

Hiring the Best: The Evolving Role of the Technology Coordinator

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## Review of Literature

### Introduction

It is well documented that technology integration in 21st-century classrooms are not only leading to greater student achievement, but are also playing an increasingly critical role in preparing students for a digital society and to become competent and responsible digital citizens (Mazzella, 2011).

### What's in a Title?

As schools and other educational institutions become infused with technology to a greater degree, the role of the technology coordinator has had to evolve over the years to meet new demands. Though the term *technology coordinator* is growing increasingly common in educational organizations, Sugar and Holloman (2009) stress that strictly speaking, the term is often used as a catch-all for a myriad of roles, including *technology facilitator* and *technology coach*, in addition to more common titles, such as *Director of Technology*. Wong (2008) notes that in a number of countries around the world, these positions were deemed necessary by a growing number of educational organizations as the workload of teachers continued to increase, and the desire for educators to focus on student learning and achievement; the idea is that some of the more technical aspects of teaching could be offloaded onto dedicated support staff, such as technology coordinators, though the term *support staff* itself has something of a marginalized connotation that does not necessarily reflect the current state of the position.

### **Role of the Technology Coordinator**

Establishing the role of the technology coordinator in an educational setting begins with developing a concise, yet accurate title that reflects the myriad of responsibilities of the position. Place and Lesisko (2005) note the myriad of titles that are given to technology leaders, and recommend that these should be condensed down into a single title, as each involves similar responsibilities and duties to the host organization. The authors delineate those duties as falling into one of several categories: developing a comprehensive K-12 educational plan, working with faculty as a professional development liaison and mentor, developing budgets, reviewing and evaluating resources, and collaborating with stakeholders, including principals, to promote the use of technology.

Several studies have expanded upon this idea, noting that the role of technology coordinators is complex and diverse. Johnson (2011) expanded on this analysis and emphasized the multifaceted role of technology coordinator. Specifically, the author noted three key functions: effective budgeting, collaborating with neighboring districts, and practicing “sustainable technology,” or not purchasing more than the organization can manage. Additionally, Johnson considers other factors in a technology coordinator’s role, including thoughtful and systematic selection of the right technology, taking advantage of open source and free resources, and an increasing turn towards cloud-based solutions, which can significantly reduce district burden in terms of maintenance and infrastructure. Identifying and purging the organization of obsolete technologies as well as setting up a rigorous regimen of professional training opportunities are additional facets that play into the role of the technology coordinator.

In order to better define the role of the technology coordinator, each of its component roles merits examination. Sugar and Holloman (2009) divide the role of technology coordinator into four major categories: instruction, technical, analysis, and leadership. The instruction component involves technology coordinators becoming adept at pedagogical implementation, assisting teachers in using technology in the classroom. Twomey, Shamburg, and Zieger (2006) emphasize the need for results-oriented methods and strategies that enable maximal student learning. The technical role of the technology facilitator involves the ability to, if not the direct responsibility for, maintaining and repairing issues as they arise. The analytical component involves a strong ability to apply a systems-based planning process to select, implement, and evaluate technology programs within their respective educational organizations. Finally, the leadership component of a technology coordinator's niche involves the ability to, quite simply, be an educational leader, where a strong understanding of the relevant policies and procedures meshes together with the technological goals of the organization, in addition to being able to take the initiative to lead projects involving the implementation of new technology (Sugar and Holloman, 2009).

Though organizations are striving to bring clarity and specificity to the role, research suggests that technology coordinators still must be comfortable being a versatile resource. Sugar and Holloman (2009) note that the technology coordinator often takes on a multitude of technology functions within the organization and must be comfortable "wearing many hats" as well as their function as being a "position within a protocol." This description suggests that the technology coordinator is that of an entity driven by the need to execute a much broader set of initiatives or values. Place and Lesisko (2005) suggest that this role expansion largely depends on

the size of the district. Smaller districts, which employ fewer technology experts will see its team members taking on more responsibilities, while larger districts may see more specialized job descriptions. The goals and approaches of the local educational administrations can, too, affect the specific role of the technology coordinator (Cypert, 2004). Research has historically emphasized that support from administrators, particularly as educators continue to express frustration and resistance to the implementation of technology, is key to ensuring success of the technology coordinator role (Pfeiffer, 2002; Sugar & Holloman, 2009). In fact, Sugar and Holloman identify not the technology coordinator, but rather the principal as the one who sets the technological tone and ultimately has the greatest influence on whether a technology's implementation is deemed a success.

Research also suggests that the role of the technology coordinator can have a geographical component. Wong (2008), in an international survey-based study, found that technology coordinators are viewed in high esteem in countries such as the United Kingdom, where technology coordinators are considered "joint leaders" along with the organizational head. Conversely, in certain other countries, such as Hong Kong, technology coordinators had a less-defined role and took on more of a technical support role rather than an educational leader.

### **Interactions with Educators**

The role of the modern technology coordinator includes daily interactions with educators. Specifically, technology coordinators provide instruction in the skills necessary to embrace a new technology as well as acting in a technical support role (though this role is ideally minimized). Additionally, technology coordinators are charged with maintaining a resource library for

professional development, and providing educators with pedagogical strategies for curricular success (Sugar & Holloman, 2009). McDonagh and McGarr (2015) refer to the modern role of the technology coordinator as a “pedagogic champion” who is a far cry from the “electronic janitor” of the past who was solely responsible for maintenance, or the educator who took on the *de facto* role of technology coordinator because of their early creative adoption of a technology, rather than, necessarily, any pedagogical or technical expertise in the area.

In addition to supporting educators within the school, research suggests that technology coordinators need to maintain professional learning circles within and outside of their schools. Lin and Chiou (2008) note that school technology coordinators tend to maintain small circles of communication and support within and outside of their organizations, possibly indicating a major potential area for growth when it comes to the evolution of the technology coordinator position. The technology coordinator, though they take on something of a niche role in educational institutions, certainly do not work in isolation, and must be prepared to work with all stakeholders, including the mid-level administrators (i.e. Directors of Technology) and top-level administrators (i.e. Directors or Assistant Superintendents for Curriculum) to ensure that the technology is being embraced in an integrative fashion (Place & Lesisko, 2005).

Modern trends in sourcing technology, including having stakeholders bring it themselves, are ameliorating the technical side of the role. Dessoff (2011) notes that with the increasing movement of technology solutions into the cloud, and with an increasing number of educational organizations moving to a bring-your-own-device (BYOD) model, the role of the technology coordinator is becoming less of a technical position and more of a leadership position focused on consultation and collaboration with senior-level administrators and with educators.

Though the bring-your-own-device movement is still growing, some research suggests that it is not having as a positive an impact as initially expected. Creeger (2015) conducted a study of one-thousand students in Texas and found that students did marginally better on standardized tests using district-issued hardware, compared with the students' own devices. The research results suggest that the technology coordinator may yet find hardware integration as a core component of their job description.

### **The Technology Coordinator as a Leader**

Leadership is an increasingly critical attribute of the technology coordinator. Sugar and Holloman (2009)'s research of thirty-seven coordinators in the United States, revealed that this leadership role, however, can present a power struggle within educational organizations in terms of which party will take the initiative to oversee technology projects, and how those projects integrate with existing and proposed programs within the organization. The research notes that school principals, however, often lack the expertise in technology to pursue this facet of organizational implementation, and thus the leadership role of the technology coordinator increases, particularly as the need for stakeholder buy-in for large-scale projects is on the table. The research of McDonagh and McGarr (2015) in Irish schools note that principals and other educational leaders, even where they have the expertise with a particular technology, often lack the pedagogical vision to single-handedly manage the implementation of that technology. Conversely, employing a technology expert who is well-versed in technical aspects of the product does not necessarily have the inherent leadership characteristics necessary to successfully carry out a full-scale and wide-ranging implementation within an organization. The research places

tremendous value on stakeholder buy-in where the technology coordinator can often not only play an important role in the direction and development of a technology implementation, but can also have extraordinarily high levels of influence as to educator reaction to and “buy-in” of that technology.

### **Standardizing the Role**

With a variety of potential roles in discussion, it is important that the role of technology coordinator be standardized within the industry. The work of Banoglu (2011) suggests that the role of the technology coordinator be a well-defined and evaluated role that aligns with the standards, the National Educational Technology Standards for Administrators, implemented and subsequently updated by the International Society for Technology in Education (ISTE) as: visionary leadership, digital-age learning culture, excellence in professional practice, systemic improvement, and digital citizenship. Cypert (2004) concurs with the need to have a well-defined role such that administrators and the coordinators are in agreement as to the extent of his or her responsibilities.

The standardization of the role can often begin with establishing a clear framework. The work of Glazer and Page (2006) developed such a framework for the role of the technology coordinator as a mentor and professional role model for teachers in implementing new technologies into their classroom. That framework, *collaborative apprenticeship*, is based on Wenger’s Communities of Practice concept and involves the gradual development of comfort with the new technology, from a basic integration up through mastery. In order to implement this framework, the authors emphasized the need for several factors and criteria, including the



presence of shared collaborative time with the technology coordinator, a true commitment from the teacher to develop professionally, the career experience of the teacher, as well as a basic structure to the framework that formalizes its goals and establishes its outcomes.

### **Attitudes Toward Technology**

A large factor in determining the success of the technology coordinator was the attitude of the cooperating teacher towards technology. Waring (2010) studied a teacher-leader who also was a technology coordinator in an attempt to quantify how positive feelings about technology influenced pedagogical and academic outcomes. The research determined that positive outcomes were achieved when three conditions were met: technology integration was seamless and supported, teacher engagement in guided student discovery, and student engagement in independent problem solving and critical thinking. The major result of this study was the conclusion that a teacher's attitude towards technology and its role in the classroom can have a large influence on student achievement when using that technology.

### **Qualifications and the Reality of Leading**

In terms of certification, technology leader requirements vary from state to state, with each having a slightly different perspective on what should be (or should not be) the technical requirements for qualifying for such a position. Place and Lesisko (2005) suggest that when administrative, leadership roles are involved, a state-issued certificate should be involved, whereas those who hold the title of technology coordinator should not be held to the same requirement, since technological expertise and pedagogical knowledge do not necessarily overlap,

depending on the paradigm embraced by the organization for the role of the leader, though as it has been stated, many organizations are looking to condense titles and to have their technology leaders encompass more of a holistic set of skills, including leadership.

### **Limits**

In addition to defining the role, the literature has also sought to define limits as to what specifically is beyond the scope of the technology coordinator's role. Chamberlin (2004) stresses that with any focus on student outcomes and achievement as a central tenet of technology implementation, there can be expectations of the technology coordinator that can be deemed inappropriate, including responsibilities that administer e-mail, grading systems, and attendance records. Cypert (2004) adds that despite well-meaning and good-faith job descriptions, technology coordinator responsibilities often evolve, as the "reality" of the position sets in, and a practical focus on technical troubleshooting inevitably trickles in. While this is not an inherent flaw nor a signal of misguided use of talent, these distractions should not be allowed to become a regular occurrence. If the technology coordinator's role evolves into a set of responsibilities that are too wide-ranging, the coordinator can become overwhelmed and burned out, thus hindering their core job competencies.

### **Student Achievement**

The results of a competent and effective implementation of technology can be positive. Mazzella (2011) reported that technology integration increased student learning and achievement by approximately 40% in studied classrooms, while 30% of those classrooms reported results

indicating that students felt better prepared to connect what they learned to real-world phenomena. The author noted that the more technology-related pedagogical professional development and support the studied teachers received, the more likely they were to implement technology in their classrooms, and reported generally greater benefits to the students in their classrooms, particularly when that professional development focused not solely on knowledge, but also on “beliefs and preconceptions,” which seems to suggest that the role of the technology coordinator should focus on facilitating a core paradigm shift that established technology as a tool and as a valued partner in the classroom for maximal results.

As far back as the turn of the century, the potential of technology to serve as a formative assessment mechanism was known. Cradler, McNabb, Freeman, and Burchett (2002) cite the use of collaborative activities and formative feedback as critical components that are central to the effective use of technology in the classroom, along with the leadership necessary to set organizational goals to focus on achieving these results. Wees (n.d.) emphasizes the need for time dedicated to professional training in practical technology training, and notes that current literature finds that high quality educator training has a positive influence on student engagement and achievement; however, the infrastructure must be in place, including technology coordinators, to enable such facilitations to take place. Additionally, the data suggest that optimal teacher-coordinator training encourages a focus on pedagogical strategies, not simply on technical skill in using the technology (Mazzella, 2011).

Positive student outcomes do not simply result from feeding technology to classrooms, but by providing the resources to use it optimally and in a way that is continuously supported. Importantly, the literature suggests that technology has the capacity to transform the role of

teachers as educators, which in turn results in enhanced learning for students, when that transformation takes place in a nurturing and supportive environment, where technological and pedagogical skills are honed together (McKnight et al., 2016).

### **District Background**

The Overpeck Creek School District is currently made up of three elementary schools, one middle school, and one high school. The total number of students through this K-12 public school district is 3,987 with 2081 females (52.2%) and 1,906 males (47.8%). The ethnic background of the student body is comprised of 2,328 white students, 1,236 hispanic students, 183 students who are Asian or Native Hawaiian/Other Pacific Islanders, 131 Black or African American students, and 109 students with a Multiracial background. The school district sits at the Northeastern end of New Jersey nestled between Overpeck Creek, Interstate 95 and the Hudson River. With the recent hiring of a new superintendent, the district has begun to implement many new technology programs and is in need of individuals to manage the new programs and existing technology in the individual schools.

### **General Technology Coordinator Skills**

The ideal Education Technology Coordinator for each school level position will have excellent problem-solving and communication skills. In addition knowledge of education technology hardware and software, as well as understanding of the Internet and intranet maintenance, are essential for a each position. Each candidate will have experience with Educational technology and will be able to identify, design, and effectively incorporate

technology plans, tools, and programs into the learning environment of the school in which they are placed.

The elementary, middle, and high school school technology coordinators will be responsible for leadership in a wide range of areas involving educational technology integration, maintenance, and support. The primary responsibility for each position will be to establish and articulate a vision for technology use in the school and plan for successful implementation of the many aspects of the vision (Frazier 2012). The school technology coordinators will work with the district technology advisory team to implement the strategic plan for technology integration as set forth in the district's strategic goals for using technology in innovative ways for teaching and learning.

The technology coordinator plays a vital role in assisting and directing the support of all components of technology use for instruction, network operations, administrative applications, and budgeting and planning (Frazier 2012). Essential responsibilities of this position revolve around a single purpose to ensure that the school mission of technology integration is fulfilled within the district's overall plan and to effectively utilize resources to support all technology end users: teachers, students, administrators, and staff. In addition, the technology coordinator will be responsible for working with the technology integration team to select and purchase effective instructional software. The work of the coordinator is essential to all aspects of education at the school level and is most critical in the areas of teaching and learning. Therefore, a primary responsibility will be in supporting teachers with professional development that is effective in providing the tools and knowledge to ensure best practices of technology integration that will have the most impact on student learning and motivation.

Knowledge of Mishra and Koehler's Technological Pedagogical Content Knowledge (TPACK) framework will be an essential component within professional development technology training. Leading professional development within the TPACK framework will provide teachers with a means for embracing new possibilities and provide a new way to look at teaching and learning with technology (Mishra and Koehler 2008). Teachers play a critical role in affecting student learning outcomes. The intersection of technology, pedagogy, and content knowledge is an essential component for more purposeful uses of technology. The technology coordinator will utilize this knowledge for the purposeful merging of the most effective technological tools, best practices in teaching and student engagement, and strong content specific subject area knowledge. This will ensure that technology is utilized for its' intended purpose and achieves desired student learning outcomes.

Knowledge of technology education research will also be an essential asset of each technology coordinator as our district continues to work towards best practices of educational technology integration. Assisting in this endeavor will promote our mission and vision and will address research questions in alignment with the U.S Department of Education Technology Report (2016), which address questions such as how to present information to students in the most optimal way, what teaching and learning strategies lead to better retention of information, and with what technology and what instructional method should educational content be taught.

Foundational knowledge of how people learn should be utilized to design more effective education technology lessons that drive better learning. A technology coordinator with this knowledge base and skill level will be an essential component for transforming technology education. Each technology leader will work towards meeting the specific learning needs of each

individual learner by working with various teaching strategies and assisting in merging with specific content areas and instructional practices of the diverse teachers that each school level employs.

### **School-Specific Technology Coordinator Job Summaries**

#### **Elementary School Educational Technology Coordinator**

The role of the Elementary School Educational Technology Coordinator is a full-time support position designed to increase the capacity of instructional staff as they integrate technology in the teaching and learning process. The Elementary School Educational Technology Coordinator will assist with curriculum development, evaluation and assessment of technology integration to prepare students in grades K through 5 with essential skills needed for their educational journey. This individual will report to the building principal and the district's Supervisor of Instructional Technology.

#### **Middle School Educational Technology Coordinator**

The role of the Middle School Educational Technology Coordinator is a full-time support position designed to increase the capacity of instructional staff as they integrate technology in the teaching and learning process. The Middle School Educational Technology Coordinator will assist with curriculum development, evaluation and assessment of technology integration to prepare students in grades 6 through 8 with the ability to "learn how to learn" and the essential skills needed for the demands of high school. This individual will report to the building principal and the district's Supervisor of Instructional Technology.

#### **High School Educational Technology Coordinator**

The role of the High School Educational Technology Coordinator is a full-time support position designed to increase the capacity of instructional staff as they integrate technology in the teaching and learning process. The High School Educational Technology Coordinator will assist with curriculum development, evaluation and assessment of technology integration to prepare high school students for college and careers. This individual will report to the building principal and the district's Supervisor of Instructional Technology.

### **Common Technology Coordinator Job Descriptions**

#### **Role and Responsibilities**

- Is a resource and direct consultant for faculty, staff, and students
- Designs and provides school-based professional development
- Coordinates workshops and technology meetings for parents of the school
- Manages distribution of computer software in individual school
- Assists with development of district-level policies and procedures
- Networks with outside experts, bringing back new ideas and programs
- Assists with budget requests and planning specific to the school
- Provides recommendations to district technology plan
- Assists with curriculum development that integrates technology
- Lead and support the research and implementation of a school-wide digital literacy curriculum to include: effective use of various digital communication models; digital health and wellness; cyber safety; research skills; copyright infringement and academic honesty.
- Sits on building-level and district-level technology meetings



- Runs building-level technology meetings
- Reports on school-wide network components
- Troubleshoots faculty and staff with software-based device issues
- Reviews, evaluates, and installs new, approved software, programs, or apps on school devices
- Collect data about school-wide technology use and impacts on student learning
- Supporting implementation of subject-based state standards, including the New Jersey Student Learning Standards, Common Core State Standards: English Language Arts and Mathematics, Next Generation Science Standards, ISTE Standards
- Support school-wide technology-based programs:
  - The library Makerspaces (elementary and middle schools)
  - Innovation Lab (high school Makerspace)
  - Blended learning (all schools)
  - Flipped Classroom (all schools)
  - 1:1 Device Program (all schools)
  - Bring Your Own Device (BYOD) Program (high school only)
  - Keyboarding program (elementary only)
  - After-school STEAM (Science, Technology, Engineering, Art, Mathematics) programs (all schools)
  - 4-year Engineering Program (high school only)
  - Computer Science Program (high school only)
  - PARCC assessments (all schools)

- District-wide STEAM initiative (all schools)
- District-wide Digital Literacy and Citizenship initiative (all schools)
- Clarity by BrightBytes Data Analytics Tool (all schools)
- Computer Labs (all schools)

### **Visionary Leadership**

- Collaborate with teachers and administrators to develop a shared vision for comprehensive technology integration using current and emerging educational technology.
- Provide leadership and direction in the development and maintenance of strategic plans for educational technology designed to optimize teacher capacity, student access and effective application.
- Lead and support the creation of digital age learning environments to reach all learners.
- Manage the selection and evaluation of compatible digital tools and resources to maximize student learning within the domain of the school technology infrastructure.
- Advocate and support the creation of policies, procedures and funding strategies to increase the sustainability and responsible implementation of technology plans and programs.

### **Staff Professional Development, Training and Support**

- Model collaborative learning strategies to maximize teacher and student use of digital tools and resources and access to technology-rich learning environments.
- Coach teachers in and model the use of research-based learning experiences, collaborative learning networks, instructional strategies, digital content and blended learning to support and extend teaching and learning.

- Collaborate with teachers to develop technology-enhanced interdisciplinary units that address real-world local and global issues, engage students in simulated professional roles, provide collaboration with others and leads students to create innovative or meaningful products.
- Coach teachers in the implementation of technology-enhanced adaptive and assistive technologies, to support the diverse needs of learners.
- Develop tools for needs assessments and to and evaluate the impact of training and technology on teaching and student learning.
- Provide professional development for teachers and administrators demonstrating knowledge of adult learners.
- Model the use of research-based best practices in instructional design and a comprehensive approach to assessment, using varied formative and summative assessments that align with content, individual student needs and technology standards.
- Makes data-driven decisions through the collection of data of school technology use and the impact on student learning to guide improvements in student performance and school success.

### **Knowledge and Ongoing Professional Growth**

- A willingness to acquire new or in-depth knowledge in current and emerging educational technology
- Familiarity with the District Technology Plan

### **Skills, Qualifications, and Endorsements**

- Bachelor's Degree in Education, Educational Technology, or a related field

- Master's Degree in Education, Educational Technology, or related field preferred
- Educational Services Certification with endorsement in Technology Education, Educational Media Specialist, or related field
- Experience in computer science or technology
- Five years teaching experience
- Technology leadership experience
- Ability to relate and work with faculty and staff, students, and parents
- Excellent communication skills, both verbal and written
- Ability to work with a variety of people at different technology skill levels

**Working Calendar/Compensation**

10-month employee. Follows the district's teaching calendar and Teachers' Bargaining Unit.

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