

RECOMMENDATION 6: Provide Access to Technology and Support

Overall summary

Technology use and implementation throughout the district and/or school building requires continuous support and a systemic process through which teachers can access assistance when experiencing technical difficulties with the technology. If teachers and students are frustrated, technology is less likely to be regularly implemented and, therefore, will not contribute to student improvement.

Recommendations from the literature and practice

A reliable network infrastructure is essential in any digital environment. Technology options that are not reliable, or that are difficult to use, can lead to frustration among teachers and lack of use with students. In contrast, when teachers, students, and parents can access an instructional network anytime/anywhere, using technology to enhance instruction increases student engagement and communication and simplifies information sharing. For example, teachers are able to upload lessons and homework assignments to the network for student and parent access or to quickly send messages

to all parents. To maximize the usefulness of technology, digital materials and resources must be available wherever print materials are currently being used—at school, home, grandma’s house, the park, the orthodontist’s office, and so on. Full access to digital resources can lengthen the school day, and more time leads to better results.

Work with the technology coordinator(s) in your school and/or district to ensure that the school is equipped with adequate bandwidth to support the technology devices you have chosen. Students and teachers must have ready and consistent access to online resources to support teaching and learning. Usage can be monitored and possible bottlenecks identified before they affect teaching and learning.

Education technology can't fulfill its promise if students can't get online.

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We encourage you to seek advice from device manufacturers on network specifications and on developing networks that will support the devices that you have chosen to

implement within your district and/or school. Most districts and schools will need to update and overhaul their connectivity plans, and it is important to fully understand the financial and physical network requirements needed to handle the amount and types of usage anticipated.

In addition to equipping the school building with secure and reliable

connectivity, the leadership team will need to develop key policies and procedures to support continual implementation. Key decisions will include (but are not limited to):

- ▶ When and how to support student-owned devices, including cell phones
- ▶ Provision of wireless Internet access off school premises (3G–4G)
- ▶ What level of support to provide to the economically disadvantaged
- ▶ Whether or not students will be allowed to take home their devices
- ▶ Parental and student agreement forms on caring for the device at home
- ▶ Maintenance/service plans
- ▶ Charging and storing needs
- ▶ Ways for teachers and students to access technical support as needed

Read example technology policies developed by schools and districts across the country in [Appendix G](#).

Beyond access, the leadership team will benefit from creating a plan for supporting teachers’ use of technology tools. A first step would be to create and maintain an inventory of all available technology tools in the school, in the district, and at local technical assistance centers. Teachers need to know what is available and how to access it. (For example, if your school has a laptop cart, how does the teacher “sign up” to use the computers?)

Once you have developed your inventory and established procedures for teachers to access the devices, you will need to define how you will communicate this information to the teachers in the building. If teachers do not know the processes for accessing the technology within the building, they are not likely to integrate the tools into their lessons.

Review your plan on an ongoing basis to ensure that your inventory is current and your technology tools are accessible, and to identify new



ACTION STEPS FOR RECOMMENDATION 6

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- ▶ Complete/revise your Technology Inventory Record Sheet
- ▶ Plan how you will provide increased technology access
- ▶ Determine how teachers will access support when experiencing technical difficulties and communicate this information to all staff

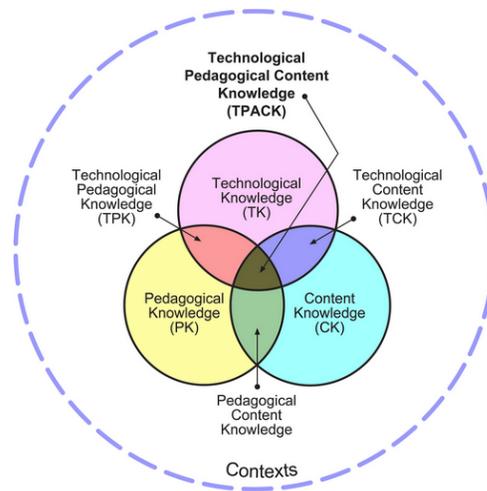
For additional ideas and support, refer to the materials in **Module 4: Supporting Your Teachers** in the Support Modules.

strategies to support teacher use of technology as needed. Teachers will need clear guidance on the procedures for accessing devices

as well as technical support when devices fail to operate as expected.

Appendix G: Technology Integration at the Classroom Level

The TPACK (Technological Pedagogical Content Knowledge) framework lays out the knowledge areas that teachers need in order to successfully integrate technology into their teaching. As you can see in the graphic, the TPACK model emphasizes the importance of teachers building their instruction on the interplay of pedagogical, content, and technological knowledge. Districts and schools across the country have found success in using this framework in professional learning workshops to help teachers move beyond using technology as a supplementary tool and toward integrating the tools to support and enhance instruction.



More information and resources can be found on the [TPACK website](#).



The SAMR (Substitution, Augmentation, Modification, Redefinition) model, created by Dr. Ruben Puentudura, is another framework to support teachers as they think about how technology is currently integrated into their classrooms and develop a vision for how they could evolve their use of technology tools throughout instruction. According to Puentudura, “the ultimate goal of technology integration is to completely redefine how we teach and learn, and to do things that we never could before the technology was in our hands.”

Let us consider the different ways teachers can instruct using a tablet and apps. Teachers who use the apps as a “substitution” choose apps that do things you could do with regular classroom tools, such as reading an eBook, creating flash cards, or practicing fast facts and phonics. Teachers who have moved into the “modification” and “augmentation” phases are using apps that add functionality to regular classroom aids (like an eBook that reads to you, an encyclopedia that calculates equations, or a magazine that is built around your interests). Teachers in the “redefinition” phase have moved beyond regular classroom tools and now choose apps that perform tasks that would not be possible without the use of technology, such as building collaborative narrated digital slide shows, helping students with autism learn social cues, or creating a movie. For more information, view a series of [podcasts](#) by Dr. Puentudura or visit his [blog](#).