of the program and not simply the fact that it has been implemented that determines its impact on students. According to Ferdig (2010), "Research has provided evidence that putting content online is not a panacea or instant cure for student dropout."

Research on the Characteristics of Students Most Likely to Succeed in Online Courses

Studies are beginning to identify student characteristics that may contribute to success in online courses, but no one set of characteristics has emerged as dominant and researchers have not been able to accurately predict which students are most likely to succeed in the online environment (Metz, 2011; Roblyer & Davis, 2008). Experts do agree, however, that although online courses can be an important tool for increasing the performance of at-risk students, these types of courses are not the solution for all struggling students (LaPonsie, 2012; Archambault et al., 2010; Schaeffer & Konetes, 2010; Edmonds & Li, 2005).

Of all the student characteristics studied, there is support for the hypothesis that students who are self-motivated are most likely to succeed in online courses. For example:

- Aragon and colleagues (2001) found that students' level of motivation, but not their learning style, influenced their final grades in online courses. The researchers reported differences in the learning styles of graduate students enrolled in online and face-to-face courses (for example, online students tended to score higher than their face-to-face counterparts on the reflective observation and abstract thinking scales of a learning style inventory), but found no relationship between learning style and online course grades.
- Parker (2003) compared the levels of self-motivation in community college students enrolled in face-to-face and online courses. Administration of locus of control questionnaires prior to and after 15 weeks of instruction indicated that students who reported higher levels of self-motivation were more likely to complete online courses than students who reported higher levels of external motivation. In addition, students reported that they were more self-motivated after completing online courses than students enrolled in face-to-face courses.
- A study conducted by Lehman and colleagues (2001) found that at-risk high school students received higher final online course grades and were more engaged in their

online courses when they received feedback from teachers that contained motivation building messages. Motivation building messages were intended to build students' self-efficacy and strengthen their beliefs in their academic capabilities. The researchers concluded that unless teachers work to motivate their students in online courses, "many at-risk students will remain at risk."

A review of the literature suggests that students enrolled in online courses must also have the ability to work independently in the absence of a live instructor (Kronholz, 2011; Metz, 2011; Shearon, 2009; Funk, 2005; Bozarth et al., 2004). Diaz (cited in Diaz & Bontenbal, 2001) administered a learning style inventory and compared university students enrolled in online and face-to-face courses. He found that online students received significantly higher scores on the independent learning style scale and significantly lower scores on the collaborative and dependent learning style scales.

Finally, the literature indicates that the following skills are needed if students are to succeed in online courses:

- Students must be able to interact comfortably with basic technology before enrolling in online courses (Schaeffer & Konetes, 2010; Edmonds & Li, 2005; Wojciechowski & Palmer, 2005; Bozarth et al., 2004; Diaz & Bontenbal, 2001). Roblyer (2006) noted, "Students may have technology ubiquitous in their lives, but that doesn't mean they know how to use it, particularly for educational purposes."
- Students must possess or quickly develop strong time management skills. Students need these skills in order to adapt to the flexible nature of online learning and meet timelines for the completion of required assignments (Archambault et al., 2010; Harrell, 2008; Wojciechowski & Palmer, 2005; Bozarth et al., 2004).

Strategies for Implementing Successful Online Programs

Researchers have identified strategies that school districts can use to promote positive outcomes for at-risk students enrolled in online courses. These strategies are summarized below.

- **Require students to take an orientation before enrolling in an online course.** Studies conducted at the university level have found that students who participate in optional orientation sessions prior to taking online courses have higher final grades and higher rates of successful course completion than students who do not attend orientation sessions (Ali & Leeds, 2009; Wojciechowski & Palmer, 2005).

Many at-risk students who enroll in online courses incorrectly assume these courses will be easier and faster, but online courses are often more time-consuming and require students to take more responsibility for their learning than face-to-face classes. Orientation sessions help to manage student expectations by describing the demands of online courses (Archambault et al., 2010; iNACOL, 2010; Schaeffer & Konetes, 2010;

Harrell, 2008; Roblyer, 2006; Edmonds & Li, 2005; Bozarth et al., 2004).

- **Create unique content for online courses.** Research has shown that simply putting content from face-to-face classes online does not produce positive student outcomes. At-risk students are likely to fail online courses that have the same curricula as the traditional courses they already failed. Experts recommend that online courses include multimedia components such as video, graphics, and games that are most likely to engage at-risk students (LaPonsie, 2012; Smart Horizons, 2012; Ferdig, 2010; Joyce & Brown, 2009).
- **Customize instruction.** Effective online courses assess student progress frequently and use the results to modify instructional content to meet at-risk students' individual needs. In the face-to-face classroom, there are often too many individual learning styles to customize the curriculum and delivery methods. Online teachers, in contrast, can pick and choose lessons for each student, depending on his or her talents and learning style (Bakia et al., 2012; Smart Horizons, 2012; Archambault et al., 2010; Ferdig, 2010; Schaeffer & Konetes, 2010; Watson & Gemin, 2008; Beldarrain, 2006). Bromley (2009), for example, found that while most traditional classrooms deliver instruction through lecture, reading, and discussion, many at-risk students show a strong need for tactile and kinesthetic learning.
- **Establish and maintain student engagement.** Studies have found that student engagement is a key factor in determining at-risk learners' success in online courses (Barbour & Siko, 2012; Ash, 2011; Archambault et al., 2010). Unfortunately, a recent Gallup Student Poll (2012) surveying over 476,000 U.S. students in grades 5-12 found that 49% of respondents reported that they were "not engaged" or "actively disengaged" in their school work. To increase student engagement, Ferdig (2010) suggested that school districts offer online courses in subjects that are of special interest to at-risk students and utilize innovative technologies for teaching and learning, such as virtual reality, 3D, gaming, and social networks. In addition, the online curriculum must be rigorous to ensure that students consistently feel challenged.
- **Make learning relevant to students.** Researchers suggest that online teachers engage in learning activities that relate to real life and fit students' interests (Education Portal, 2011; Metz, 2011; Archambault et al., 2010). The U.S. Department of Education's review of the literature on online learning concluded that courses that build on students' interests can lead to increased student motivation, time on task, and better learning outcomes (Bakia et al., 2012). Ferdig (2010) reported that involving at-risk students in real world activities is critical to their success because these students often do not see value in the skills they are learning. For example, online classes can provide access to local community resources and businesses, offering students opportunities to explore future career paths.

- **Help students achieve early success.** For a variety of reasons, at-risk students have not been successful in prior educational settings. Experts agree that when at-risk students experience early success in their online courses, they are more likely to gain confidence in themselves and their teacher and remain enrolled in the course (Ash, 2011; Education Portal, 2011).
- **Offer flexible learning schedules.** Rolling enrollment is a strategy used by many successful online programs. Students should be allowed to start an online course at any point during the year. For example, if students drop out of school in November or March, they should not have to wait until the new semester begins to come back to school. In addition, students should be permitted to learn at any time of the day or night during the school year, summers, and weekends (LaPonsie, 2012; Goldberg et al., 2011; Metz, 2011; Archambault et al., 2010). Hurley (2002) found that the flexible format of online courses was especially beneficial to the academic progress of a number of subgroups of at-risk students, including teen parents, students taking care of family members, students with medical conditions, and students who work to contribute to family finances.
- **Use a self-paced curriculum.** Students enrolled in online courses should be permitted to progress through courses at their own pace. Self-paced curricula have been found to be especially important to at-risk students, whose educational difficulties may increase when they are faced with strict learning deadlines (Goldberg et al., 2011; Kronholz, 2011; Metz, 2011; Umpstead, 2009; Watson & Gemin, 2008; Edmonds & Li, 2005). In addition, studies have found that online courses that group students based on ability rather than age and that assess and reshuffle groupings based on student progress are more likely to be successful (Bakia et al., 2012; Barbour & Siko, 2012).
- **Allow students to receive credit for mastery of skills instead of seat time.** Experts agree that students' progress should be based on their mastery of academic standards or competencies as opposed to seat time or the traditional school calendar. They maintain that requiring students to record a specific number of hours in order to be counted as having met course requirements is not consistent with the self-paced nature of online learning (iNACOL, 2013; Sparks, 2013; Bakia et al., 2012; Goldberg et al., 2011; Horn & Staker, 2011; Metz, 2011; Zehr, 2010).
- **Develop strong teacher-student relationships.** Studies have found that strong and supportive relationships between teachers and students increase student comfort with online teachers and courses and play an important role in at-risk students' success in the online environment (Sparks, 2013; Ash, 2011; Metz, 2011; Archambault et al., 2010; Schaeffer & Konetes, 2010; Beldarrain, 2006; Lehman et al., 2001). Edmonds and Li (2005) noted that at-risk students may need more support and encouragement than other learners because many lack motivation, have not developed strong time management skills, and have a tendency to become easily frustrated.

- **Build an online community.** Researchers have concluded that many students withdraw from online courses because they feel isolated (Metz, 2011; Joyce & Brown, 2009; Harrell, 2008). Studies have found that when students feel they are part of a learning community, they are less likely to feel isolated and tend to have higher levels of motivation, satisfaction, and course completion. When teachers create a safe learning environment where everyone is accepted and supported, encourage collaboration among students, and communicate frequently with students, they help to alleviate learner isolation and increase feelings of social connectedness (Barbour & Hill, 2011; Goldberg et al., 2011; Schaeffer & Konetes, 2010; Ali & Leeds, 2009; Joyce & Brown, 2009; Roblyer, 2006; Edmonds & Li, 2005).
- **Provide students with extra support.** Students who are enrolled in online courses should be provided with the same types of supplemental support that are offered to students enrolled in traditional courses. At-risk students in particular need counselors, tutors, and mentors to assist with the online learning experience. Tutors and mentors should be available to students through multiple mediums (e.g., live chat, recorded tutorials, and face-to-face sessions) (Slager, 2013; Ash, 2011; Archambault et al., 2010; Ferdig, 2010; Schaeffer & Konetes, 2010).
- **Provide students with technical assistance.** Online programs should ensure that students receive assistance with any technical issues they may have and that they are able to easily navigate the online environment (for example, understanding how the interface works, where to log in, how to chat, how to submit questions to teachers, and how to find archived class sessions) (Ash, 2011; Archambault et al., 2010). Roblyer's (2006) interviews with the directors of five successful virtual schools found that the provision of technical assistance was considered to be critical to online programs' success. Harrell (2008) reported that lack of adequate technical assistance can lead to late submission of assignments, frustration, and dissatisfaction with the online environment.
- **Help students develop time management skills.** The International Association for K-12 Online Learning recommended that online teachers help students develop the time management skills needed to handle multi-task online assignments (Archambault et al., 2010). Studies have found that university students enrolled in online courses report that time management is one of the most difficult aspects of online learning (Bozarth et al., 2004; Hurley, 2002).
- **Assess students' academic progress on an ongoing basis.** Frequent assessment of students' academic skills enables online teachers to adapt instruction to their appropriate skill levels. One reason experts believe at-risk students succeed in online courses after they have failed in face-to-face courses is that the continuous stream of data available from online learning can be instantly viewed and reviewed by teachers to closely monitor

and support students. In addition, studies have found that successful online programs allow at-risk students to demonstrate their mastery of concepts in a variety of ways (Ash, 2011; Archambault et al., 2010; Ferdig, 2010; Roblyer, 2006; Funk, 2005).

- **Provide students with immediate feedback.** Studies have found that at-risk students are more successful in online courses when their teachers provide them with immediate feedback. Researchers recommend that online teachers reply to students' questions in a timely manner and provide students with frequent progress updates (Barbour & Siko, 2012; Joyce & Brown, 2009; Roblyer, 2006; Edmonds & Li, 2005). The International Association for K-12 Online Learning's (2010) *National Standards for Quality Online Teaching* state that teachers should provide students with "prompt and regular feedback."
- **Provide teachers with professional development.** Online teachers need professional development in order to learn how to use the technology, meet the special needs of at-risk students, design instructional strategies within online learning environments, and build a community of online learners. Experts suggest that professional development also be provided for online facilitators, tutors, and mentors (Kennedy & Archambault, 2012; Archambault et al., 2010; Ferdig, 2010; Roblyer, 2006). Blackboard K-12 and Project Tomorrow's *Learning in the 21st Century: 2010 Trends Update* (2010) reported that only 4% of teachers in training learned how to teach online classes in their instructional methods courses.
- **Involve parents.** Studies indicate that students' success in online courses is influenced by the amount of support they receive from their parents. In order to increase parent involvement, schools must explain the benefits and responsibilities associated with online courses and keep parents informed about their children's progress (LaPonsie, 2012; Archambault et al., 2010; Ferdig, 2010). Hurley's (2002) study of at-risk students attending a Texas virtual school found that students whose parents received email communications from online teachers had significantly higher attendance rates and earned significantly more credits than students whose parents did not receive such emails. Parents also reported high levels of satisfaction with their ability to follow their children's progress.

Summary

School districts across the country are introducing online learning programs to address a wide variety of educational challenges. In particular, educators are discovering that online courses can be an effective way to engage at-risk students. Although the use of online learning is growing, few studies have evaluated its impact on at-risk students' performance. In general, it appears that online learning can lead to positive outcomes for all types of students when programs are well implemented, but flat or negative outcomes when implemented poorly. In other words, as with all educational initiatives, it is the quality of the program and not simply the fact that it has been implemented that determines its impact on students.

Research suggests that students who are self-motivated and able to work independently are most likely to succeed in online courses. In addition, students must be able to interact comfortably with basic technology before beginning online courses and they must develop strong time management skills.

This Information Capsule summarized research-based strategies that school districts can use to promote positive outcomes for at-risk students enrolled in online courses. Strategies include creating unique content for online courses, customizing instruction, offering flexible learning schedules, using a self-paced curriculum, developing strong teacher-student relationships, building an online community, and providing students with immediate feedback.

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