

Reflection-Research Paper

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ET-5083 Instructional Technology Systems Management

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The journal chosen for this practice article is the Contemporary Issues in Technology and Teacher Education. This journal focused on current issues of the classroom and technology integration. Submissions for this journal encourage scholarly conversation which is the goal of this article. This article focuses all about technology in the classroom and the benefits which would be a beneficial addition to the journal. More people need exposure to what an instructional technology leader does in an organization.

Instructional Technology Leaders in Elementary School

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***Abstract* – Technology has increased in all education organizations since the pandemic; more people should be aware of how instructional technology leaders can support organizations and students. This study focuses on instructional technology leadership in an elementary school and dual language setting. Topics to be discussed include instructional technology systems, technology application, safety and security, planning, troubleshooting, and professional development. Instructional leaders support the organization and the students by implementing a technology plan and goals.**

Introduction

Since 2020, technology has increased education. Low income schools made it possible for many students to receive the devices they needed when teaching because of distance learning. Education took a digital shift, leaving educators to research and learn how to teach online alone. Teachers became amateur instructional leaders to some extent, looking for different digital instructional resources and applications to teach successfully. Students were exposed to

digital instructional resources earlier than they usually would, and how easy it was to hide behind the screen. Since education has returned to in-person, the expectation of using technology in the classroom remains. It was clear that society needed to learn more about software and hardware to thrive worldwide. 21st-century skills have increased in necessity (Kuloglu & Karabekmez, 2022). Since then, education and technology have become partners in learning, communication, collaboration, and global awareness, all 21st-century skills (Kuloglu & Karabekmez, 2022). Many districts require continuing technology in the classroom, despite being in person. This change does not mean schools require teachers to use technology 100% of the day but integrate it into the lessons. Integrating technology in the classroom can be done in many forms. Technology can be used during whole-class instruction to keep the students engaged and participate in the lesson (School of Education). Elementary educators have the difficult task of forming the foundation for the students to prosper in the future. Developing the students' 21st-century skills require teachers to know, apply and create these skills in the classroom. Technology is crucial to success in society regardless of background or socioeconomic status. Although this is true, some educators avoid technology. There is an influx in technology it would benefit all to have an instructional technology leader in the organization.

Technology leaders are not the same as Information Technology leaders. Information technology focuses more on hardware, software, and network. Instructional technology leaders work on assessing the organization and analyzing the needs of the staff, guiding, and supporting staff toward blended learning (Eduspire, 2018). Tech leaders form a technology implementation plan with the data from a needs analysis and technology already in the school. The implementation plan will guide staff to have a common goal for technology in the classroom. The leaders look for grant opportunities to support the organization's goal. Professional

development is also a responsibility of the technology leader; the training will assist the staff in meeting the goals and learning about the equipment they have in the classroom. This research paper will discuss the different parts of being an instructional technology leader in an elementary school setting.

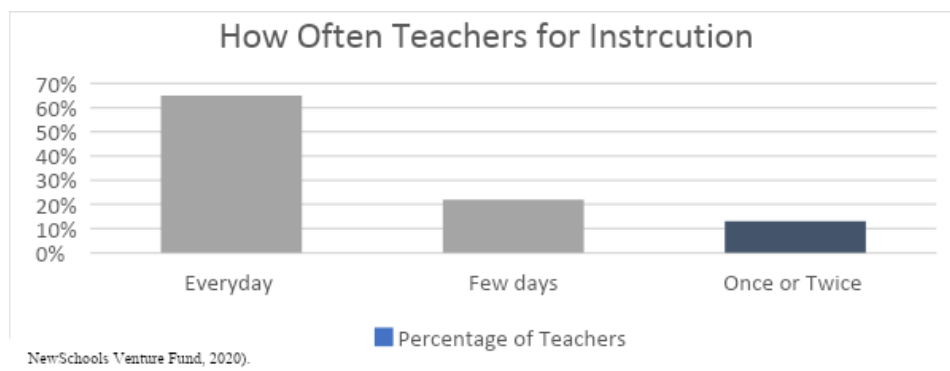
Instructional Technology System

What is it?

The instructional technology system is the technology used in the classroom. There are several technologies to choose from to use in the classroom. Computers, the internet, projectors, and interactive boards are ordinary in the classroom. Networks are part of the instructional technology system. In this research, the focus will be on digital networks. Depending on the organization, there will be different networks, client-based or server-based (American College of Education, 2021). Usually, schools are server-based networks because one server delivers all the applications and programs to the clients (American College of Education, 2021). Networks expand to a more significant extent because it controls what people have access to with the assistance of the wireless network. Organizations can use wired networks to control their clients, but it is more common to see wireless networks. A wireless network in a school setting must be secure to prevent students' information from being hacked or stolen, leading to the network's health. Instructional technology leaders must examine the network of the organization. There needs to be an understanding of the staff trained on the technology in the school. All staff must collect data to evaluate what should be happening in the classrooms and where the organization wants to move (American College of Education, 2021).

All schools have different types of instructional technology based on the town's income. The goal of instructional technology is to support all students in learning and engaging in the

classroom. Instructional technology allows all students, regardless of language or abilities, to participate and learn in the classroom (Sundeen & Sundeen, 2013). Technology in the classroom provides a sense of global awareness for the students. They can use the internet to search for topics they are interested in learning. Students can communicate with others via email or other messaging applications. Depending on the age group, technology can be the source of collaboration. Computers help search for information or create invigorating lessons. Digital projectors and interactive boards allow students to follow along. If used often and adequately in the classrooms, these tools become less challenging for the teacher and student. About 65% of teacher use technology in the classroom, 22% some days a week and 13% once or twice a week (NewSchools Venture Fund, 2020).



Maximize Instructional Technology System in the Classroom

As a second-grade elementary educator, there are opportunities to introduce different instructional technology to students throughout instructional time. Having these resources in the classroom makes the learning environment equitable. Technology benefits learning because it can engage or encourage students with little interest in education. Several applications within a device assist with the differentiation of lessons. All students have an opportunity to participate in the lesson. Instead of students having time to misbehave, they can interact with technology. Smart screens can be a student's responsibility to calibrate as the teacher prepares for instruction.

An educator with younger students benefits from a document camera because modeling is crucial for the younger grades. Document cameras will benefit all classroom students, especially those visually impaired.

Technology Application and Resources

After returning to in-person learning, some educators returned to teach traditionally. Many did not want the stress of independently learning to use technology any longer, while others felt more comfortable continuing the use of technology in the classroom. Applying technology in the classroom can be challenging for teachers, especially if they need to be tech-savvy. Often teachers do not want to use technology in the classroom because they lack knowledge of that application or tool (NewSchools Venture Fund, 2020). Other educators believe the traditional way of teaching is more beneficial than using technology. Although traditional teaching benefits students, students should develop their 21st-century skills. Applying technology relates to professional development because if teachers receive support, they will be bold in using the material given. Technology applications in some districts have licenses for educators to use. There are web-based resources educational organizations use to implement interventions or additional learning support. Technology applications are resources students and teachers use, like administrative technology, cloud computing, and website resources. To identify the organization's needs, it is important to survey the staff's needs and goals. If there is already software and hardware available and not used, identify what is preventing people to use it. Use reliable sources when searching for educational software and hardware. While searching for educational content, there must be an awareness of the cost and required servers. Security must be taken into consideration, especially when student information is involved.

Administrative technology and Cloud Computing

The organization's administration does not only access administrative technology, but the staff accesses it. Some administrative technologies are human resources and student information systems. The human resource system is an administrative resource that stores data from employees. (Vulpen, 2022). This system recruits others to join the organization, including a performance manager, professional development tracker, professional credit tracker, and more (Vulpen, 2022). This system stores and organizes all the records of the employees. Staff can access their files, but to some extent. The system is secure to prevent any possible intrusion.

Student informational systems are a student's educational journey report, including their demographics, statistics on academic performance, absence behavior, and much more (American College of Education, 2021). All student information is in the portal. Specialized personnel and parents can access sensitive, personal information and oneself; otherwise, no one is allowed to view the records unless they have a parent's consent (American College of Education, 2021). Cloud computing is a system that uses a remote network to deliver and stores information (American College of Education, 2021). These systems are convenient for people that use a different type of device because the information or work is stored in the cloud and accessible wherever one goes.

Web-Based Instructional Resource

As mentioned before, the internet allows collaboration which includes educator collaboration. Many teachers are creating resources for one another to use in the classroom. Teachers have created websites where they upload a worksheet or resource, they have created for others to use. Some of these resources require payment, while others are free of cost. There is digital or multimedia websites with possible applications to use in the classroom. YouTube is a resource with thousands of educational videos for the classroom. YouTube can be helpful when

used strictly for learning. MERLOT is another resource to use when searching for digital resources (American College of Education, 2021). This site organizes the resources based on the needs and age group of the classroom. All the resources found on this web page are free. Instructional technology leaders are to assist in searching different sources to be used in the classroom. Using these resources When choosing a resource for the classroom, ensure that performance, compatibility, modularity, ergonomics, availability, vendor, and cost are in mind. Sometimes, the web-based resource will not be compatible with another type of hardware. Keep in mind the audience that will be using the resource.

Safety and Security

As instructional technology leaders, the priority should be safe on the internet. More students are exploring the net without limitations; thus, the instructional technology leader must know the different firewalls and antivirus software the network uses. Instructional leaders must educate the organization about the risks of the internet. Everyone must know about the possible cyber-attacks they could encounter because they can cost thousands of dollars (Federal Bureau of Investigation Internet Crime Complaint Center IC3, 2021). There are two laws that instructional leaders must know. An instructional leader must be aware of the FERPA or Family Education Rights and Privacy Act which allows parents to access their child's student records (American College of Education 2021). CIPA is the other law one must know. CIPA stands for Child Internet Protection Act (American College of Education, 2021). This law prevents minors from accessing inappropriate sites and monitors the use of technology (American College of Education, 2021). Both resources are to protect the user from inappropriate websites. Adding internet filtration would help monitor the different websites or articles. Cybersecurity can

infiltrate the device and cause damage to the owner's life or device. Cyber-attacks can be viruses, worms, phishing, scams. Regardless of the extent of their damage, they can ruin someone's life.

Planning

Planning is an essential part of being an instructional technology leader. There must be a creation of a technology committee team. The technology committee contains trainers, staff, instructors, Information Technology staff, students, and community members (American College of Education, 2021). These members of the committee bring different perspectives and information into the group. The rest of the staff assists by taking a needs assessment to identify the organization's problems. After the assessment, the technology group creates a mission, and stakeholders agree on the vision statement. The committee makes goals for the organization that are attainable for the entire staff. Committee members analyze the organization's budget to ensure their goals are entirely under the technology budget (American College of Education, 2021). The technology committee forms a technology plan for everyone in the organization.

Reflection

As an instructional technology leader, it is crucial for only some parts of the row. It is not about technology; it is more than that. Analyzing the different parts and instructional technology leaders must follow shows the importance of communication, collaboration, and integration. In instructional technology, the leader is an advocate for staff and students. One must have the skills to identify technology systems, use adequate applications and resources for the organization, keep the network safe and secure and plan for the organization based on its mission and vision.

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