Transforming and Turning Around Low-Performing Schools:

The Role of Online Learning

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Abstract

This review of the literature examines online learning as a core strategy for bold, dramatic curricular reform within transformational or turnaround models in improving low-performing K-12 schools. The analysis of the literature in this area found benefits of online learning in transforming and turning around low-performing schools to include: (a) broadening access for all students and providing opportunities for students to recover course credit, (b) the potential to motivate and engage students due to the flexible and self-paced nature of online learning, and (c) providing highly individualized and differentiated environments allowing for personalized learning. As a number of schools and school districts move to online learning, it can be used not only as a curricular reform, but also as a tool to improve student achievement and turning around low-performing schools.

Keywords: Credit Recovery, Curricular Reform, Low-Performing Schools, Online Learning, Personalized Learning, School Improvement Grant, School Transformation, School Turnaround

INTRODUCTION

In 1994, the Improving America's Schools Act introduced the concept of holding schools accountable for student performance on state assessments. Later, the No Child Left Behind (NCLB) Act of 2001 enforced this concept by requiring a regimen of annual testing and imposing sanctions on schools that fail to make adequate yearly progress (AYP). In 2008, the Institute of Education Sciences (IES) reported that out of 98,905 schools nationwide, 65,546 (70 percent) made AYP during the 2006-07 school year. Out of the remaining schools that did not make AYP, 10,676 schools were designated as schools in need of improvement and 2,302 schools were designated in need of restructuring (Herman et al., 2008). Under NCLB, schools that did not meet AYP for many years were labeled as "failing" and "were required to implement the same one-size-fits-all interventions that did not result in significant improvement" (U.S. Department of Education, 2012a).

Then in 2009, the U.S. Department of Education shifted its focus to turning around the nation's lowest-performing schools by overhauling the Title 1 School Improvement Grant (SIG) program. As of 2012, there were approximately 5,000 chronically low-performing schools with half located in urban areas, a third in rural areas, and the rest in suburbs and medium-sized towns (U.S. Department of Education, 2012a). Compared to the traditional school improvement strategies which are "often marked by steady, incremental improvements over a longer time" (Herman et al., 2008, p. 6), the goal of the SIG program is to quickly turn around the nation's lowest-performing schools through targeted funding of up to $2 million a year per school for a maximum of three years (Education Week, 2012).

The importance and timeliness for improvement of these low-performing schools cannot be

understated. School turnaround is critical to the success and future of the students, teachers,

administrators, families, and their communities. Given the benefits and increased use of online

learning in K-12 education, this review aims to (a) provide a better understanding of online

learning within the context of turnaround schools and (b) discuss of the role online learning

might play as a core strategy for curricular reform in turnaround schools.

REVIEW OF THE LITERATURE

In this review and meta-analysis of the literature, published studies were examined that explore

online learning as part of a comprehensive curricular reform strategy for turning around the

nation's lowest-performing schools (Rocco & Plakhotnik, 2009). Literature selected for inclusion

in this review was located by (a) a search for information related to school turnaround and online

learning within education journals, (b) a search of the following electronic databases – EBSCO,

ERIC, JSTOR, and ProQuest, (c) an exploration of federal websites, including What Works

Clearinghouse and the Department of Education, and (d) an examination of websites of national

organizations related to online learning, including the International Association for Online K-12

Learning (iNACOL) and the National Center on Time & Learning (NCTL). The database

searches included the following search terms: *credit recovery, cyber learning, distance learning,*

e-learning, hybrid learning, online learning, personalized learning, school improvement, school

improvement grant, school turnaround, self-paced, turnaround reforms, turnaround schools, and

virtual learning.

The initial search using these terms yielded approximately 658 articles, books, evaluative

reports, videos, and websites from the identified sources. They consisted of both peer-reviewed

and other articles. The search was not limited to a particular time frame because the mid-1990s

marks a point in time when computers and the Internet began to take hold in K-12 schools and

can be considered a relatively recent phenomenon. The search was further narrowed by

identifying articles that used more than one of the search terms. This narrowing resulted in 98

articles. Abstracts for each of the 98 articles were reviewed to determine their relevancy to the

role of online learning in school turnaround. The review of the abstracts resulted in 10 relevant

research studies and one dissertation. In summary, this review is organized in a progressive

format by (a) providing contextual definitions to clarify understanding of online learning within

the context of turnaround schools and (b) summarizing the research focused on the role of online

learning as a curricular reform in turnaround schools.

School Turnaround

The newly overhauled SIG program, requiring quick and dramatic change at the school and

system levels, is also known in the literature as *school turnaround* (Duke, 2012; Robinson &

Buntrock, 2011). Rigorous, empirical research on the school turnaround practice is in "short

supply" (Trujillo & Rénee, 2012, p. 12). However, the IES' Turning Around Low-Performing

Schools project systematically analyzed three years worth of test score data from 2002-03

through 2007-08 to identify and study sustained school turnarounds. The results indicated about

half of the 750 low-performing schools studied showed signs of improvement within three years;

yet another 35 percent showed no increase in student-achievement or growth (Herman et al.,

2008; Sparks, 2012; Trujillo & Rénee, 2012). Additionally, the researchers identified 15 percent

of those schools were deemed "true turnarounds" (Sparks, 2012, p. 10). These schools were able

to sustain and increase the number of proficient students in math or reading by at least five

percentile points and had student growth rates in the 65th percentile statewide (Sparks, 2012;

Trujillo & Rénee, 2012).

Strategies for implementing quick school turnarounds include (but are not limited to) providing

additional time for teaching and collaboration, strong and aligned instructional programs, data

for continued improvement, supportive and safe school environments, more engaged and

supportive communities, operational flexibility and capacity building, as well as strong

leadership and effective teachers. In general, authors describe successful turnaround conditions

comprising clear and visible support for dramatic change, recognizing the vital importance of

leadership, providing support for instructional strategies on the use of data, and providing

principals with the freedom to act (Duke, 2012; Robinson & Buntrock, 2011; Sparks, 2012;

Trujillo & Rénee, 2012; U.S. Department of Education, 2011). An additional possible factor to

the success of school turnaround can be attributed to the number of improvement strategies

implemented simultaneously. The IES researchers found the successful turnaround schools in

their study implemented on average fewer improvement strategies (2.3) than schools that did not

improve (2.6) (Herman et al., 2008).

Provided the many reform strategies to choose from, the SIG program recognized that schools

have different needs and will be at different points in their improvement processes, so a tiered

approach was provided that targeted "the most intensive support to the lowest-performing

schools" (U.S. Department of Education, 2012a, p. 1). Therefore, a SIG-funded school can

accomplish any one or more improvement strategies by choosing one of the four prescribed

turnaround options: *closure, restart, transformation, or turnaround.*

The *closure model* requires the school is closed and all enrolled students are placed in other schools in the district that are higher achieving. The *restart model* converts the school or closes and reopens the school under a charter school operator, a charter management organization, or an education management organization. The *transformation model* requires: (a) replacing the principal and taking steps to increase teacher and school leader effectiveness through professional development, (b) instituting comprehensive curricular reforms, (c) increasing learning time and creating community-oriented schools, and (d) providing operational flexibility and sustained support. Finally, the *turnaround model* requires: (a) replacing the principal, (b) granting the new principal sufficient operational flexibility to fully implement a comprehensive approach, and (c) rehiring staff and no more than 50% of the original teachers (Center on Education Policy [CEP], 2012; Duke, 2012; Trujillo & Rénee, 2012; U.S. Department of Education, 2010b).

As of March 2011, there were 820 SIG-funded schools. Out of these 820 schools, 74 percent chose the transformation model and 20 percent chose the turnaround model (CEP, 2012; Trujillo & Rénee, 2012). Therefore, in the first round of SIG funding more than 750 schools were required to replace principals and/or staff. Additionally, while the four-percent of first-round grantees that chose the restart model were not formally required to replace principals or staff, many did so as part of their conversion to a charter or privately managed school (CEP, 2012).

As part of a comprehensive school improvement plan, more than 90 percent of SIG grantees chose extended learning time (ELT) (Silva, 2012). According to the National Center on Time &

Learning (NCTL, 2012), schools with at least 30 minutes more time per day and/or 10 more days per year are considered to utilize ELT. Additionally, the federal definition of "increased learning time" not only means a longer school day but is characterized by "the extent to which added time is dedicated to: (1) additional instruction in core and non-core subject areas, (2) enrichment activities and enhanced instructional programs, and (3) teacher professional activities" (Kolbe, Partridge, & O'Reilly, 2011, p. 12). Data analyzed from the national School and Staffing Survey found that schools with an extended school day received more instruction in core subject areas than their peers who attended schools without an extended day (Kolbe et al., 2011). As a result, those schools successful with ELT did not just add time, they integrated more time into an overall model for successful teaching and learning so it became "less about time and more about quality teaching and learning" (Silva, 2012, p. 4).

Moreover, the SIG-funded schools with ELT are turning to technology and online learning to boost learning time (Silva, 2012). For example, Silva highlights multiple schools utilizing technology during the additional time such as a school in Mississippi starting a 90-minute, computer-based literacy class for students with low scores in reading. Another high school in Michigan has implemented ELT by using a management system that helps districts provide virtual instruction in remediation and ACT preparation. And yet another example of technology in ELT focuses on a network of charter schools offering not just online learning but year-round start dates and early graduation. The use of technology and online learning is growing rapidly "and will surely expand options not just for extending time but for enhancing learning" (p. 11).

Online Learning

The U.S. Department of Education (2010a) likens the origin of distance learning to the early correspondence courses over 100 years ago. It started as a type of distance education in the 1980s and 1990s as offerings aspiring to enhance the quality of learning experiences and outcomes (Geith & Vignare, 2008). The term *online learning* is used interchangeably with other monikers such as (but not limited to) distance education, virtual learning, cyber learning, and e-learning. For the purpose of this article, the authors will refer to online learning as education in which instruction and content are primarily delivered over the Internet or in a "hybrid" combination of face-to-face and online. It can be offered with synchronous (real-time) or asynchronous communication between instructors and learners, ultimately providing more flexible access for content and instruction at any time and from any place (Allen & Seaman, 2013; Geith & Vignare, 2008; International Association for K-12 Online Learning [iNACOL], 2011; U.S Department of Education, 2010a; Watson, 2005).

According to the U.S. Department of Education (2010a), online learning is one of the fastest growing trends in education. In higher education where online learning has historically been more prevalent, more than 29 percent of students took at least one online course during the Fall 2009 semester. This was a 21 percent increase over the number reported the previous year surpassing the 1.2 percent growth of the overall higher education student population (Xu & Jaggars, 2011). By 2011, the number of college students taking at least one online course increased by over 570,000 surpassing 6.7 million students. Just in California State University system alone, the online enrollment is expected to increase by 250,000 students due to an

entirely new separate online university being launched in 2013 (Allen & Seaman, 2013; Zatynski, 2013).

The number of K-12 school students enrolling in online learning is also increasing. Opportunities to enroll in online learning during the 2002-03 and 2004-05 school years grew by 65 percent (U.S. Department of Education, 2010a). A district survey conducted in 2007 estimated that more than a million K-12 students took online courses in the 2007-08 school year (U.S. Department of Education, 2010a). More recent estimates from the International Association for K-12 Online Learning (iNACOL, 2012) report there were 1,816,400 enrollments in K-12 online courses during the 2009-10 school year. Additionally, enrollments in full-time online schools during the 2009-10 school year were estimated at 200,000 students, which increased to 275,000 in the 2011-12 school year. This represents a remarkable growth from the estimates in 2000 of only 40-50,000 enrollments in K-12 online education. Furthermore, online education has begun to expand beyond high school to include K-8. Therefore, it can be expected that more online options will continue to be developed for students and enrollments will continue to increase.

In the literature on student performance, students enrolled in online courses do "as well or better than their classroom counterparts" (Barbour, 2009, p. 16). The U.S. Department of Education (2010a) meta-analysis conducted of 50 experimental and quasi-experimental studies contrasting different online learning practices found the outcomes of students engaged in online learning exceeded those receiving face-to-face instruction. The results found that "students in online conditions performed modestly better, on average, than those learning the same material through traditional face-to-face instruction" (p. xiv). Additionally, students in online courses exhibit

higher achievement when a course has a strong emphasis in online interaction and when the

students actively participate in online discussion (Missett, Reed, Scot, Callahan, and Slade,

2010).

Advantages observed in the meta-analysis for online learning may be a product of unique

qualities and conditions rather than solely a product of the instructional delivery method. The

authors of the meta-analysis note these interpretations should take into account the fact that

online and face-to-face conditions differ on multiple dimensions. For example, online learning

offers more opportunities for expanded learning time and collaboration possibly contributing to

the enhanced learning outcomes. Therefore, the effectiveness of online learning may be related

to the quality of the program and the differences in the design and delivery of online learning

courses may explain some of the variance in student performance (Blazer, 2009).

Along with the benefits of online learning, there are also some challenges including high start-up

costs, access issues surrounding the digital divide, the approval or accreditation process, as well

as student readiness. Furthermore, the benefits of online learning outlined above can only be

attributed to students who complete their online classes. Attrition, defined as a decrease in the

student enrollment during a course of study (Martinez, 2003; Ni, Diomede, & Rutland, 2013), is

typically higher in online courses than in traditional face-to-face courses (Blazer, 2009; Moody,

2004; Ni et al, 2013). Therefore, attrition rates continue to be a concern among academic leaders

(Allen & Seaman, 2013; Barbour & Reeves, 2009). A survey conducted by Allen and Seaman

(2013) noted this barrier as an *Important* or a *Very Important* factor by 56.1 percent of chief

academic officers surveyed in 2007. This proportion increased by and additional five percentage points to 61.9 percent the next year in 2008, only to continue to rise to 73.5 percent in 2012.

Possible explanations for high attrition rates in online learning environments have been attributed to technical challenges, registering for proctored exams, difficulties navigating the online platform, a sense of isolation, lack of face-to-face accountability, personal obligations, and a general lack of support. Yet another reason cited for high attrition rates has been attributed to the lack of motivation, initiative, and management skills from the online student (Allen & Seaman, 2013; Zatynski, 2013). The proportion of academic leaders who cite the need for more discipline on the part of the online student has increased "from just over 80 percent in 2007 to 88.8 percent in 2012" (Allen & Seaman, 2013, p. 6). High attrition rates continue to be a concern for academic leaders as they feel this remains a barrier to the growth of online instruction (Allen & Seaman, 2013; Xu & Jaggars, 2011; Zatynski, 2013).

Despite the challenges of online learning, the future of K-12 education will most certainly include some form of online learning. It continues to grow rapidly and has expanded beyond a strategy for extended learning time to a popular strategy for turning around low-performing schools due to its flexible nature providing access to content and instruction for all students, assembling and disseminating instructional content more efficiently, and increasing student-teacher ratios while achieving learning outcomes equal to those of traditional classroom instructions (U.S. Department of Education, 2012b).

Online Learning in School Turnaround

In 2011, the Alliance for Excellent Education hosted an event, *How Blended Learning Can Help Turn Around Struggling Schools,* representatives from struggling schools around the nation spoke to their experiences using online learning to improve the graduation and dropout rates while raising achievement (Alliance for Excellent Education, 2011). The following vignettes, Charlotte-Mecklenberg Schools and Carpe Diem Collegiate High School, are two of these stories.

Charlotte-Mecklenberg Schools.

The Charlotte-Mecklenberg school district in Charlotte, NC began using a blended learning model which Hope Johnston, Distance Learning Advisor, defined as an environment where students work online in classes but are also provided a face-to-face certified teacher, adult facilitator, or teacher assistant for additional assistance when needed (Alliance for Excellent Education, 2011). The three goals for the districts blended learning model included raising cohort graduation, increase access for credit recovery and accelerated courses, and increase college readiness/awareness. As of 2011, the district met their goal to broaden access by offering multiple online courses including 19 advanced placement, 27 honors, 8 world languages, and 12 core classes in English, math, science, and social studies. In the 2009-10 school year, student enrollments reached 1,171 only to see an increase in student enrollments the following year to 5,785, a 394% increase. According to Johnston, the online world provides different ways for learning and creates opportunities for "truly personalized education" (Alliance for Excellent Education, 2011).

Carpe Diem Collegiate High School.

Carpe Diem Collegiate High School in Yuma, AZ started with the question, "Does our pedagogy match our learner and our times?" (Alliance for Excellent Education, 2011). Speaker, Rick Ogston, Executive Director, discussed the importance online learning as not just a technical supplement to instruction but the core of instruction. With the Carpe Diem schools, all core concepts are introduced and practiced through an online environment followed by face-to-face instruction to receive remediation or extended learning opportunities. According to Ogston, most student's scores continue to rise and the norm is 92 percent or above proficiency. More importantly, for two consecutive years Carpe Diem has led the county and state in student growth, which he directly attributes to including technology into a new ecology of learning (Alliance for Excellent Education, 2011).

Therefore, not only does online learning offer students a full range of enhanced curriculum choices and support, but it also offers additional courses, academic credits, and support toward a diploma (Watson & Gemin, 2008). As a result, an increasing number of schools and school districts have turned to online learning as a way to improve their schools. Taking this concept one step further, online learning as a curricular reform can be a strategy to improve student achievement and turn around low-performing schools.

Online Learning as a Curricular Reform in School Turnaround

A comprehensive literature review conducted by the U.S. Department of Education in 2012(b) offered three overarching benefits for using online learning as a comprehensive curricular reform and can be applied to low-performing schools. The benefits comprise the following: (a) broadening access for all students and providing opportunities for students to recover course

credit, (b) the potential to motivate and engage students due to the flexible and self-paced nature of online learning, and (c) providing highly individualized and differentiated environments allowing for personalized learning.

Broadening Access

One of the key benefits of online learning is that it can be offered free of time and geographic constraints. The right to education "depends on both availability of key infrastructure and its obstacle-free accessibility (Geith & Vignare, 2008, p. 107). Thereby, online learning broadens access to courses taught by qualified teachers and is a model that provides improved availability for a variety of students whether they are in remote locations or in other situations where challenges make the traditional school model impractical (Geith & Vignare, 2008; U.S. Department of Education, 2012b). In the past, online learning primarily targeted advanced students who did not have access to certain courses in the traditional school setting. The rapid growth of online learning has extended to students with disabilities and credit recovery to students who have failed traditional courses (Blazer, 2009).

Online learning is a cost-effective way of packaging a complete learning experience that is more accessible to all populations by offering fewer barriers (provided the student has Internet connection) and more choices in what and where they learn (Geith & Vignare, 2008). In a qualitative study conducted by Graves, Asunda, Plant, and Goad (2011) "asynchronous online access of course curriculum in the STEM disciplines appears to be helping students gain knowledge of course content" (p. 327). Through a cross case analysis of 11 interviews of students enrolled in postsecondary courses, students with learning disabilities and/or Attention Deficit Hyperactivity Disorder (ADHD) self-reported asynchronous access supported their

learning habits because they could access the course material anytime. The participants

explained they liked the on-demand availability of course material for studying purposes, stating

they could study "independently and review course notes with more confidence at their own pace

without the feel of time constraints and pressures experienced in a typical classroom" (p. 325).

Schools also turn to online learning opportunities to provide courses not available at their schools

and to provide opportunities for students to recover course credits from classes missed, failed, or

dropped (iNACOL, 2012; Watson & Gemin, 2008; Xu & Jaggars, 2011; Zatynski, 2013). Credit

recovery differs from 'first time credit' in that the student has previously satisfied the seat time

requirement but was unsuccessful in earning academic credit towards graduation (Watson &

Gemin, 2008). According to iNACOL (2012), credit recovery online courses have the highest

student enrollment and are especially important for urban schools. While there is ongoing debate

about the numbers of dropouts in the United States, one study estimates 1.2 million students or

30% of all students in the United States are dropping out before earning a high school diploma

(Jones, 2011). Credit recovery is one strategy to decrease the high failure and dropout rates.

The flexibility of online courses offers an advantage to schools and students looking for

alternatives to the traditional model of credit recovery, which was confined to retaking a course

during the regular school day or during summer school (Jones, 2011). Since the seat time

requirement has been fulfilled, online credit recovery courses have the ability to concentrate on

concepts and material that needs to be mastered. Through a qualitative, phenomenological

design, Jones (2011) conducted a study to document what factors they believed contributed to

their success in an online credit recovery program. Interviews with twenty retained ninth grade

students perceived they were in control of the learning environment in the online credit recovery course, which contributed to their success. Yet, the key to a successful online credit recovery program is motivating and engaging students who have failed in the traditional classroom setting effectively individualizing instruction (Jones, 2011; Watson & Gemin, 2008).

Flexible and Self-Paced Environments

With online learning it is now possible to create flexible learning environments without time and geographical constraints; "some would argue even more effective and flexible experiences than face-to-face models" (Geith & Vignare, 2008), p. 119). Armstrong's (2011) analysis of data from interviews, think-aloud observations, and online focus groups of 16 undergraduate students found the main reasons for pursuing online instruction were flexibility and self-control within the learning environment. Rhode (2009) in a mixed methods research study on 10 online adult leaners enrolled in a fully-online professional development certificate program maintained that the flexibility and independence of the self-paced learning environment "supplanted the need for certain types of interaction" (p. 16).

Exploring the K12 realm, Thomson's (2010) mixed methods research study found 68 percent of the 28 online instructors surveyed believed it was essential to allow students the flexibility to work at their own pace. Also, 60 percent of the 65 online gifted students in grades 3-12 surveyed rated flexibility and the ability to work at one's own pace as essential. In addition, Jones' (2011) study of twenty retained ninth grade students felt they were successful in the online credit recovery courses because they could move at their own pace. In a traditional classroom these participants expressed they felt rushed, would get lost, or become confused. Whereas an online

credit recovery course allowed the students to slow down and learn the material at their own pace.

Alternatively, research has shown learners may experience a sense of isolation and alienation in an online environment. Through a questionnaire-based survey of 522 online learners, Wei, Chen, and Kinshuk (2012) found that user interface and social cues have significant effects on social presence reducing the feelings of isolation and alienation which in turn affects learning performance. Sun and Rueda (2012) surveyed 203 online higher education students strongly correlated emotional engagement with interest, "suggesting that it is important to facilitate emotional engagement by increasing student interest" (p. 199). The flexible and self-paced nature of online learning has the potential to motivate and engage students in active learning by replacing lecture time with online and face-to-face discussions, group and individual work, as well as providing instantaneous feedback, and one-on-one support.

Survey participants of district and school-level leaders in a benchmark survey conducted in 2012, identified the most important driver (93 percent) for successful implementation of online courses is offering rigorous curriculum that is designed to accommodate different learning styles and keeps students focused and engaged. It was also reported that 88 percent of the respondents found the following factors as important for success; teachers who are readily available to assist struggling students in a timely manner, tracking and reporting student progress, as well as initial and ongoing assessments to benchmark and measure student progress (K12 Inc., 2012).

Rather than being passive recipients of transmitted knowledge, students are engaged by helping to create the learning environment (Friedman and Friedman, 2013). Broadly accessible digital content provides a range of modalities, topics, complexity, and representations to ensure the content meets every student's interests and abilities ultimately capturing and holding the students attention and increasing motivation (Alliance for Excellent Education, 2013; Software & Information Industry Association [SIIA], 2013; Twigg, 2003a; Twigg, 2003b; U.S. Department of Education, 2012b). These learning environments and experiences can be "so engaging and compelling that they ignite a new, insatiable curiosity for more and more knowledge" (Project Tomorrow, 2011, p. 14). Such flexible, self-paced, and engaging environments provides learners the freedom to customize aspects of their learning experience to meet their personal and educational preferences, creating personalized learning available for all students (Project Tomorrow, 2011).

Personalized Learning

To further expand on the benefit of the flexible and self-paced nature, online learning provides highly individualized and differentiated learning opportunities, optimizing an environment for personalizing learning. (Alliance for Excellent Education, 2013; Archambault et al., 2010; Christensen & Horn, 2008; U.S. Department of Education, 2012b; Waldeck, 2007; Watson & Gemin, 2008). Using the definition provided in the National Education Technology Plan (U.S. Department of Education, 2010a), personalized learning not only encompasses the individualization and differentiation, but also allows students to draw on their personal interests to direct learning objectives and content that meet their needs. These factors can result in increased student engagement and motivation, time on task, and ultimately better learning outcomes (Repetto, Cavanaugh, Wayer, & Liu, 2010; U.S. Department of Education, 2012b).

This type of learning environment has been identified as an effective strategy in working with

many groups of students including those at-risk, with disabilities, and the gifted (Watson &

Gemin, 2008).

Asynchronous usability, or the ability to download course material outside of traditional class

meetings, provides students the opportunity to study at times more conducive to their individual

learning needs (Graves, Asunda, Plant, & Goad, 2011, p. 319). This was demonstrated in the

qualitative study conducted by Graves, Asunda, Plant, & Goad (2011), where the students with

learning disabilities and/or ADHD were able to access at any time or place the digital recordings

of courses. Instead of having to focus on lectures/discussion without the burden of taking notes,

the students have a complete and accurate record of what was said and demonstrated allowing

them to utilize the recording to meet their individual ways of learning.

In Thomson's (2010) mixed methods study, both instructors and gifted students interviewed and

surveyed found the online format more conducive to a "more individualized and differentiated

learning experience than is often possible in a regular classroom" (p. 663). In the online

environment, the students were able to work at their own pace, have more time to reflect, engage

in more "self-directed and independent learning" (p. 663). According to the instructors, 74

percent rated personalized learning as essential to the successful online learning experience for

gifted students.

In this section, evidence concentrating on the benefits of online learning is introduced in

anticipation of igniting a discussion about the role online learning may play as a core strategy for

curricular reform in transforming and turning around low-performing schools. The following

descriptions of the flipped classroom and Khan Academy offer examples of curricular reform

models that exhibit all three benefits as outlined; broadened access, flexible and self paced, and

individualized and differentiated instruction.

Flipped Classroom

A flipped classroom as defined by Bergmann and Sams (2012) is "that which is traditionally

done in a class is now done at home" with the main content most commonly delivered via online

videos and "that which is traditionally done as homework is now completed in class" (p. 13).

There are some similar features between a flipped classroom and online learning, and they

"could possibly be interchangeable in certain contexts" (p. 7). Flipping the classroom creates an

ideal merger of online and face-to-face instruction allowing teachers to effectively leverage

technology and increase individualized education.

A flipped classroom model embraces all three benefits of online learning as a comprehensive

curricular reform. First, the content delivered via online methods allows for students to access

the material at any place and at any time. Second, the flipped classroom system allows for

students to master the material at their own pace. Additionally, each student is provided with

timely feedback as the teachers take on a more "tutorial role" (Bergmann & Sams, 2012, p. 14)

rather than a deliverer of content. Finally, flipping the classroom establishes a framework that

enables teachers to effectively differentiate and personalize instruction so it is tailored to meet

each student's individual needs. During one-on-one interactions the teachers are able to work

with the individual students to quickly correct misconceptions that keep them from mastering the

content allowing the direct instruction to be asynchronous, "so differentiation for each student

becomes possible" (p. 62).

It is unclear how many teachers and schools are using the flipped model, but the national Flipped

Learning Network has seen participation in its online community more than quadruple "from

2,500 to about 11,000" (DeFour, 2013) in the past year. It is also uncertain whether the flipped

model is an effective curricular reform as it is in its infancy. At the time of publication of their

book, Bergmann & Sams (2012) knew of some action research being conducted, "but very little

has yet been completed and published" (p. 103). However, there are many testimonials such as

this one from Greg Green (2012), a principal at Clintondale High School in Michigan. After one

quarter of using the flipped model, the school-wide failure rate dropped from 61.2 percent to just

below 10 percent. Moreover, within one year of switching to the flipped model, the school was

removed from the persistently lowest achieving (PLA) school list. By using the flipped model,

Green stated they "put the best instruction in front of all students in a way that matches their

learning style and life circumstances to give them the attention they need to be successful."

Khan Academy[© 2014]

Khan Academy[© 2014] is a not-for-profit organization with free online educational materials and

resources. With a library of videos covering K-12 math, biology, chemistry, physics, and various

topics in humanities it is accessible for anyone, anywhere and students can work and learn in an

adaptive assessment environment at their own pace at any time (Khan Academy[© 2014], 2012a).

The following case study demonstrates how a school with low-performing math students

increased their scores through the implementation of a Khan Academy[© 2014] learning lab for all

students enrolled in an Algebra Readiness or Algebra 1 course.

In 2010, Oakland Unity High School, located in Oakland, CA conducted a diagnostic test with

all incoming freshman to evaluate basic algebra and arithmetic skills. The results showed most

students needed to retake Algebra Readiness or Algebra 1 courses. After retaking these courses

through the Khan Academy©2014 learning labs, there was an improvement in proficiency scores

(approximately 60 percent) from 9 percent to 32 percent. Additionally, the number of students

scoring below basic (approximately 40 percent) decreased from 77 percent to 28 percent. With

the implementation of the Khan Academy©2014 labs, the students scored consistently higher on

solving equations, absolute value, and the first semester final exams. The improvements

continued with an increase of scores above 80 percent on all of the tests (Castillo & McIntosh,

2012).

Castillo and McIntosh (2012) attribute some of the success with the Khan Academy labs to the

online environment and short video clips allowing students to watch them repeatedly as needed.

The students were able to delve deeper into the material and become more engaged, effectively

taking more responsibility for their own learning. Peter McIntosh, a 9th grade math teacher, says,

"Now that they're fully engaged, I have to find a way to take them deeper into more complex

problems, solving more difficult word problems because they are more engaged and they're

ready for it" (Khan Academy©2014, 2012b). Kallie Berg, another 9th grade math teacher, attributes

the success of her students to the way the Kahn Academy©2014 is designed allowing for greater

differentiation. "Some students" she said "took off right away…So I have students that are

learning calculus already and some that jumped right into Geometry right away…But as more

and more of them are getting stronger, they're getting happier about making choices about what

they get to learn" (Khan Academy [© 2014], 2012b). According to Castillo & McIntosh (2012), they

believe that the Khan Academy [© 2014] approach met student's learning needs in order to deliver

real learning in math proficiency.

CONCLUSION

As the aim of the SIG program is to quickly turn around the lowest-performing K-12 schools,

online learning has the potential to be a core strategy for curricular reform within the

transformational or turnaround models. This review and meta-analysis of the literature found

benefits of online learning in transforming and turning around low-performing schools to

include: (a) broadening access for all students and providing opportunities for students to recover

course credit, (b) the potential to motivate and engage students due to the flexible and self-paced

nature of online learning, and (c) providing highly individualized and differentiated

environments allowing for personalized learning. Online offerings are able to reach more

students at any place and at any time increasing the availability for all students and offering

students a full range of enhanced curriculum choices, as well as academic credits and support

toward a diploma. They offer flexibility for students to learn at their own pace with expanded

learning time to master complex content, instantaneous feedback, and one-on-one support while

achieving learning outcomes equal to those of traditional classroom instruction. Because the

content is broadly accessible it can provide a range of topics, complexity, and representations

ensuring the content meets every student's interests and abilities ultimately increasing attention

and motivation. Lastly, since online offerings offer continuous access to a variety of learning

materials, students can progress toward individualized goals at their own pace optimizing an

environment for truly personalized learning. As a result, online learning is proving to be an

important and transformational tool (Watson & Gemin, 2008).

Future Research

Research on effective turnaround improvement strategies is in its infancy as is the development of online learning models. The current literature offers several school turnaround reform strategies for implementing quick school turnaround, including operational flexibility and increasing ELT. However, while there is some empirical research and narrative reviews available on the school turnaround practice in general, research or reviews pertaining to the use of online learning as a curricular reform strategy in turning around low-performing schools are limited. In addition, this review and meta-analysis refers primarily to K-12 studies; future studies should examine post-secondary institutions, including community colleges and higher education institutions._

Due to the limited research in these areas, it is essential for researchers to inform practitioners and policy makers in this important area. Specifically, practitioners and policy makers need to understand where the field is today and the role online learning can play as an integral part in transforming and turning around low-performing schools. This leaves many important questions that require further research and development. As researchers begin to address these questions, the outcomes will impact education in general, but will also provide many of the answers on how to transform and turn around low-performing schools. The impact of this research on schools, students, families, and society in general cannot be undervalued and should be a priority for educational researchers moving forward.

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