

Virtual Learning Strategies for Lost Instructional Time

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Abstract

The purpose of this article is to explore Indiana's state and local policies; challenges and issues; and best practices in the use of virtual learning days for lost instructional days. The Indiana Department of Education permits school districts to use virtual learning days as alternatives to make-up days for lost instructional time due to inclement weather. A case study methodology was utilized to investigate the policies and procedures public schools in the state of Indiana adopted in order to offer virtual learning days. In many areas of the United States, inclement weather such as snow, ice, and extreme cold have been the source of lost instructional days for many school districts. In order to meet state educational guidelines, school districts typically require students to makeup the lost instructional days at other times. This could consist of days built into the school calendar for such events or days added to the end of the academic year. A growing trend among states is to allow school districts the use of virtual learning days when weather would have resulted in lost instructional days.

Introduction

The threat of school cancellations caused by inclement weather has prompted school districts to explore the efficacy of virtual learning, or eLearning, days as a strategy for recovering lost instructional time. The debate on whether to adopt an eLearning strategy has centered on the efficacy, perceptions, and implementation requirements involved with distance education. There are challenges faced by a number of organizations when adopting eLearning technologies. The challenges faced by schools must be addressed while taking into account state guidelines regarding the use of eLearning.

The process of developing an eLearning day strategy will be addressed by examining the policies set forth by the Indiana Department of Education. Indiana's virtual learning day option allows school districts to use eLearning to recover lost instructional time. A number of school districts are considering such a strategy or are actively adopting a policy of eLearning days. There are a number of success factors, such as technology, perceptions, and State-mandated policy constraints; these all can contribute to the success or failure of eLearning strategies. The broader impact of this paper is to assist administrators and educators with tailoring their eLearning strategies for maximum effectiveness.

Efficacy of Virtual Learning

Grades

When considering the use of virtual learning, there can be concerns as to the educational effectiveness of virtual learning strategies. Comparative studies have found that students engaged in online learning showed no significant differences in grade point averages when compared to students in the classroom (Barbour 2011; Crocker 2007; Sheppard 2009).

Crocker (2007) found a slight increase in performance in favor of those in distance learning. It was also determined that students who participated in distance education early in their schooling went on to have less trouble with online education in their first year of higher education.

These findings point toward the fact that online learning is just as effective a tool as traditional classrooms learning. Given this, the use of virtual options for makeup days is viable. The benefits of exposing students to new ways of learning are apparent.

Student Interaction

Davis and Graff (2005) showed a correlation between student interaction in an online media and grades. Essentially, if a student accesses discussion and collaboration resources more regularly, they are likely to do well in the area. The inverse was also found to be true, students who failed to access these areas regularly suffered in their grades. This can be applied to eLearning days, showing that as long as students participate; there should be little difference in their grades versus traditional class sessions.

Online Learning Acclimation

Crux Research (2013) surveyed the opinions of 1,528 college students between the ages of 18 to 34 who are taking at least one on-campus course. The researchers found that 45% of these students are taking at least one online course. This number is up from 23% over the last 5 years. By exposing students to online lessons early, such as eLearning days, they can establish some basics of online learning that would help them to adapt to a very likely future of taking online classes in higher education.

Student Support

In a recent study of student satisfaction with online education (Lee et al. 2011), research was conducted on the relationship between students perceived support levels, their course satisfaction, and learning outcomes in the online learning area. The perceived support consisted of instructional support, peer support, and technological support. The results of this study showed a relationship between students perceived support and overall course satisfaction. The study also showed a loose relationship between satisfaction and final grades.

Additionally, students who participated were also asked a series of open-ended questions and three major trends were developed from their responses. Students had a higher level of perceived support as interaction with their teachers and peers increased. Students also felt more support when they were able to apply what they were learning online to other classes. Finally, the fact that a stated goal of the course was to support their self-directed learning made the students feel more supported. This research demonstrates that tailoring online classes to be more accessible and supportive to the students can positively impact student satisfaction.

Virtual Learning Resources

eBooks

An analysis of electronic books (eBooks) compared to traditional printed text books was done in order to see the effects on K-12 students learning (Huang et al. 2012). This study focused on the use of multimedia eBooks and their effectiveness at promoting learning amongst the group. The sample group consisted of 166 Chinese students from grades 1-6. These students were exposed to both types of media and asked to rate their experience. The findings of this study show that there was little difference in effectiveness between traditional print and eBooks, however the use of eBooks allows for greater tracking and customization tailored to that student, which may provide a better, more personalized learning environment for that student. The results of this study show that online books are just as effective as their traditional paper alternatives.

Learning Management Systems

Learning management systems (LMS) are web-based systems in which schools can create electronic learning (eLearning) environments for courses. For a given course, these systems can incorporate student enrollment, file submission, test builders, communication tools, grading, and progress tracking (Kumar, Gaurav and Suneja 2011). It is through these systems that school districts can create eLearning environments that will be used during virtual learning days.

Some instructors will use an LMS simply as a repository for course documents (Blin and Munro 2008; Selwyn 2007; Lonn and Teasley 2009). This, however, is not the promise of learning management systems. An LMS allows the students who participate the ability to communicate with their instructors, as well as fellow students, from one central area. Through the use of chat rooms, wikis, blogs, and other discussion tools that are inherent in many LMS strategies, it is possible to move the focus of eLearning from simple transmission of knowledge to constructive, participation based learning (Lonn and Teasley 2009). Mijatovic et al. (2013) found that students' interactive use of LMS courses is a predictor of the students' overall achievements in said course, which lends itself strongly to the proper utilization of LMS participation and discussion tools.

Lonn and Teasley (2009) went further in the study of students' use of these LMS strategies, through a fairly large and comprehensive survey. Their findings showed that the main perks for both students and instructors were largely in the realm of

communication and efficiency. This is somewhat unfortunate, considering the possibilities that these active participation tools bring to the area of eLearning. This disparity can be remedied through the clever intervention of instructors, who might lay out various scaffolds and prompts in the active participation tools to get students more involved (Dougiamas and Taylor 2003). Their findings did, however, point toward the idea that students and instructors tend to undervalue the interactive discussion tools, and overvalue the communication management tools (content sharing, announcements, file submission, etc.), which, stated earlier, is the real promising aspect of LMS use for students.

There are many LMS strategies available such as: Blackboard, ANGEL, MyBigCampus, and Moodle. While this is a small selection of all of the LMS strategies, they are some of the more commonly used examples in Indiana. Blackboard is one LMS often used in higher education. Moodle and MyBigCampus are more prevalent in the public schools, given the fact that Moodle is open source and MyBigCampus is more tailored to K-12 specifically. Each LMS is customizable to the desired learning environment and supports the expected features such as assessments, discussion boards, and attendance tracking.

eLearning Technology Adoption

The adoption of eLearning technologies in the K-12 sector is an increasing trend (McKay, Seward, and Davison 2014). While there are a number of barriers such as security, cost, infrastructure capability and management, it is likely that this trend will increase in frequency. A concomitant outcome of this phenomenon is the increased availability of devices to support virtual learning days.

Indiana places a significant value on eLearning technologies. The state, through the Indiana Department of Education (IDOE), has created an office of eLearning. This office provides assistance to school districts in the form of grants, collaborative resources, and online communities. The IDOE maintains a map of 1:1 initiatives throughout the state that indicates a significant eLearning adoption rate among the districts:

<http://www.doe.in.gov/elearning/11-map>.

With the emphasis on eLearning technologies and virtual learning days, there are associated challenges. A particularly troublesome issue encountered by school districts adopting a 1:1 initiative is the appropriate utilization and accountability of technology by a population of minors. Theft, loss, improper usage (e.g., cheating, cyberbullying), are all notable issues faced by school districts (McKay, Seward, and Davison 2014).

Rodríguez et al. (2013) further elaborate on the specific shortcomings of mobile devices such as smart phones that have less developed security mechanisms and are more susceptible to hacking.

To mitigate these challenges, the research suggests that school districts adopt a comprehensive Acceptable/Responsible Use Policy (A/RUP) and agreed upon by all (Davison et al. 2014). The policy should explicitly state responsibilities and expectations

for all involved parties: students, parents, and school district. The policy should be comprehensive in that technical support details and security matters are addressed. Additionally, expectations of student behavior should be clearly stated as well as mechanisms for enforcement (e.g., loss of device privileges). Parents and students should sign off on the A/RUP policy prior to the eLearning device being issued during the 1:1 device rollout.

Indiana State Policy on Virtual Learning Days

States differ in policies concerning the use of virtual learning as a method for recovering lost instructional days. Indiana is one state that is embracing the use of eLearning to allow for more flexibility regarding making up lost days due to inclement weather. State policy in Indiana indicates that school districts have three options for making up lost instructional days due to inclement weather: non-waiver, conditional waiver, and virtual learning.

The non-waiver option is the traditional approach to addressing school closures due to inclement weather. This option can be exercised in two ways. School districts can incorporate snow days into the school calendar where the schools will be closed on a stated day unless it is needed to recover lost instructional time caused by a school closure. The second alternative is for a district to add school days on Saturdays or after the conclusion of the established school calendar.

The conditional waiver option recovers the lost instructional time by increasing the length of the school day for a series of days until the lost instructional time is recovered. In Indiana, state policy states that a full school day for students in grades 1-6 must contain five hours of instructional time. The number of hours increases to seven for students in grades 7 - 12. With that requirement a school district can choose how long they will extend the school day and for how many days. For example, a school district may choose to extend the school day by 1 hour per day for six days to make up one day of lost instructional time.

The newest alternative is the virtual learning option. One use of this option allows school districts to utilize eLearning opportunities in lieu of in-class instructional days. Where this differs from the non-waiver and conditional waiver options is that it is not restricted to lost instructional days due to inclement weather. State policy also allows school districts to have planned virtual learning days scheduled into the school calendar. These are days built into the schedule on which students and teachers know in advance that the instruction will occur in a virtual environment and not in the classroom. It should be noted, however, that the IDOE does not allow these planned virtual learning days be used to compensate for lost days due to inclement weather.

The virtual learning option can also be used to recover lost instructional time for days when school is cancelled. When this option is exercised, the school district must determine whether the virtual learning day will occur on the day of the school

cancellation or on a planned makeup date. This gives the districts a large amount of autonomy regarding how they choose to handle the problem.

This option differs from the non-waiver and conditional waiver options in that it can be used for more than just instructional days lost due to inclement weather. School districts also have the option to incorporate virtual learning days into their normal school calendar. Exercising this option provides teachers and students the opportunity to acclimate to teaching and learning in a virtual environment.

School districts must receive approval from the IDOE before they can take advantage of the virtual learning option. School districts must provide a plan that addresses the following criteria:

- The district can demonstrate that students and teachers have to access the Internet away from the school buildings.
- All the teachers and students have access to, and experience using, online platforms for delivering learning.
- A procedure for notifying students of their learning targets for the day by 9:00 AM.
- Teachers will be directly reachable by students and parents to facilitate and support instruction.
- Student work will cover content that would have been addressed if school were in session.
- All students who have accommodations for instruction will be provided with or have access to those accommodations.
- For students with disabilities who do not use online platforms for learning or for those students whom online platforms are not appropriate, teachers will provide parents/caregivers with appropriate educational materials and learning activities for student use.
- For limited English proficient students, teachers will provide parents/caregivers with appropriate educational materials and learning activities for students use per the Individual Learning Plan.

Models of School District Adoption

For the academic year 2014-2015, there were over 50 school districts that received permission to use the virtual learning option. What will follow is a review of how these school districts satisfied the application criteria.

Scheduling of Virtual Learning Days

Before addressing the criteria indicated in the virtual learning option application, school districts had to determine whether they were going to have the virtual learning day on the day of the school closure due to weather, or to have planned virtual learning makeup days. Each option presents its own challenges.

Of the two, conducting virtual learning days on the actual snow day has more logistical complications. The state of Indiana requires that all services offered on a regular school day must also be available on a virtual learning day. This could include services for special needs students; occupational, physical, or speech therapy provided by the school district; to breakfast and lunches for any student. Offering these services in the midst of a blizzard would place students, teachers, and staff alike in harm's way.

The alternative is to offer the virtual learning days on a scheduled makeup day. This could be done by offering the virtual learning on a Saturday after the snow day. Another alternative is to schedule virtual learning days into the school calendar. This is the same strategy as built-in snow days where students attend classes on a scheduled holiday if there is a snow day that needs to be made up. With this approach, a school district can make arrangements for individualized services required by the students. Using scheduled virtual learning days also affords school districts an opportunity to develop solutions that address the criteria mandated by the IDOE for virtual learning days.

IDOE Criteria for Virtual Learning Days

Internet Access

For virtual learning days to work, both students and teachers need to have Internet access. Many of the school districts have conducted surveys to determine the number of students who have Internet access outside of school. The Frontier School Corporation (2014) found that 87% percent of their students had Internet access and computers at home. Among those, 85% had WiFi and 92% had a desktop or laptop computer. Most school districts, however, did not state the type of access their students have to the Internet. The connection speed and type of device used to access the Internet has a direct impact on the viability of the device as an educational tool. Students that only have smartphones with Internet access may not have the bandwidth and computing capabilities needed to complete the virtual learning day assignments effectively.

To satisfy a state mandate, school districts have to address students with limited or no Internet access out of school. Many school districts open the doors to the school to allow students to use the Internet. Some schools staff a supervised computer lab to do this. Other schools require students to bring their own device and to also provide their own adult supervision. In this case, the district is only providing the students with access to WiFi in the schools.

Another option that districts are choosing is to provide families with a list of public locations where students can use public computers or access free WiFi. Locations for public computer labs include places such as public libraries and community centers. To access free WiFi, school districts recommended that students take advantage of WiFi offered in many fast food restaurants. The issue with this approach is that the weather conditions that caused the school cancellation are likely to prevent students from taking advantage of these recommendations.

There are two prevailing strategies for addressing this concern. Both strategies are dependent upon teachers preparing materials in anticipation of a school cancellation. The first strategy is used by school districts that have implemented a 1-1 initiative that allows students to take their school issued laptop or tablet home. Garrett-Keyser-Butler Community School District (2014), Frontier School Corporation (2014), and Scott County School District 2 (2015) have all indicated that students have the opportunity to download the assignments and activities to their devices at school on the day prior to an anticipated school closure. The expectation is that these students would then submit their assignments after their return to the classroom.

Other school districts offer students without Internet access at home the opportunity to pick up packets of printed materials to take home when a school closure is expected (Logansport Community School Corporation 2014). The Penn-Harris-Madison School Corporation (2015) refers to these packets as Blizzard Folders.

Experience with Online Learning Platforms

The state asks that schools districts provide evidence that both students and teachers are versed in the use of online learning platforms. The intent of this criterion appears to be an expectation that teachers will receive adequate training to create educationally meaningful online learning experiences. At the same time, students need to be familiar with the systems employed by the teachers before the virtual learning day occurs.

School districts are addressing this requirement through their LMS strategies. They indicate systems such as MyBigCampus, Moodle, Google Docs, and Google Classroom are already being used in the classroom. It is through these systems, which students and teachers are already familiar, that virtual learning day assignments will be made available.

These solutions, however, are not an indication that the teachers are prepared for online teaching. Most of these learning management systems are used primarily for document storage (Blin and Munro 2008; Lonn and Teasley 2009; Selwyn 2007). Directing students to these locations to access assignments does not mean that they are receiving any instruction. School districts need to provide teachers with training regarding how to create an online learning environment that provides students with the resources to independently create knowledge. If this is done, the day after the virtual learning day is an opportunity for the students to share with and learn from other students.

Student Notification

When a school district has a virtual learning day, students must be made aware of what is expected of them. The guidelines state that this must occur by 9:00 AM of the virtual learning day. School districts are utilizing a variety of tools to satisfy this requirement. Some school districts have indicated that virtual learning day assignments will be posted on a teacher's webpage (Southeastern School Corporation 2014). Students in grades 7-12

in the Tri County School Corporation (2014) will receive their virtual learning day assignments via their school e-mail accounts. The parents of students in grades K–6 must access their children’s assignments through a link on the school district’s website.

Some school districts (Frontier School Corporation 2014) have adopted the SchoolReach system that allows issuance of mass notifications across a variety of communication paths. School districts that participate in the SchoolReach system can notify parents, students, and teachers of school closures through mass voice phone calls, text messages, e-mails, or social media postings (SchoolReach 2014). To receive these notifications, students and parents have to register their phone numbers with the SchoolReach service.

The Northwestern Consolidated Schools of Shelby County (2014) has taken a slightly different approach. Teachers are required to prepare a series of 5 eLearning bundles, each containing a set of eLearning assignments. In the event of a school cancellation, the district will utilize their notification system to inform parents and students of the cancellation and which bundle in the series students should complete.

Instructional Requirements

The intent of the virtual learning option is to provide an alternate method for students to receive instruction. It is this instructional requirement that is key to the next two criterion set forth by the IDOE. A mechanism must be in place for students to receive instruction on the virtual learning assignments.

The first requirement is that teachers will be available to provide students with instruction during a virtual learning day. To this end, school districts are requiring their teachers to be available for students or parents for a specific timeframe on the virtual learning day (Frontier School Corporation 2014; Logansport Community School Corporation 2014; Northwestern Consolidated Schools of Shelby County 2014; Southeastern School Corporation 2014). Students and parents are typically able to communicate with teachers through e-mail during the virtual office hours.

While the first aspect of the instructional requirement pertained to teacher availability, the second addresses the instructional content required of students on a virtual learning day. Teachers are required to provide students with work that addresses the content that would have been delivered in class had school been in session. The IDOE does not want teachers to give students work that is intended simply to keep them busy for the expected 5 or 6 hours. The learning opportunities provided students on virtual learning day is to be an extension of what they would receive in class. The Garrett-Keyser-Butler Community School District (2014) has stated that the work their teachers provide students “will be a continuation of the learning they would typically do if they were in the building” (para. 2).

Addressing Special Accommodations

A concern with virtual learning days is its instructional efficacy for students with special needs or who require special accommodations. Not every student will have the developmental, cognitive, or behavioral capabilities to engage in virtual learning activities. Students may have early intervention programs (EIP), individualized learning plans (ILP), or plans required by Section 504 of the Rehabilitation Act. Each of these programs or plans is designed to provide a student with educational opportunities tailored to their individual capabilities or needs.

There is an IDOE criterion stating that school districts need to provide a plan to meet the instructional needs of these students. The school districts with posted information have simply stated that these issues will be addressed. The lack of specifics is to be expected. The individuality of these plans and confidentiality requirements prevents school districts from providing too much information other than the promise that they will exercise due diligence in meeting the needs of these students on virtual learning days.

Attendance

In the state of Indiana, students are required to receive a minimum of 180 days of instruction. School districts choosing the virtual learning option must provide evidence that students are educationally engaged for five hours (grades 1-6) or six hours (grades 7-12) for a virtual learning day to be counted toward the state requirement.

School districts are utilizing their LMS as the primary method for documenting student engagement on virtual learning days. These systems will log and timestamp the activities of the students as they are engaged in the learning management system. With this, teachers can note when students initially log in to access their assignments. It can also track when students submit their work for the day.

Conclusions

School districts across Indiana have adopted a variety of strategies to address the virtual learning day requirements set forth by the IDOE. School districts are leveraging their existing investments in LMS strategies. These systems were originally used by school districts to provide teachers with a resource of digital repositories for course management. It is through technologies that virtual learning days are implemented. These LMS strategies are capable of providing teachers with the capability to provide learning resources in an online format.

The challenges associated with adopting a virtual learning day approach have less to do with technology and more to do with pedagogy. State policy indicates virtual learning days should provide students with instruction and address the materials that would have been covered if school had been in session. There are no requirements that teachers receive training in online pedagogy. School districts should provide teachers with faculty development in this area to ensure that students receive the quality instruction that is expected.

Almost all of the school districts reviewed received approval to use the virtual learning option for the first time during the 2014 - 2015 academic year. At the time of this study, school districts had not had the opportunity to collect and analyze data to determine the effectiveness of their virtual learning plans or the impact of the virtual learning days on student learning outcomes. Future research should explore each of these areas to provide teachers and administrators with the information needed to create positive virtual learning experiences.

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