# Careers in K-12 Education

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Never in the history of K-12 education in America has the access to and demand for using technology to support and extend learning and improve teaching been greater. That said, all indications are that these expectations will increase for teachers to effectively model, use, and integrate technologies in their classrooms and in their own professional development. The 2017 NMC Horizon Report (available at https://edtechbooks.org/-nN) cites these key trends (pp. 10-20):

- Long-term (5 or more years): advancing cultures of innovation and deeper learning approaches;
- Mid-term (next 3 to 5 years): growing focus on measuring learning and redesigning learning spaces;
- Short-term (next 1 to 2 years): blended learning designs and collaborative learning.

Getting and succeeding at a job in K-12 already requires K-12 teachers to have experience with contemporary technologies, a desire to maintain their technology skills through continuous professional development, and a willingness to become leaders in the integration of educational technologies to improve student outcomes. These trends specifically focus attention on key areas of the field of educational/instructional technology including instructional design (e.g., learner assessment, media use, instructional strategies), distance learning, digital technologies, and affecting change in the K-12 setting.

In particular, these short-term and mid-term trends will require instructional personnel in schools to model, use, and integrate technologies in ways that teachers may not have experienced in their teacher preparation program. Examples include contemporary shifts to flexible learning environments, active or experiential learning pedagogies, supplementing face-to-face instruction with online (blended) instruction, flipped classrooms, virtual learning, cognitive tutors, maker spaces, and incorporating mobile technologies within all kinds of learning settings.

So, what are the employment prospects in K-12 for the near future? The National Center for Statistics (NCES) offers insights based on the latest available school data (Fall 2016) for both public and private K--12 schools. The report (available at https://edtechbooks.org/-yZ) documented increasing public school enrollment in Fall 2016, with public school systems employing about 3.1 million full-time-equivalent (FTE) teachers resulting in a pupil/teacher ratio of 16.1 to 1, close to the 2000 ratio of 16.0 to 1. Private schools were projected to employ .4 million FTE teachers with a pupil/teacher ratio of 12.2 to 1, compared to a ratio of 14.5 to 1 in 2000. The NCES continued with these projections:

- The number of K-12 teachers needed is projected to increase 8% between 2011 and 2023.
- Pupil/teacher ratios for K-12 are projected to decrease to 14.9 to 1 by 2023.
- New teacher hires in public schools are projected to increase 32% between 2011 and 2023.
- New teacher hires in public schools are projected to increase 32% between 2011 and 2023.
- New teacher hires in private schools are projected to increase 19% between 2011 and 2023.

Indeed, the opportunity for employment remains strong for the classroom teacher who is ready for the challenges of the 21st Century

learner.

In this chapter, we will explore how to get and succeed at a job in K-12 including the skills, knowledge, and roles of school personnel related to the field of educational/instructional technology, suggestions for professional development, and developing a professional community of support.

# Skills Knowledge, and Roles

In today's school districts, there are technology skills required of every person, and the number of specialized positions continues to increase over the last couple of decades. Depending on the position assignment, those skills and the requisite knowledge to demonstrate those skills will be very unique.

## Classroom Teacher

Most states in the United States require a K-12 classroom teacher to obtain a teaching license from an accredited teacher education program. The skills and knowledge related to technology integration in K-12 settings for classroom teachers are heavily related to the design of instructional activities and learning environments that actively engage learners with content and the appropriate integration of educational technologies. There are numerous resources that elaborate on the effective design of instruction and integration of technology (e.g., Puentedura, 2014;Smaldino, Lowther, Mims, & Russell, 2014). The intended audience of this chapter is most likely not classroom teachers, but those professional roles below who will be working with classroom teachers.

## Building-level Technology Specialist/facilitator

Building-level technology specialists and facilitators work in schools

to oversee and provide support to school personnel about the use of technology. Most of these jobs involve basic technology support with hardware, software, and connectivity, which require individuals to troubleshoot and be the first line of technology support. These jobs in some states and school districts may also involve teaching courses (for instance, media use or technological literacy).

In elementary schools (typically Grades K-5), students typically spend 45-50 minutes every 5 or 6 days in a computer lab for dedicated technology time. The building-level technology specialist, in these cases, serves as the technology teacher, working with students on technology-rich projects, or other technology-based activities. In middle and secondary schools (typically Grades 6-12), the building-level technology specialist/facilitator works with classroom teachers to provide consultation about using various technologies to support teaching and learning. In all of these cases, opportunities for these building-level technology experts to work with teachers on the design of technology-rich instructional activities varies greatly; in some cases these individuals are expected to be well- versed and knowledgeable of only specific technology(ies), and in other cases they are expected to be experts in both instruction and other topics related to technology use.

Individuals who work in this role typically hold, or are in the process of earning, their state's technology specialist endorsement. Earning this endorsement usually includes taking courses in a graduate certificate or master's degree program. Some of these programs also require the completion of a successful internship in a school setting. Since these requirements differ in various states and in some cases districts, those interested in this role should make inquiries about specific requirements for this role. Some districts offer part-time assignments as technology facilitators combined with the classroom teacher role.

## Media Specialist

The contemporary media specialist (aka the library media specialist) typically has a Masters degree either in the field of educational/instructional technology or in a post-baccalaureate program that has emphasis in technology integration, multimedia development, or school media. Some states require a special license or certificate for these positions and some allow a bachelor's degree with other academic coursework. Media specialists generally must document prior experience in elementary or secondary education and knowledge of technology use and integration. Because they serve the entire school community, they must have good oral and written communication skills and they must demonstrate effective interpersonal relationships with students, staff, and parents.

Media specialists must have basic librarianship skills such as the ability to select and provide access to a wide variety of materials which meet the needs of various learning situations as they interact to support teachers, as well as the knowledge and ability to teach information and technology literacy. The most common requirement is the knowledge and ability to work with technology and assist integration in the classroom. The media specialist does not typically serve in a technical or trouble-shooting role for technologies used in the school, but this may be an additional expectation in smaller or rural settings. In this era of mobile devices, media specialists may be called upon to develop policy statements regarding use of and access to mobile devices, student computer use, digital privacy, internet safety, student or faculty access to and use of copyrighted materials, and/or other topics related to technology in schools.

Media specialists are usually hired on a faculty contract that includes tenure and some additional days of responsibility at the start and end of the school year. Success as a media specialist requires frequent professional updates related to emerging technologies and their potential for supporting or extending instruction. One such area that

has grown significantly in the last decade is blended learning. As the flipped classroom model has become more popular, the expansion of student access to classroom materials and the teacher through a combination of online, face-to-face, and/or synchronous computer-mediated technology has proliferated. The media specialist may be the bridge to these innovative instructional environments for faculty and parents. Many states have a state level professional organization for media specialists to share and collaborate on a regular basis.

## District Level Technology Leader

Almost all districts now have at least one person in an administrative technology leadership role. These people often have extensive classroom and technology integration experience with graduate preparation that included both the academic and the technical aspects of the field of educational/instructional technology. They are usually responsible for developing, implementing, and updating a district-level technology plan. These administrators will also be responsible for managing budgets, purchases (e.g., comparing options, contractual agreements, user plans), installments, warranties, service and/or upgrade agreements, insurance coverage, and safety for all technology in the district. They may play a major role in the development of district level policies related to technology and, at a minimum, they have the administrative responsibility for the fair and legal implementation of all such policies. They have supervisory responsibility that varies but often includes district "technicians": personnel who have technology maintenance and installation roles not related to students or faculty. District Technology Leaders usually interact closely with the local school board, superintendent, other academic administrators (including principals), and sometimes the media specialists.

District technology leaders are typically hired on "at will" administrative contracts that are year-round and may stipulate a term set for review and renewal. They are often members of the Council of

Chief State School Officers (CCSSO) (see [http://ccsso.org/](http://ccsso.org/)). The CCSSO offers regular workshops and professional development opportunities related to contemporary and emerging technology use and integration issues. These individuals typically have served as a school-based technology specialist before taking on this larger role.

## State Technology Leader

State technology leaders are typically entrenched in the communities of both K-12 education and educational policy. Like district-level technology leaders, these individuals have to manage and work with budgets and contracts, and help to make sense of federal or state policies related to technology access or technology tools that influence the work of school districts and personnel in K-12 settings.

In many cases these state technology leaders work closely with other state leaders from curriculum and instruction, assessment and accountability, school performance, accreditation, and other divisions within state departments of education. In the past decade one of the larger issues has been the increase in administering high-stakes state assessments via the internet on laptops and desktops. In many cases, state assessment and accountability leaders must work with state departments of education to make these decisions and to set policy and implementation guidelines. State technology leaders also advise and consult with state department of education personnel and other state leaders to ensure that adequate connectivity and infrastructure are in place for high-stakes assessments to be administered online.

State technology leaders also have potential to influence and drive policy and initiatives that influence the entire state. For example, many states who have endorsed and implemented initiatives to turn classrooms into 1-to-1 technology-rich environments do so only through funding and political support driven by the state department of education and other state technology leaders. Another example is the growing demand for blended classroom options in K-12 settings,

which also relies on extensive internet access, strong infrastructure, and personal access for students to computer-based technologies outside the classroom. Most state technology leaders have served as district technology leaders prior to taking on this expanded role and they often rely on their colleagues in surrounding states for sharing ideas about new opportunities or state-wide initiatives.

## Professional Development Facilitator

Professional development facilitators support the integration of technology in K-12 settings by working directly with teachers, school-based technology specialists, media specialists, and district technology leaders. Professional development facilitators either work in this role full-time or serve primarily in another role and facilitate professional development as an additional or secondary responsibility. These individuals are well versed at working with district and state leaders to identify teachers' needs, and then designing and implementing learning experiences to support teachers' use of educational/instructional technologies.

Individuals in this role are usually members of the International Society for Technology in Education (ISTE) as well as the state affiliates of ISTE. In some cases, these individuals are also a member of Learning Forward (formerly known as the National Staff Development Council), which focuses on issues related to teacher professional development.

For those interested in this work, a good starting point is to initially facilitate sessions at district, state, and national educational technology conferences. This initial work will give professional development facilitators experience about planning a short professional learning experience for teachers and allow them to work with teachers in a lower-risk environment. Partnering with other professional development facilitators may also provide experience with the development and delivery of professional development

workshops that extend or enhance introductory professional development activities.

# Developing A Professional Learning Network (PLN)

For those seeking jobs in K-12 settings as an educational technology leader in any of the roles described in this chapter, it is essential to develop ayour professional learning network (PLN) through the use of social media, especially Twitter and Facebook at this time. Occasionally educational organizations or bloggers will post a list of recommendations on who to follow. Here are two recent ones to check out: [https://edtechbooks.org/-Qs](https://edtechbooks.org/-Qs) and [https://edtechbooks.org/-tF](https://edtechbooks.org/-tF). The development of a PLN is recommended for a few reasons:

1. A well-rounded PLN that includes teachers, educational technology leaders, and educational technology organizations increases the likelihood that professionals will stay abreast of technologies and innovations that are being used in K-12 classrooms.
2. Educational bloggers typically tweet out or post on Facebook their recent blog posts. It is more efficient to read social media posts and click on longer blogs and articles for those topics that are of interest instead of subscribing or reading several blogs weekly.
3. Twitter Chats have gained popularity over the last few years. These occur when an individual or organization hosts a Twitter chat by posting a series of questions to which others respond, creating an asynchronous, open conversation. Twitter Chats are a great way to learn a lot of information about a topic, exchange many ideas in a short period of time, and expand a PLN by engaging with others.
4. Networking leads to professional relationships. By being active on social media and participating (reading, posting, and

responding to others), educators are forming a professional network that leads to professional relationships with others who share your interests and offer greater variety of experiences and supports.

As educators think about their social media presence and the development of a PLN, they need to be very cognizant of what they post Educon social media and how others may interpret posts on accounts that are not related to education. They might want to consider keeping a social media account for professional use and a separate one for social personal use. If the same social media accounts for both professional and personal accounts are used, users should be responsible about what they post or photos that they are tagged in or associated with. Many employers, especially in K-12 settings, are very sensitive to the social media presence of potential employees. Also, remember that in this era of "Googling" everything, a current or future employer, the students' parents, and/or the students, themselves, may choose to "Google" the educator and find all his or her social media activity. Educators must always remember that they have a professional reputation to protect!

# Success as a K-12 Teacher

In order to be a successful educational technologist in K-12 settings, the skills and knowledge needed are detailed above and vary by position. However, regardless of what position(s) educators are seeking in K-12 settings, there are a few recommended dispositions that will likely contribute to success.

## Collaborate

K-12 settings are collaborative environments that require all school personnel to work together for the common goal of supporting student learning. The path of an educational technologist in K-12 settings

(regardless of specific role) is likely to intersect with administrators, teachers, building-level instructional leaders, as well as district and state leaders who focus on administration, curriculum, and testing/accountability.

Typical work with people in these various roles will be to problem solve, troubleshoot, and plan technology-related efforts to support teaching and learning. Since these different roles represent different interests and each requires a unique niche of expertise related to K-12 settings, successful K-12 educational technologists must be adept at listening to and working with others from different backgrounds, both professionally and culturally. In preparation for this work, educators' knowing as much as possible about the roles, responsibilities, and backgrounds of the individuals they interact with increases the likelihood that their interactions will be positive and beneficial.

## Embrace Flexibility

The world of educational/instructional technology is ever changing, as new tools are developed and new devices are proliferating. K-12 settings may change rapidly too, as initiatives from district and state boards of education and superintendents serve as a catalyst for new projects. As individuals in these leadership positions change, it is important to maintain a perspective of flexibility, and cope with these changes with an attitude of, "How can I positively contribute to these new efforts?"

The ability to be flexible is also important when working in school settings with administrators and classroom teachers. Research indicates that technology is likely to be used by teachers who feel supported to use technology and who have access to onsite help in their school building (Glazer, Hannafin, Polly, & Rich, 2009). Since school-based technology leaders work closely with classroom teachers, they should be ready to roll with the punches and be flexible if teachers change their minds and modify planned technology-related

lessons and projects. Educational technology leader in a K-12 setting often your job is to provide consultation and brainstorm ideas with teachers and other school personnel to help them make decisions that they feel are most likely to support success for their students.

## Maintain a Learner-centered Perspective

In technology leadership roles, learners include educators the leader is working with, as well as K-12 students. A learner-centered perspective includes knowing the background, interests, and needs of learners, and then ensuring that learning opportunities support the development of related skills and knowledge, regardless of the age or context of the learner. In the case of a building-level educational technology leader, this could include doing a survey of teachers' technology interests and needs and planning professional learning opportunities and resources to support teachers. It may also include working with administrators and curriculum leaders to identify topics and concepts that are difficult to learn and then developing technology-rich experiences to support the learning of these concepts.

For district and state educational technology leaders who are more removed from K-12 students but who work closely with other district leaders, the idea of learner-centered work may include analyzing the needs of districts and schools in terms of technology access, technology professional development or interests, and working on developing and refining initiatives to help meet those needs. Without a doubt,: learner-centered work is not the roll out of canned and one-size-fits-all professional development, projects, or new technological tools. Further, learner-centered work is also not a one-time experience that assumes implementation without follow-up and support. Research shows the benefit of ongoing, comprehensive support that is relevant to the daily work of learners (Lawless & Pellegrino, 2007; Polly & Orrill, 2012).

## Be a Lifelong Learning Learner

As stated earlier, educational technology work in K-12 settings requires keeping up with changing infrastructure, technologies, audience demands/needs, and approaches to teaching and learning in classrooms. To be successful in K-12 settings, being a lifelong learner who seeks out new information is essential. Most school districts and state departments of education mandate professional learning experiences for all employers. These may include workshops, courses, and conferences. Such opportunities to stay on the cutting edge of K-12 uses of technology are invaluable and should definitely be taken advantage of.

# Summary

The potential for educational/instructional technologies to support, enhance, and extend effective teaching and improved student learning is documented in the research and literature over many decades now BUT there continue to be examples of the misuse or inappropriate use of technology in our schools, as well. The need for all instructional personnel to understand and implement basic instructional design skills with technologies cannot be overemphasized. The proliferation of blended learning options in K-12 is a global phenomenon. Instructional personnel may also find the chapter by Persichitte, Young, and Dousay (2016) useful. In it, the authors distinguish blended and online learning settings, discuss a variety of types of learner assessment, and describe contemporary trends, challenges, and recommendations for the effective assessment of learning in blended and online courses. The content targets teachers, instructional designers, administrators, and program managers of K-12 blended and online learning settings. Suggestions are included for using web-based communication tools for feedback and assessment and the authors conclude with a discussion of implementation topics associated with assessment in these learning

environments that deserve additional attention and consideration.

The jobs described in this chapter have great opportunity to influence improved technology integration in K-12 settings and improve learner outcomes. Though this MIT report (Willcox, Sarma, & Lippel, 2016) was focused on reforms in higher education, we think this idea of a dynamic digital scaffold is relevant to instructional personnel in K-12 schools, as well:

> ...dynamic digital scaffold—a model for blended learning that leverages technology and online programs to help teachers improve instruction at scale by personalizing the students' learning experiences. Technology will not replace the unique contributions teachers make to education through their perception, judgment, creativity, expertise, situational awareness, and personality. But it can increase the scale at which they can operate effectively (p. 39).

Examples of such personalized learning are being documented in technologically-rich, face-to-face classrooms and in the emerging K-12 virtual learning classrooms. So this comment from the National Education Policy Center (NEPC) press release for Virtual Schools Expand Despite Poor Performance, Lack of Research Support, and Inadequate Policies reminds us of the system-wide nature of the work of educational technology professionals in K-12 settings:

> An analysis of state policies suggests that policymakers continue to struggle to reconcile traditional funding structures, governance and accountability systems, instructional quality, and staffing demands with the unique organizational models and instructional methods associated with virtual schooling (Molnar, 2017).

# Final Advice

We close this chapter with a few suggestions for those looking at career options related to educational technology in K-12 systems today, knowing that technology integration skills and instructional design knowledge can be the "edge" that gives job seekers the advantage in a K-12 search for any of the positions described in this chapter.

- Take advantage of as many opportunities as possible to expand professional and personal uses of technology.
- Take care of your social media presence in all situations and in all media.
- Take active steps to develop a PLN and nurture its growth as a career progresses.
- Expect that the future will include expectations that educators use technologies to connect and communicate with parents, learners, and others in ways not yet anticipated.
- Consider career options that blend instructional expertise with interest and experience with technology.

## Additional Learning

These organizations are helpful for learning more about careers in this area.

- Edutopia - [https://www.edutopia.org/](https://www.edutopia.org/)
- Gates Foundation - [https://www.gatesfoundation.org/](https://www.gatesfoundation.org/)
- International Society for Technology in Education - [http://www.iste.org](http://www.iste.org)
- Learning Forward - [https://learningforward.org/](https://learningforward.org/)
- Lumen Learning - [https://www.lumenlearning.com/](https://www.lumenlearning.com/)

## Application Exercises

1. Talk to a district K-12 administrator. What is he/she looking for in a potential new employee to fill one of the positions listed in this chapter

2. Look online at the faculty/administration at a school/district or state office of education and identify which positions may fit the descriptions in the chapter. For example, the a school district employs an Educational Technology Specialist, an E-School Coordinator, and a Tech Integration Specialist, though it isn't clear if these are real LIDT positions or not.

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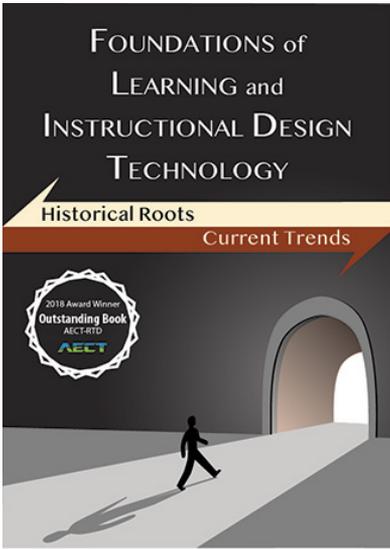
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