

Planning for Professional Development Implementation and Recommendations

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Abstract

In the 21st century, school districts constantly face the challenge of finding the most efficient way to integrate and meet technology needs within a school district. To best improve instructional practices, create a student-centered environment, and choose the best technological devices, there needs to be input from various parties within a district. According to "The Digital Divide," "District and school leaders empower stakeholders at all levels to take risks, provide input, and take ownership of technology integration efforts" (2017, p. 3). Therefore, leaders, through the consultation of stakeholders, must distribute needs assessments to assess the requirements for quality instruction and take action to integrate technology successfully.

Although this challenge of developing a plan is not quickly resolved, a needs assessment serves as an indicator of the areas that promote authentic digital instruction; thus, it can also help identify the limitations of a district due to technology restrictions. In shaping a positive learning environment, these assessments also serve to realign instruction to create student-centered teaching environments while providing resources to those who help build a solid educational foundation. From this challenge, the district must address the needs of stakeholders at every level for a district's plan to have effective digital learning outcomes.

In this analysis of survey results, a needs assessment was distributed to 16 students in the ECTL 6320 learning course, who range from teaching ages K-12. Data was collected and analyzed about the current technological and digital needs state through each student's individual experiences. Therefore, the purpose of this analysis is to discover common trends found within data from the assessment, which are presented through charts and graphics. From there, the needs assessment survey results will transition into professional development recommendations for the proper use of technology integration within the classroom.

Survey Results

The professional development needs assessment gave a greater insight into the reactions and responses of educators ranging from 0-15 years of experience. The needs assessment was distributed to 16 educators during the ECTL 6320 course for the fall semester of 2022. The participants range from various subject areas and grade levels, from early adolescence to later secondary education. It is important to note that the survey questions call on educators to use their experiences in their subject area to further clarify their professional development needs for technology. In response, the survey assessment generally determined that while most educators feel confident that technology in their curriculum is helpful in instruction, they believe that there is no clear communication or collaboration between stakeholders or the district's overall technology plan.

After assessing the majority of responses in different categories, it is evident that when the teacher and student learning practices are considered, many educators feel confident in using their technology practices and resources authentically in the classroom. Furthermore, according to figure 1, the needs assessment proves that among the educators who were assessed, almost all agreed that technology allows support instruction by providing methods of approach to create an engaging digital learning environment. According to figure 2, most of the educators in the needs assessment strongly agreed or agreed that technology helped create real-world, collaborative, and independent experiences that prompt student learning. Although 66.7% agreed with this claim, the more detailed support and communication of a district's goals could increase the confidence that educators have when using technology for instruction. In reflection of these statistics, educators are beginning to feel more comfortable using technology to diversify their skills as

educators and utilize a variety of experimental practices to better suit learner needs within the classroom.

Figure 1

Count of 1. My teaching practices emphasize teacher uses of technology skills to support instruction.

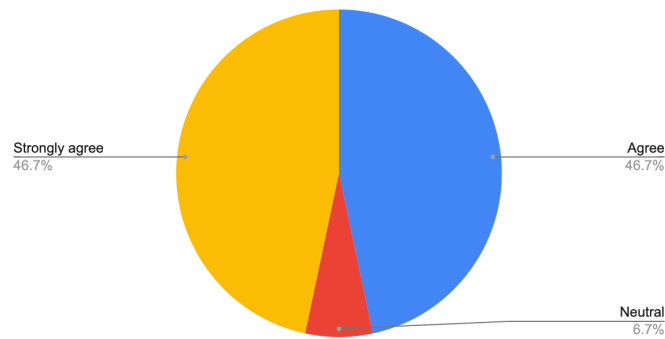
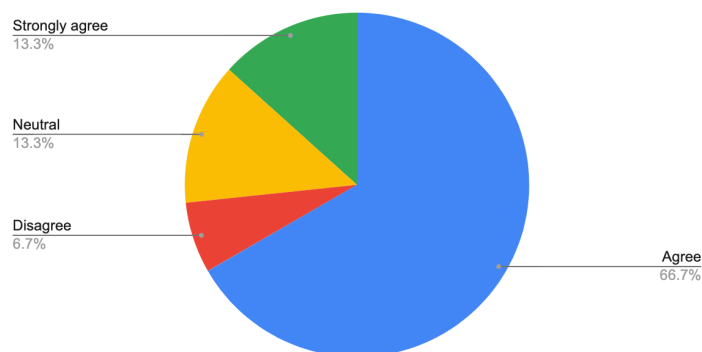


Figure 2

Count of 3. My teaching practices emphasize student uses of technology as an integral part of specific teaching strategies,...

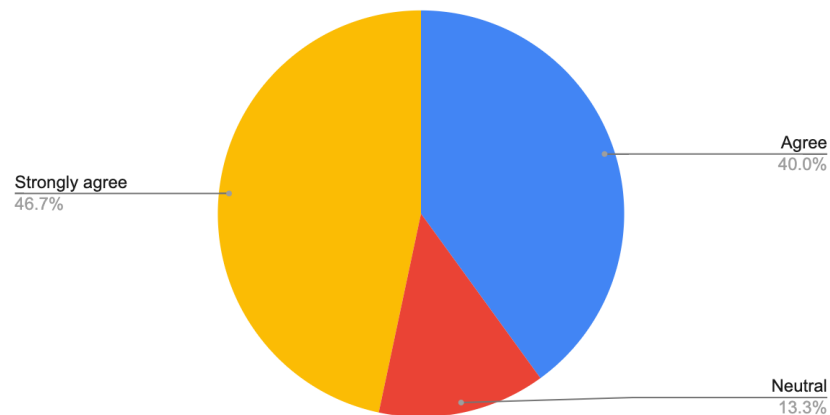


The following section adds more focus on the effectiveness of technology on student learning practices, which highlighted a positive response from the 16 participants in the survey. Overall, participants agreed that technology enforces engagement and collaborative processes and aids students in becoming self-sufficient learners. According to participant responses in figure 3, 46.7% strongly agreed, and 40% agreed that the incorporation of technology within the

classroom provides more creative and critical thinking opportunities within the school; thus, student confidence and mastery are on an incline due to the incorporation of technology.

Figure 3

Count of 4. Technology has increased my students' engagement in their learning.



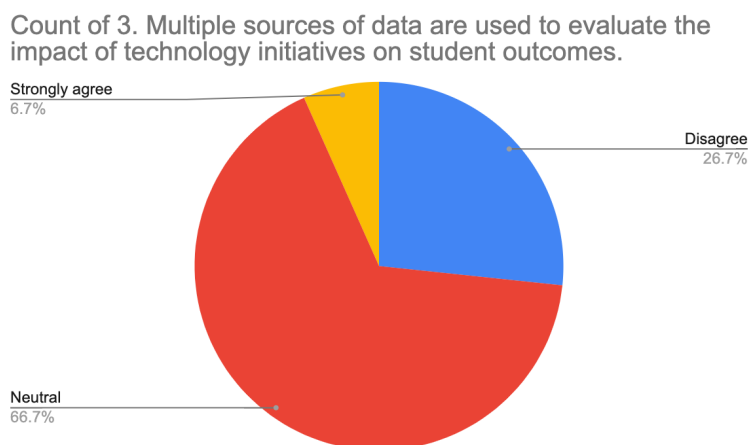
The next section of the needs assessment discusses how districts communicate and design their technology policies and plan to incorporate digital materials to achieve their individual goals. According to figure 4, as the survey assessed how teachers felt about technology as a means of communication and collaboration with families, 46.7% of participants strongly agreed, and 40% agreed that technology helps ensure more effective methods of promoting student learning beyond the classroom. In addition, many participants agreed that there is ready access to technical support in the need for troubleshooting or to ensure the effective use of digital devices within the classroom.

However, according to figures 5 and 6, there were a variety of reactions when considering how well the visions for technology are communicated and developed in the district's technology plan via collaboration with stakeholders. Assessment results show that among the 16 participants, 33% either disagreed or felt neutral about the effectiveness of their

district's technology plan. The effectiveness of the plans largely relies on how well stakeholders collaborate on all levels to create a detailed technology plan that aligns with their district's goals. According to statistics in figure 5, 66.7% of participants found there was insufficiency in multiple sources of data used to evaluate the impact of technology initiatives. Therefore, in this assessment, teachers agreed that data is not effectively conveyed to determine student learning outcomes and best practices for technology.

Figure 4

Curriculum Area of Focus	Technology is used to communicate and collaborate with families about school programs and student learning.	Teachers have ready access to technical support, e.g., to troubleshoot hardware or software problems, and maintain systems.
Language Arts	Agree	Agree
I teach math, science, social studies, reading, writing and phonics	Agree	Agree
Math	Agree	Agree
Math, Language Arts, Science & Social Studies	Agree	Agree
Math	Agree	Agree
Social Studies	Agree	Agree
Technology	Neutral	Agree
Technology	Neutral	Agree
Co-taught Math and ELA with Sci/SS support as well	Strongly Agree	Agree
Social Studies	Strongly Agree	Agree
Technology	Strongly Agree	Neutral
Science	Strongly Agree	Neutral
Math	Strongly Agree	Strongly Agree
All Subjects for Kindergarten	Strongly Agree	Strongly Agree
Math and Reading	Strongly Agree	Strongly Agree

Figure 5

The last section of the survey focuses on professional development needs within school districts. Results were calculated based on the greatest need for professional development when considering educators, curriculum, and technological resources to promote student success. Participants agreed that technical tools and strategies are in place to encourage students' higher-order thinking and a positive digital learning environment.

According to the results in figure 6, the consensus among the participants shows that the most vital area of need is the technology for differentiating instruction for students with special learning needs. Overall, 66.7% agreed, and 26.7% strongly agreed that strategies for differentiation are crucial to ensure positive student-learning outcomes. In addition, depending on PD needs, results in figure 7 were calculated based on other areas of substantial agreement between participants' results on needs for student resources and requirements for promoting critical thinking within the classroom. Therefore, 66.7% of participants at least agreed that learning strategies should incorporate technology to be student-centered with collaborative learning experiences. Additionally, 66.7% of participants agreed that districts should provide various technological resources to aid students with a variety of learner needs, communication

skills, and productivity strategies. Most educators felt that there was little need for methods to communicate more effectively with their colleagues or for students to have resources in place that better help them communicate in a network outside the classroom.

Figure 6

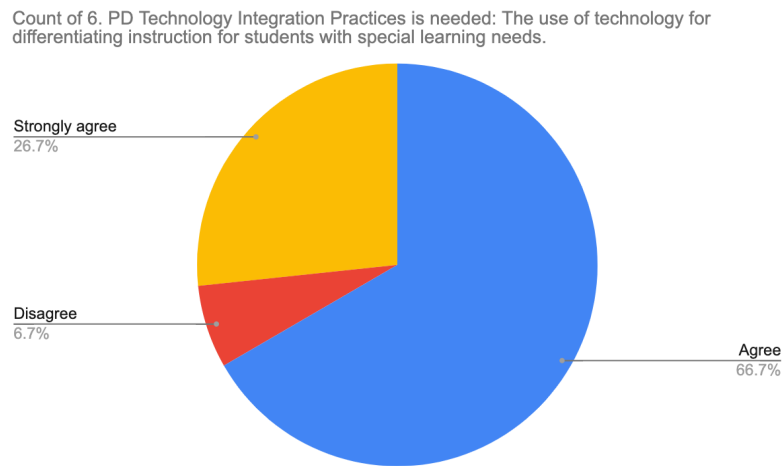


Figure 7

	Learner-centered teaching strategies that incorporate technology, e.g., project-based or cooperative learning.	Technology Integration Practices is needed: Students use a variety of technologies, e.g., productivity, visualization, research, and communication tools.	Technology Integration Practices is needed: Students use technology to create new ideas and representations of information.
Strongly Agree	2	2	4
Agree	10	10	6
Neutral	3	2	4
Disagree	0	1	1
Strongly Disagree	0	0	0

Educators have had different district exposure to technology plans, strategies, and other resources to create a more authentic learning environment. However, consensus shows that when considering professional development, educators need support in having access to multiple

learning strategies for differentiating instruction when using technology that helps suit the unique and individual needs of the students within their classrooms. In addition, the needs assessment proves that participants do not feel that their districts provide a clear outline of digital tools and multiple technology sources that will help suit learner needs and the district's personal goals or mission statement. Therefore, this lack of training can cause educators to feel overwhelmed by the majority of resources that have been unexplored or not communicated, which, if shared, could result in a more efficient educational experience.

Conclusion of Survey Results

Survey results reveal that when considering a district's area of strengths and needs, there are a variety of agreements and disagreements based on the experience of the participants, different subject areas, and each district's plan. Therefore, the assessment was divided into sections assessing teaching practices, student learning practices, technology planning, and professional development needs.

In the first section of the assessment, participants felt positive that technology within their classrooms served an essential purpose in support of instruction and the push for a variety of higher-order teaching methods. Although, the first section concluded that many felt neutral that their instruction did not do much to promote students' effective use of productivity suites to better assess student achievement and areas of need within the traditional curriculum. To be a 21st-century educator, data on student performances, in response to instruction strategies, must be compiled to assess the needs and goals of a district.

The next section of the needs assessment emphasizes student learning practices; therefore, most participants agreed that technology has positive outcomes on collaborative experiences and the promotion of independent learners. According to DeBarger (2011),

“classroom network technologies ensure that technology supports a wide, rather than limited, number of ways learners can collaborate; other teams have sought to articulate sets of collaborative design patterns” (p. 2). Therefore, teachers have utilized technology to design a classroom environment that adheres to collaboration and authentic learning experiences. However, some educators did feel neutral about technology being used to create digitally responsible citizens who are more prepared and suited for life beyond the classroom. In his article “Preparing Students for Their Technological Future,” Willard Daggett states, “as learning becomes more personalized, teachers will have the primary responsibility of orchestrating the mastery of 21st-century skills that students need to be successful, such as leadership, team building, and various types of literacy skills” (p. 7). As Daggett communicates, the need for skills that reach beyond the classroom is vital for future success. However, the assessment results prove that districts need a more effective plan to ensure leadership and collaborative skills for adulthood.

The final two sections of the survey concluded that some districts do not adequately collaborate with all stakeholders to create a clear and communicated district vision. Higher level admin should do more to distribute a clearer vision for success, with straightforward data that express the areas of need and plans for success. The most vital professional development needs are student-centered learning for collaboration and creating responsible digital citizens. In addition, educators need support and resources to create authentic learning experiences that meet the individual needs of their students. Finally, stakeholders at all levels must be “[using] the technology for real aims and the technology fosters learning in the process, that it is included in the school culture, and that it can be a premise for further innovations” (Simsek & Can, 2020, para. 8). According to this assessment, there is miscommunication or a lack of detail from the

district stakeholders in how they plan to bridge a connection between the technology available and how it will shape districts' learning processes.

The assessment proves that some districts should become more precise in shaping their intended goals, supply technological resources, and provide strategies for students to succeed using that district's available resources. A smooth-running educational culture requires input at all levels to be communicated clearly and passed down to the next level while supplying educators with the materials and strategies they need to foster learning-centered education. Although technological shifts in the 21st century have had a significant role to play in creating more collaborative and engaging instruction, this abundance of resources needs to be shaped and aimed to reflect a district's goals and methods to reach its intended educational outcomes.

Professional Development Planning and Recommendations

The 21st-century educator is consistently faced with ever-changing educational standards due to the need for a productive learning environment. This productive learning environment aligns with the trends, technological advances, and learning styles of contemporary times. Chein (2012) states, "with the change from the "lecture and learn" model to fully interactive learning available through digital media, students gain greater responsibility for their education and view it as a process of lifelong learning" (pg. 2). In addition, professional development plans and strategies that align with the digital age, steer less away from traditional learning while including innovative instructional strategies to engage and prompt higher order thinking from students. Therefore, a professional development plan must be communicated and implemented so that all stakeholders make appropriate decisions for the benefit of education and their districts. In a world of limitless technological resources, educators must have a blueprint for success that helps

them to work innovative practices, authentic learning experiences, and available digital resources to their fullest extent.

The U.S. Department of Education sets standards for successful teaching models in development plans. Therefore, an infrastructure must be developed where districts provide resources that are needed for both students and teachers, and the district can properly communicate these resources through "collaborative learning environments" (Hanover Research, 2014, p. 6). The best practices for a professional development plan to suit district members' needs are the organization, collaboration, and proper planning to effectively exercise digital resources in the classroom. Based on the professional development needs from the assessment, many educators would benefit from more supportive technical assistance with technology-rich digital resources. With this assistance or implementing PLNs (personal learning networks), coaches then communicate with educators how to foster an authentic learning environment with the available tools.

In addition to collaborative learning, technology assistance, PLN networks, and digital coaching, PD plans also need a clear purpose with policies, methods, and plans to ensure success. Hanover Research (2014) states, "Communities should have a clear purpose that suits the needs of a well-defined targeted audience. Short, intermediate, and long term desired outcomes of the community should be directly tied to the purpose and be positioned to participants in this way" (p. 10). Therefore, a clear blueprint of resources and a clear vision of how these sources will be utilized and measured are vital when creating a PD plan. All these components of a successful PD plan are further supported by the findings in the distributed needs assessment.

The needs assessment results suggest that educators need assistance in the following significant areas: implementing differentiation strategies with desired outcomes and collaborating learning experiences between educators and their students. These two aspects of the needs assessment suggest that a district's professional development plan should support using technologies to their fullest extent while opening a clear communication channel to implement effective strategies for educators and students.

The first professional development recommendation is for districts to outline technology resources (in the district plan) to differentiate based on learning needs. This involves suggesting and providing content ideas to produce a desired result or product. These resources should be compiled in a master document by various stakeholders within the district. These stakeholders should include a mix of persons at all levels, some of whom have successful experiences using digital tools or platforms. For example, suppose a teacher at a secondary level has found the use of a digital podcast resource to promote digital literacy. In that case, they could add this tool to the master document. In addition, when a professional development plan seeks to differentiate a curriculum, it should map out a chart of goals within a particular area (i.e., learner needs), how those goals can be measured using specific tools, and the desired outcomes. Finally, to clearly outline technology resources and collaborate with the public, the plan should include "so-that chains," which outline how learning outcomes should be assessed, measured, and achieved. For example, ORS Impact (2014) communicates, "creating so-that chains for each strategy can allow for effective articulation and communication of expected changes resulting from each strategy, and how the strategies together contribute to ultimate goals" (p. 19). These chains or tables should align with a clear set of goals and have the input of digital coaches. Therefore, the district

should revise these resources and measurement strategies to align with accessible tools and the most up-to-date technologies available.

The second professional development strategy addresses the lack of technological support within and beyond the classroom. Therefore, I recommend creating and providing professional development assistance for students and educators via a PLN network. The goal is to help students and educators communicate, collaborate, and feel supported beyond the classroom. Unfortunately, the needs assessment identified that educators think students do not cooperate, and many staff members do not feel that technical assistance is readily available in their districts. Whitby suggests that PLNs can use multiple communication outlets to allow educators and students to stay connected and informed at all times (Whitby, 2013, para. 1). Additionally, PLNs can be distributed through resource boards, podcasts, resource sites, linked documents, and many other forms of communication.

This implementation would take some time to begin, as it would be beneficial for every department to interlink general style guides that align with their subject areas. However, suppose all educators compiled all resources within an organized PLN. In that case, this could give students and educators the assistance they need, even when they are not in the classroom. An activity would also be to investigate a cross-curricular tool that one could implement into their classroom. Some possible steps to build a PLN and hold staff accountable would be to keep a journal of resources they use or collaborate with their teams to identify growth areas. Allowing members in the PD session to work within their departments would have time to create their style guides and highlight the essential resources to add to the PLN (Whitby 2013, p.4). Professional development would involve exploring each department's resources and making recommendations from the IT department on which technological issues need the most attention. Educators could

collaborate with technology coaches in groups to better voice their needs and their students' needs. Then, this team-built PLN could be taught and supplied to students for additional support.

The final recommendation would be to provide professional development opportunity days for teachers to foster their digital learning skills and implementation strategies district-wide and in teacher-based teams. Beyond differentiating for more authentic, engaging lessons, districts should adopt days for educators to build on their certifications in teaching gifted students, general education, and ELL students in the classroom. PDUs (professional development units) are often accessible or low-cost credit opportunities that the district can credit to teachers "keeping up with ongoing education in the field to grow and stay relevant" (Trapani, 2021, para. 4). There are certification programs that are free to use and help educators utilize a variety of digital tools to pass on in the classroom. For example, the district should map out a whole PD day for educators to become Google Certified Educators or use PD platforms to help gain credit hours. Therefore, programs like Responsive Learning also partner with districts to provide courses and book studies that help teachers prepare better for teaching gifted or ELL students. Spending a reserved amount of time using these programs, these courses or opportunities should align with a district's vision of long-term goals.

All these suggestions align with setting a clear vision for a district but also clearly communicate pathways for educators to achieve those goals. For example, suppose teachers can show growth and build their portfolios. In that case, this leads them to become eligible for licenses, grow in specific departments, be effective educators, and network with their peers. In addition, I would propose that teachers earning PDUs outside the district should be eligible for salary reclassification or tuition reimbursement. Another possible incentive to encourage participation in all professional development suggestions would be establishing a set training

schedule. I propose that the last Friday of every month might be an asynchronous learning day so educators could have time to meet in their teams to build on their department PLNs, add to the master resource documents, or partake in professional learning opportunities.

The other aspect of these professional development strategies is also considering the cost-effectiveness and budget restraints. This plan focuses on enhancing limited skills or availability that educators recognize in their districts. However, to accommodate the cost of professional development training, the plan might consider the cost of becoming Google Certified or the subscription costs of partnering with online PD programs. The budget also might have to accommodate more technology coaches or expanded positions, which educators could use to help build master resources or PLNs for the district. However, some of these suggestions involve cost-friendly methods of networking, under the supervision of a committee, to organize a district plan that is more clearly mapped out and aligned with the district desired outcomes.

Implementing shared networks, master resources within district plans, and professional development opportunities create accountability for a district's educators, administrators, and students. Many of these professional development plans will take time and will not be achieved through a single session, but they are projects that involve collaboration at all levels; thus, a more unified and focused district will, hopefully, be the result. In connection, the Covid-19 pandemic gave educators access to many new web 2.0 tools and technology resources. As a result, teachers needed workshops, tutorial videos, and shared resources to keep the learning momentum, and teachers received tools daily to enhance their lessons. For example, in our professional development about UDL principles, it would be practical to have teams meet in break-out groups, with a leader presenting a curriculum map, and have each time add 1-2 UDL principles within their lessons. My plan proposes that faculty be awarded \$25 per digital workshop session,

with a limit of 5 sessions per semester. These PD opportunities would be incentivized and would encourage staff to participate in an online format. Also, it might be practical to set up professional development in modules programs, like Novak Education, to interlink responses and break down information into chunks. Completing modules spread throughout the semester would allow educators to work at their own pace and interact with their colleagues.

Conclusion

In conclusion, many elements factor into a clear, detailed, communicated professional development plan. To be successful, the plan should not only have clear goals mapped out, but it should also supply resources and strategies for achieving those goals. The plan should then be supported through PD opportunities, constructed materials by stakeholders, and collaboration between members of the entire district. By uniting these three concepts, education will be more enriching as it aims to support learner needs by including various authentic digital tools. In achieving this, educators would also have the assistance needed when choosing best practices for a student-centered approach or learning about new resources to enhance their teaching. I believe that the goals and suggestions above support each other and would build a stronger community among all stakeholders in the educational system. Therefore, this plan seeks to create an organized blueprint for success as all levels of education are properly supported and guided to success.

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