Stakeholder Response to Virtual Learning Days in Public School Districts

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Abstract

The purpose of this study is to investigate how virtual learning days have impacted students, parents, teachers, and school administrators. In areas where inclement weather results in school cancellations, virtual learning days provide an alternative that allows for continued instruction on those days. The Indiana Department of Education has established a policy that sets requirements for what can be considered an approved virtual learning day. This study surveyed superintendents throughout Indiana to determine the impact virtual learning days have had on their stakeholders. The survey found that the stakeholders would rather use virtual learning days than have to make up the lost instruction due to school cancellations.   Survey respondents also noted beneficial changes to teacher pedagogy.

Introduction

The purpose of this study was to determine the impact and response that virtual learning days have had on various stakeholders. The stakeholders included students, parents, teachers, and school administrators. A survey was conducted of the school districts in Indiana. The findings in this study reflect those that have adopted a virtual learning day policy to address lost instructional time due to inclement weather.

The number of schools adopting virtual learning days, or "e-days" is increasing nationwide (McIntyre, 2016). Virtual learning or e-learning "can be defined as the use of computer and Internet technologies to deliver a broad array of solutions to enable learning and improve performance" (Ghirardini, 2011, p.3). McIntyre (2016) noted that school districts are increasingly choosing to continue the learning process even when inclement weather prevents students from being able to attend school. This study will present the observations made by superintendents of schools in Indiana that have approved virtual learning day policies by the Indiana Department of Education.

Efficacy of virtual learning (e-learning)

In regard to virtual learning, the first thing to consider is does it work. Davies & Graff (2005) found that virtual learning can improve student involvement, as well as improve the quality of discussions that occur. Davies and Graff also referenced the benefit of an online virtual community. Their evidence came from Blackboard usage, which revealed that in interactive areas, the students who received high or medium passing grades showed greater usage while lower scores came from students who failed the modules.

There are several additional factors to consider, one being the computer skills of the user. "Specifically, generalized computer self-efficacy, learner age, system reliability, social presence, and media synchronicity were all found to impact utility judgments and user satisfaction"(Bukhari, Khan, Shahzadi, & Khalid, 2014, p.185). By paying attention to the students' learning style detection method and students' choice, performance increased by 12% (Abdullah, Daffa, Bashmail, Alzahrani, & Sadik, 2015). Videos, diagrams, and pictures are all helpful tools for effective learning practices (Bukhari et al., 2014). A study in Indonesia found more direct results. For grade ten students, the study found direct correlation between computer skill and student achievement (Pardamean & Suparyanto, 2014). An interesting thing to note from Pardamean and Suparyanto is that female students reportedly enjoyed virtual learning more than male students.

The International Association for K-12 Online Learning (iNACOL) found that 25 states had virtual schools (iNACOL, 2013). These states and schools said that their reason for offering online classes were for content not otherwise covered at the school, and for recovering course credits. An earlier study refers to a lack of certified teachers, along with 2/3 of jobs requiring college or post-secondary education as additional reasons for providing online education (iNACOL, 2011).

Impact of school closures
When studying school closures, one would think to study the effects on the student's grades when they miss days. First let's look at a study in Massachusetts from 2003 to 2010 (Goodman, 2015) which looked at the students who stayed home when school was not cancelled for inclement weather. The study found that students who stayed home based on inclement weather showed lower achievement in math while full school closures showed no impact on test scores. Goodman cites the average student loses two weeks each year of school, so the investigation of individual student attendance is important. According to his calculations, each additional day lost when individual students stayed home results in lowering math scores up to 5 percent of a standard deviation. Goodman also found minority students, such as black, Hispanic, or lower SES children, had more missed days overall.

Another study (Marcotte & Hansen, 2010) found that less school days resulted in lower test scores. Marcotte and Hansen said that due to concerns over the use of resources and current policies, school years are currently 180 days. Other studies have found longer school years improve testing scores in various subjects (Hansen, 2008; Marcotte, 2007; Marcotte & Hemelt, 2007).

In a study of Maryland from 2002-2005, it was claimed that 35 additional schools would have met their adequate yearly progress had they not closed any days those years, (Marcotte & Hansen, 2010). Looking at the extended school year debate, a collection of 15 empirical studies from 1985 to 2009 (Patall, Cooper, & Allen, 2010) revealed that longer school years seems to support students, especially those at risk. However, the authors caution that the research designs do not make strong causal arguments and other

outcomes besides academic achievement should be studied. Time is just one factor, and long term effects as well as cost analysis benefits had not been examined (Patall et al., 2010).

State policies for virtual learning days
The Indiana Department of Education (IDOE) approved the Virtual Option during the 2013-14 school year. The Virtual Option allowed school districts to declare a virtual learning day on those days that would have been traditionally closed due to snow or other inclement weather. The use of virtual learning days avoided the need for requiring make-up days since they counted towards the state mandated 180 days of instruction. School districts could obtain permission to utilize virtual learning days by submitting a proposal to the IDOE that defined how they would address a series of pedagogical and logistical criteria that included (Morello, 2014; Swetlik, Graves, Hua, & Davison, 2015):

- The district must be able to prove all students and teachers have the ability to access the internet when they are away from the school building.

- All students and teachers must have experience using digital learning platforms.

- The district will inform students about their learning targets by 9 a.m.

- Parents and students will have the ability to reach teachers for help and questions throughout the "virtual" learning day.

- 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.

An Ohio policy says that no more than 5 missed snow days are allowed annually before making them up later, meaning that some schools are using virtual learning days for additional snow days (McIntyre, 2016). Teachers may use blizzard bags to make up hours, for a total of three make-up days.   Assignments are sent home or posted online for students to complete as a replacement of school time in the classroom (Phillips, 2014).

Methods

Survey instrument

This study utilized a survey administered through the Qualtrics online survey provider. The survey began with demographic questions about the school district about the size of the student population and whether the district was urban, suburban, or rural. The survey asked whether the district had a Virtual Learning Day policy. If so, in what year was the policy approved by the Indiana Department of Education. There is the possibility that despite having a Virtual Learning Day policy, the district may not have had the need to utilize it. Respondents were asked to indicate how many days per year Virtual Learning Days were used.

A series of open-ended questions asked how various stakeholders responded to the use of Virtual Learning Days. The stakeholders included students, parents, teachers, and school administrators. The respondents were then asked what benefits they had observed as a result of implementing Virtual Learning Days. They were also asked if there were any complications or challenges associated with using Virtual Learning Days.

Study sample

For this study, the subject pool was limited to the state of Indiana. The reason for this constraint was to ensure that respondents were not operating under varying guidelines. By restricting the subject pool to Indiana, all the respondents would be bound by the virtual learning day policy instituted by the Indiana Department of Education. E-mails were sent to the administrators of 320 school districts in Indiana. The e-mail requested the superintendent or an appropriate designee responsible the district's virtual learning days to respond to an online survey.

Results

The survey yielded a 36.5% response rate with 117 responses to the e-mail solicitation to participate in the virtual learning day survey (See Table 1). There were 26 school districts indicating that they have adopted a Virtual Learning Day policy, representing 22.2% of the total respondents to the survey. The remaining 91 respondents indicated that their school district has not adopted a Virtual Learning Day policy.

Table 1		
Schools with Virtual Learning Day policies		
	Frequency	Percent
No	91	77.8
Yes	26	22.2
Total	117	100.0

There were respondents from each community type (See Table 2). Urban communities only comprised 9% of the school districts responding to the survey. School districts from suburban communities represented 19% of the respondents. Among the responses, the clear majority at 72% came from school districts from rural communities.

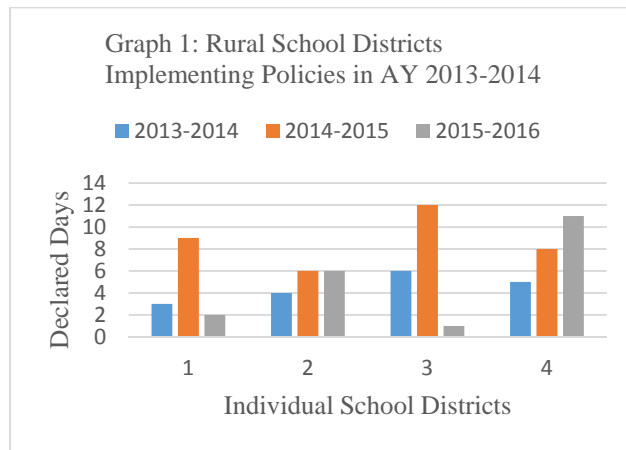| Table 2				
		Virtual Learning Day Policy		
		No	Yes	Total
Demographic Type	Urban	10	1	11
	Suburban	18	4	22
	Rural	63	21	84
Total		91	26	117

Within the urban school districts, only 1 of the 11 respondents indicated that their school district had adopted a virtual learning day policy to address lost instructional time due to inclement weather. A larger portion of the suburban school districts had virtual learning day policies in place. Among the 22 suburban school districts, 19% specified that they had enacted such policies. In addition to being the largest group of respondents, rural schools also had the highest proportion of school districts adopting virtual learning day policies at 24%.

Of interest was whether the school districts had utilized their virtual learning day policies instead of declaring a snow day. The survey asked the administrators to indicate how many virtual learning days had been issued for each year their policy had been in place. It can be seen in Table 3 that the single urban school with a policy had used virtual learning days instead of snow day on seven occasions. Suburban schools used virtual learning days on 29 occasions. One of the four suburban schools had not yet had an opportunity to declare a virtual learning day at the time of the survey. The total number of virtual learning days declared by rural schools was 116.
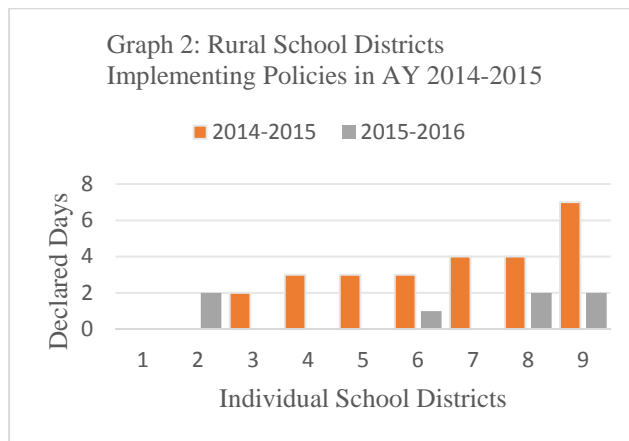
Table 3	
	Total Virtual Learning Days
Urban	7
Suburban	29
Rural	116

The series of graphs show the frequency of declared virtual learning days by rural school districts. Three of the rural school districts were not included in the graphs because they did not provide data about the number of virtual learning days they had declared. Graphs 1, 2, and 3 show the frequency data for school districts that introduced virtual learning days the 2013-2014, 2014-2015, and 2015-2016 academic years. The vertical axes indicate the number of declared virtual learning days. The individual school districts are organized across the horizontal axes. Each column represents the number of declared virtual learning days in a given academic year.
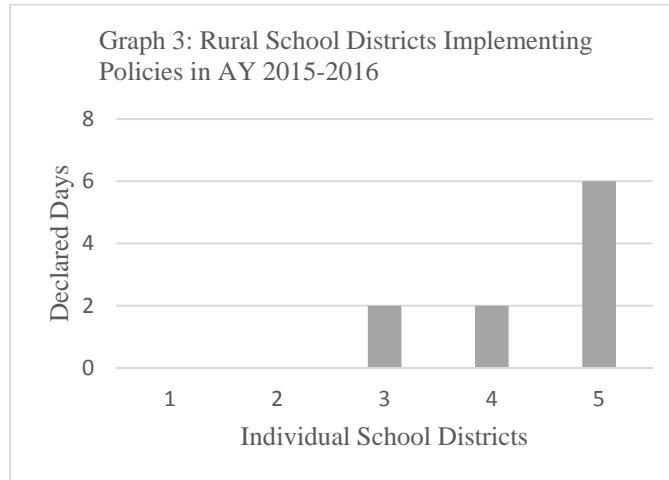
There were four school districts that implemented virtual learning day policies in the 2013-2014 academic year (see Graph 1). Over the three years covered in the survey, the total number of virtual days declared for each school district ranged from 14 – 24 days.

Graph 1: Rural School Districts Implementing Policies in AY 2013-2014

An additional nine school districts had approved virtual learning day policies starting in the 2014-2015 academic year (see Graph 2). The first school district had not yet had the opportunity to declare a virtual learning day at the time of the survey. The remaining school districts had from 2 – 9 virtual learning days during the two-year period.

Graph 2: Rural School Districts Implementing Policies in AY 2014-2015

The five schools that had implemented virtual learning day policies in the 2015-2016 academic year are show in Graph 3. Only three of the five school districts declared virtual learning days in their inaugural year.

Graph 3: Rural School Districts Implementing Policies in AY 2015-2016

It was anticipated that there would be variability in the frequency of declared virtual learning days among the school districts. The number of snow days any particular school district would declare in a given year would vary based upon geographic location and localized weather conditions. Schools in the northern region of Indiana are likely to be colder than those along the southern border of the state. Additionally, the schools close to Lake Michigan would be more prone to lake-effect snow. With these variations across school districts, further statistical analyses were not deemed to be appropriate.

Stakeholder response to virtual learning days

Students
The series of open-ended questions began by asking how students have responded to the use of virtual learning days instead of traditional snow days. Fourteen of the school districts stated that their students had responded well to the use of virtual learning days. One school district surveyed their students and found that "82% of students were in favor of eLearning Days."

One of the reasons commonly cited for supporting virtual learning days is the flexibility that it provides. It was noted that students liked the "flexibility that it provides them in their learning." Unlike a typical day in school, students are able to choose the order in which they will approach their day's assignments. Instead of the teacher, students have the autonomy to determine how much time they will spend on any given subject. While one student may be able to work through the math quickly and independently, another student would be able to take more time and seek out assistance from the teacher. It should be mentioned that the use of virtual learning days does not mean that students are

working without teacher instruction. The Indiana Department of Education requires that teachers be available to provide instruction on virtual learning days (Swetlik et al., 2015).

One of the school districts noted that "virtual lessons tend to be very engaging, and meets them where they live, in the digital world." This engagement was also based on the level of student participation. The learning management systems used by many school districts to implement their virtual learning environment typically log and timestamp student activity (Swetlik et al., 2015). Teachers are able to track what the students did and when. School districts were stating that they 94% - 95% student participation.

A noted contributor to engagement among the students was district wide 1:1 computer plans. With a 1:1 computer plan, each student has a dedicated piece of technology that is integrated into the pedagogy. The use of mobile technology such as laptop computers and tablets would provide an additional level of flexibility. Such devices could be used in both the classroom and at home. They can also provide students access to electronic copies of subject textbooks independent of location. School districts that effectively incorporate these technologies into their classrooms are likely to find that students will be engaged when a virtual learning day is declared.

Not surprisingly, students liked being able to do their work from home. The prospect of the potential fun and rest of a snow day is typically overshadowed by the realization that the day off is going to be made up at a later date. Most school districts in Indiana will already have built in make-up days to recover lost instructional time. If there are too many snow days or if they occur after the built in make-up days, it is common for the school year to be extended into what would have been summer vacation. It was noted that students appreciated that virtual learning days avoided the need for make-up days or extensions to the school year. At the same time, there were some students who indicated to the school districts that they would still rather have the day off.

Not all of the student responses to virtual learning days were positive. A couple of the school districts found that some students indicated that the work assigned on virtual learning days was "even more difficult than work regularly assigned in the classroom during a traditional school day." On a typical day in the classroom, the teacher will have planned out times for lecture and in-class activities. There can be a tendency for teachers uncomfortable with the use of online learning to respond by simply assigning more. This could be more reading or more assignments. Quantity, however, does not equal quality. It is incumbent upon the school district to provide its teachers with the professional development to effectively utilize virtual teaching tools and strategies if they are going to adopt a virtual learning day policy.

To ensure that students are prepared, some school districts indicated that they had implemented practice days. These practice days provide students with an opportunity to experience what will be expected once an actual virtual learning day is declared. Teachers and technology support would be available to make sure that the technology

works and that students are able to access the appropriate resources. It may take a few times for students to become comfortable with virtual learning days. One of the school districts indicated that students "are getting better with each one we implement." A couple of school districts that have not declared a virtual learning day yet stated that "we have had a couple of practice days 'in house' which have been well received by students."

Parents
Along with students, parents are a primary stakeholder impacted by virtual learning days. When inclement weather strikes, parents still must make arrangements for childcare whether a school districts declares a snow day or a virtual learning day. The issue becomes what their children are doing on those days. Three of the school districts indicated that parents were initially skeptical about the use of virtual learning days. One of the primary concerns related to helping their children with assignments. Some parents have expressed concerns with their ability to help their children. Other parents complained that after being at work all day, they have to come home and help their children with assignments.   Because of this concern, that school district has instructed its teachers to not assign work that requires first time learning.   "Assignments should reinforce content that has been presented previously be the teacher.   We also encourage teachers to post instructional videos that reinforce the lesson." Another school district works with "local daycare facilities so they know and understand the expectations." The Indiana state guidelines state that instruction is to be provided on virtual learning days and that teachers are expected to be available 5 - 6 hours to assist (Swetlik et al., 2015).

Despite these initial concerns, almost all of the school districts found that the parents adjusted to the virtual learning days and are now very supportive. Surveys conducted by one school district discovered that "84% of parents were in favor of eLearning Days." A survey conducted by a second school district found that 89% of their parents responded positively to the use of virtual learning days. The parents provided a few reasons for their support. "They like the fact that days will not have to be made up at the end of the school year or during scheduled breaks.   Snow make up days can have an impact of moving graduation dates and impeding on scheduled vacation time." Other parents said that "they love how students don't lose learning time because of weather." There will always be some that do not approve. One of the school districts shared that "a handful [of parents] are not happy and want to know when they will be paid for teaching their child." Here is a situation in which educating the parents on the available resources that the children should be using during the virtual learning day could be beneficial.

Teachers
As was noted by the parents, there is a misconception that students and parents are doing all of the work on virtual learning days while teachers get the day off. The Indiana Department of Education guidelines require that elementary school teachers be available to provide instruction for 5 hours on virtual learning days (Swetlik et al., 2015). The requirement increases to 6 hours for teachers of middle and high school students. The

protocol for how this should be accomplished, however, is not dictated. The state guidelines give school districts the autonomy to determine how virtual learning days will be applied. The stipulation is that students would receive an equivalent level of instruction. A possible misconception of virtual learning days is that students must learn all new materials and submit assignments all within the same day. This may be true if a teacher makes that decision. However, school districts and teachers are afforded the flexibility in the choice of instruction and due dates.

The flexibility afforded teachers was reflected in their responses to virtual learning days. Like the students and parents, most of the teachers responded favorably to the use of virtual learning days. The teachers also liked that not using traditional snow days avoided changes to the school calendar. One school district found that 96% of their teachers supported its use. Multiple school districts said that virtual learning days served as the catalyst for their teachers "to be more creative in the development of their VLD [virtual learning day] lesson plans." Another school district indicated that their teachers "have embraced online technology in their classroom as a regular part of their curriculum. This facilitates a natural progression of online learning away from the physical school environment."

It was noted by the school districts that while the response was positive, virtual learning days did create some complications for the teachers. "Some teachers find that the level of communication that is required is overwhelming, i.e. taking attendance, showing that all students are actively involved in the learning process through virtual means, logging student participation, and setting time parameters for the distribution and collection of materials." There were also teachers who chose to "go ahead and go to their classrooms to work during the day as it is easier for them." This also provided students an opportunity to come to the school and still receive face-to-face instruction if there were difficulties with the virtual materials.

School Administrators
The final set of stakeholders is the school administrators. All of the school district administrators were supportive of virtual learning days as a substitute for declaring traditional snow days. This was expected since the development and application for approval of a virtual learning day policy is based on an administrative decision. Their primary concern was ensuring the quality of instruction. To address this concern, school administrators "find opportunities for professional development and work hard to provide online platforms that support teachers in meeting standards of Indiana education."

The school administrators noted additional benefits from virtual learning days. "We feel that it reflects positively on our district and portrays us as cutting edge and innovative. This outside-of-the-box approach works well for our one-to-one district who has made the integration of technology a priority.   We live this philosophy everyday, not just on Virtual Learning Days." This was supported by another school administrator who said, "I believe the preparation for the use of Virtual Learning Days has caused our teachers to

greatly improve their use of technology everyday in the classroom, which has in turn improved instruction over all." One opinion that was shared among school administrators was that virtual learning days are a better alternative than closing the school district for a snow day. However, they are not suggesting that virtual learning become a replacement for the face-to-face interactions between and among students and teachers in the classroom.

Benefits
Having addressed stakeholder responses, the survey asked school district administrators to identify the primary benefits they have observed from the use of virtual learning days. Ten of the school districts noted the positive impact virtual learning days have had on teachers.   As a result of implementing virtual learning day policies, "teachers [have] expand[ed] their knowledge of software and platforms for virtual dialogue and submission of student work." Virtual learning days have required teachers to become literate with digital curriculum and learning management systems (e.g., Canvas, Moodle, Blackboard). "Teachers have been forced to be more creative in the type of instructional delivery to address content." These benefits were not limited to declared virtual learning days. School districts found that "more technology is being integrated into the classrooms on a regular basis."

Another commonly cited benefit of virtual learning days related to not having to alter the school calendar. All of the stakeholders appreciated not having to do built-in make-up days or extending the school year. Virtual learning days avoided disruptions to the continuity of learning that occurred with traditional snow days. Snow days have historically caused problems for teachers as they try to prepare students for the state mandated standardized testing that occurs each year. "Having several missed days of education in a row during critical learning times are no longer a detriment."

The benefit virtual learning days have had on students was frequently cited.   A school districted noted that "students have gained a greater sense of independence with the use of instructional technology." It was also mentioned that students were "forced to learn self discipline to complete the tasks." This was imperative for virtual learning days to be considered a success. The observation that students appeared to be more engaged with the learning technologies may be a contributing factor to students staying on task.

One school district found that "community partners have embraced this type of learning and partnered to make these resources available throughout the community such as coffee shops, the library, etc." A potential roadblock to virtual learning days is the lack of Internet access in the student homes. School districts have partnered with community agencies and businesses to provide students with free Internet access. Students are welcomed to do their work at local community centers, libraries, and restaurants that provide Internet connectivity.

Complications or challenges

Thus far, this report has focused on the positive aspects of virtual learning days. That does not mean that they are without any complications or challenges. The most significant problem identified by school districts is Internet access in student homes. The most commonly stated reason for the lack of Internet access was the lack of availability. Earlier in this report it was presented that the majority of the responding school districts served rural populations. Families living far into the countryside may have limited or no access to the Internet. Some of the families said that their only way to access the Internet from home was through their cell phones.

This is a serious issue that could threaten the viability of virtual learning days. Many of the school districts shared their strategies for addressing this problem. One of the school districts uses what they call e-backpacks. Students are given the opportunity to download or receive all the materials they will need while at school on the day prior to an anticipated virtual learning day. With the materials in hand, students are able to complete their assignments even if they do not have Internet access at home.

Another problem occurs in districts that do not have a district wide 1:1 plan using mobile technologies. One of the school districts only had iPads available for students in grades 6 - 12. They did not indicate how they accommodate students in grades K – 5. Families in districts that do not provide mobile technologies may have to use their own computing devices or computers available through community partners.

Whether the problem is Internet access at home or lack of computing devices, many of the school districts have flexible due dates on virtual learning day assignments. For example, one school district stated that they "allow 5 days to complete work and allow building computer labs to be open before or after school." The community partners identified earlier provide alternative locations for accessing the Internet. Some of the teachers and administrators open the schools on the virtual learning day or subsequent Saturday for students who do not have Internet access at home.

Weather forecasting presents another logistical problem. When threats of inclement weather are reported in advance, teachers have the time assemble the resources students will need on the impending virtual learning day. When the inclement weather is not forecast or is worse than predicted, teachers have until 9:00 AM on the virtual learning day to communicate the day's assignments to students (Swetlik et al., 2015). If unable to meet this requirement, the school district may still have to declare a snow day that would have to be made up at a later date.

Conclusions

The Indiana Department of Education has established a set of guidelines that allow school districts to implement virtual learning days instead of losing instructional time by declaring snow days. This study investigated how school districts and their stakeholders have responded after implementing virtual learning day policies. The school districts

which have adopted virtual learning day policies expressed their satisfaction with virtual learning days as an alternative to declaring a snow day due to inclement weather. This approval was shared by shared by students, parents, teachers, and school administrators alike. Listed below is a summary of the survey findings:

1. All of stakeholders liked not having to make up days in response to traditional school cancellations due to inclement weather.
2. Increased proficiency with learning technologies has encouraged teachers to be more creative.
3. Students are engaged with the virtual learning resources.
4. Students like the flexibility and autonomy that virtual learning days provide.
5. Student self-discipline is enhanced based on the high degree of participation and work completion.
6. The primary concern of parents was that they were going to have to assume the role of teacher on virtual learning days.
7. The most commonly cited challenge to implementing virtual learning days was student Internet access from home.

The school districts in Indiana that have adopted virtual learning day policies agree that they are a better alternative than school cancellations due to inclement weather. They have also indicated that the increased efficacy with virtual learning technologies have had unforeseen benefits in the classroom as well. This investigation does not suggest that virtual learning should become a substitute for classroom learning. The major finding of this study is that virtual learning days serve as an option school districts can implement that may avoid the negative impact school cancellations can have on student learning outcomes.

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