The K-12 Technology Coordinator

by

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Abstract

The Pennsylvania Department of Education requires Technology Coordinators employed by public school districts in the Commonwealth to be properly certified. The Technology Coordinator is responsible to implement instructional technology for the district, provide leadership in the use of technological delivery systems, and routinely work directly with teachers and administrators to effectively integrate educational technology into the classroom. The position is considered to be professional and certified, subject to tenure provisions.

This research investigates the following questions: Who are the Technology Coordinators in the Eastern Pennsylvania school districts? What skills do they perceive as important to the implementation of educational technology? What are their professional and technical backgrounds? What educational credentials do they hold? Is their orientation geared toward education or technology?

Data for this study was collected from a questionnaire that was sent to district level Technology Coordinators in the eastern counties of Pennsylvania. One hundred and two districts were randomly selected from each of 24 counties. A return rate of 85.2% was received. The initial survey was reviewed and piloted by the Technology Coordinators and educational technology experts in Carbon and Lehigh Counties to ensure validity of the instrument. Since the data collected was more descriptive than predictive in

nature, the statistics utilized in this study concentrated on nonparametric data testing methodologies. The statistical design for this study consisted of descriptive statistics, simple correlations and rank order.

Technology experts in Eastern Pennsylvania feel that providing technical support services for the district is their primary task. Assisting educators in utilizing technology resources is the second priority. The survey respondents perceive their performance as a Technology Coordinator as being successful. They also feel that they understand the technology concerns of teachers and are having a positive effect on the professional staff. Technology Coordinators spend the majority of their time performing hardware installation and troubleshooting technology. Completing administrative paperwork and managing the network infrastructure are a close second and third as identified by the respondents.

Introduction

As schools continue to dedicate financial resources for educational technology, taxpayers, community stakeholders and elected officials should be assured that this highly technical and complex equipment is being installed, maintained and integrated properly. Therefore, in an effort to understand who is coordinating all facets of technology in a K-12 environment, a study must be done to identify the individual responsible for all aspects of the district wide technology resources.

Literature Review

Frazier (2003) reported the following:

> The technology coordinator plays a vital role in the leadership organization of a school district. The technology coordinator must be prepared to assist in directing and supporting all aspects of technology use in the operation of the district. The technology leader is in a position to help set the vision and direction for how technology can be used in teaching and learning, the support of technology in administrative applications, and the planning and budgeting for effective use of technology in the district. (p. 72)

Carter (2000) explained that the Technology Coordinator, Instructional Technologist, Technology Specialist, Media Specialist, Integration Specialist, and Integration Facilitator are various titles for one of two positions. Professionals working in these areas either install and maintain technology or assist others in using it in the classroom. Proctor and Livingston (1999) suggested that the titles of Technology Coordinator, Technology Leader and Technology Specialist can be used interchangeably. Moursund (1992) reported that the emphasis has switched from the microcomputer to a focus on learning and using the computer as a tool. Due to this paradigm shift, the Computer Coordinator title does not accurately represent this person. A more appropriate title is now that of Technology Coordinator, because this individual facilitates the effective use of computer related information technologies at the district level.

Technical support is a critical requirement. Pereus (2001) explained that few districts allocate enough resources for district wide technology support.

When the district is unable to provide a certain level of support, service requests may take weeks to complete. The author noted that, "…delays of this length may create major problems in continuity and the use of technology in the classroom" (p. 5-37). Pereus averred that the school staff should lobby administration for adequate support personnel to ensure rapid responses and accurate problem resolutions. Fasimpaur (2003) indicated that an important area within technology utilization is technical support and that the technology staff must be involved in the planning process if they are going to be providing end user level support.

Effective use of educational technology in the classroom is dependant upon the availability of technical and instructional support (Ronnkvist, Dexter, & Anderson, 2000). Adequate technical support is critical to the success of any organization, especially if it heavily relies on telecommunications, video and computer equipment. Evans-Andris (1995) stated that in order to effectively integrate technology, faculty needs access to technical expertise and support. Arfman and Roden (1992) reported that technical personnel must be available to plan, install and repair technology and computing resources throughout the district. The authors also indicated that these individuals must be both proactive and reactive when monitoring overall operations. Support services such as network administration, hardware, software troubleshooting, server maintenance, infrastructure monitoring, virus protection, hardware repairs and upgrades must be performed on a routine basis. Other critical, but less technical services that are needed include: grant writing, personnel supervision, budgeting, equipment

and software inventories, licensing, vendor negotiations, and other administrative duties. The management and personnel for these activities must be planned with the necessary resources allocated.

Levinson and Surratt (1999) suggested that a well organized district is one that integrates technology activities across all levels and departments, with a structure that can provide proper support and a responsible use of funds. In order for this to happen, Levinson and Surratt believe that the Technology Coordinator must be in an authoritative position, one equivalent to an Assistant Superintendent. Furthermore, this individual must have a combination of talents in both technology and education because the responsibilities of the Technology Coordinator are vast. They include all technology planning, daily system operation, design and maintenance of the network, approval of technology expenditures, oversight of instructional technology, and coordination of all technology activities in each department and school.

The Technology Coordinator is recognized as a formal position of technology leadership within the district. Evans-Andris (1995) reported that technology leaders routinely work under conditions of high visibility and pressure to perform, especially if technical expertise is a limited commodity. The author further stated that although the Technology Coordinator plays a vital role in technology integration, there have been few attempts to examine the nature and function of this position. Lastly, Evans-Andres reported that in order for technology to be effectively infused, the coordinator must have a full-time

assignment, work under a clearly defined and delineated position description, and have access and be expected to participate in formal communications between administration and the teaching staff.

Methodology

This research examined the characteristics and responsibilities of Technology Coordinators employed in public school districts in the eastern counties of Pennsylvania. The primary purpose of this study was to understand who technology leaders are: the skills they perceive as important to the implementation of educational technology; their professional and technical backgrounds; their educational and industry credentials; and their orientation toward education or technology.

One hundred and two Technology Coordinators in the eastern counties of Pennsylvania were provided a questionnaire to collect the necessary data for the research. A total of 87 individuals returned the completed survey document. This represents a participation rate of 85.2%. The completed questionnaire responses were coded into the Statistical Package for the Social Sciences (SPSS). The open-ended questions that required a free response were manually categorized and totaled. Data from the Technology Coordinators were analyzed to identify significant patterns, differences and commonalities. Each question was computed separately by number and percentage.

Results

The research revealed that the average Technology Coordinator in the eastern counties of Pennsylvania is approximately 42 years of age with 17.26 years of education, equivalent to a master's degree. This individual has slightly over 14 years of work experience in education, but has less than 6 years experience functioning as a technology leader.

Of the Technology Coordinators surveyed, 56% hold a Pennsylvania Professional Teaching Certificate; while 25% have earned information technology certification credentials from such vendors as Novell, Microsoft, Cisco, and the like. Sixty-eight percent of the respondents are compensated under an administrative contract and 15% are part of a professional bargaining unit. The average coordinator works in a district with 3,523 pupils and a ratio of 3.69 students to 1 computer.

The district budget allocation for technology on average is 2.24%. As a word of caution, this number may not reflect the true budget allocation for technology because many respondents did not report a budget percentage. On average, technology professionals in the eastern counties are responsible for technology efforts in six facilities. These individuals supervise 3.25 full-time technology assistants and 1.64 part-time helpers. Seventy-two percent indicated having duties related to planning professional development activities for educators. Of the Technology Coordinators surveyed, 30% hold the Pennsylvania Instructional Technology Specialist Certificate; however 39%

reported that they intend to pursue this credential in the future. Of those coordinators who have the specialist certificate, 5.75% hold the Instructional Technology Specialist Supervisor credential. Twenty-three percent of the remaining individuals plan to pursue the supervisor certificate in the future.

Technology experts in Eastern Pennsylvania feel that providing technical support services for the district is their primary task. Assisting educators in utilizing technology resources is the second priority.

The survey respondents perceive their performance as a Technology Coordinator as being successful. They also feel that they understand the technology concerns of teachers and are having a positive effect on the professional staff. Technology Coordinators spend the majority of their time performing hardware installation and troubleshooting technology. Completing administrative paperwork and managing the network infrastructure are a close second and third.

Analysis of respondents' questionnaires indicated that 80.4% have a Pennsylvania Professional Teaching Certificate and 24.1% have vendor certification. Out of the 80.4% who have a professional certificate 42.8% have nationally recognized vendor certification. Of those individuals who do not have a Pennsylvania Professional Certificate, 57.1% hold a nationally recognized vendor credential. A Technology Coordinator is more likely to earn vendor certification if the individual does not hold a professional teaching certificate. Of the educators who hold vendor certification 50% have Microsoft certification and 30% hold a

Novell credential. Of the individuals who do not hold a professional teaching certificate, 37.9% have earned a Microsoft certification, 20.6% have a Novell credential, 17.2% have certification from CompTIA in either hardware/software or networking, and 10.3% hold Cisco certification. Apparently Microsoft and Novell are the most popular vendor certification credentials. This may indicate that school districts have chosen Microsoft and Novell as the dominant network operating system platforms. It is important to note that some of the professional and non-certified technology staff members who participated in this study have earned multiple vendor certificates.

Almost half of the coordinators surveyed hold a master's degree and 36% of them have majored in technical areas in a management/technology related field. Others have graduate degrees in reading, education, Special Education, mathematics, health/physical education, industrial arts, and counseling.

Almost 29% hold a bachelor's degree. At the undergraduate level about 17% have majored in a computer science/technology related field. Others have majored in such areas as biology, chemistry/physics, communications, English, engineering, political science and radio/television.

The analysis revealed a positive correlation between the Instructional Technology Specialist Certificate and the perception of being a successful Technology Coordinator. There is also a negative correlation between the perception of being a successful Technology Coordinator and earning a teaching

certificate. The research shows that the perception of holding the Instructional Technology Specialist Certificate has helped Technology Coordinators to be successful in their position. However, holding a professional teaching certificate is perceived to have a negative influence on the success of technology leaders. One could speculate that the hardware, software and troubleshooting demands of the position cause Technology Coordinators to see less relevance in their teaching and professional certification.

Recommendations

The results of this study indicated that out of 87 technology leaders there were 45 different position titles. A single job title should be considered for all Technology Coordinators in the Commonwealth of Pennsylvania because the position entails similar responsibilities and duties. One solution would be to give the title of Director of Instructional Technology to those individuals who hold the Instructional Technology Specialist and Supervisory credentials and offer the title Technology Coordinator for those who are not professionally certified.

The Director of Instructional Technology position must be considered a professional, certified position subject to tenure provisions. The Technology Coordinator position must be considered to be a non-certified position. This distinction will begin to better define the roles of these individuals. However, the researcher feels that the Director of Instructional Technology position must be involved in integrating technology into the curriculum, but the Technology Coordinator position may or may not be involved at this level. The Technology

Coordinator duties should concentrate more on the installation, troubleshooting, maintenance, and support of technology resources.

Some individuals feel that technology leaders in education should not be professionally certified by the Pennsylvania Department of Education. For instance, these individuals claim that the healthcare industry does not require their Chief Technology Officer to practice medicine, or that accounting firm technologists be CPAs. The researcher agrees with these statements. However, the concept is quite different in education because Technology Coordinators not only support the software and hardware, but also educate teachers who in turn educate students.

Research revealed that Technology Coordinators feel that providing technical support services and assisting educators in utilizing technology resources are the primary tasks. Supporting technology resources can be accomplished by most individuals who have experience working with hardware and software. On the other hand, assisting educators in utilizing technology so they can infuse it into the curriculum can be a challenge for the technology leader if the individual does not understand the curriculum and its integration process across all grade levels and departments. Nevertheless, in order to understand the needs of educators, technology leaders must understand curriculum. Technology and curriculum go hand-in-hand and the curriculum must drive the technology used in the classroom.

Only 64 out of 87 technology leaders answered the question about the percent of the total district budget allocated for technology. For those who did answer, their responses may represent perceptions as opposed to actual budget allocations. This raises the question, how much involvement do Technology Coordinators have in the budget process? Do they really understand how to budget? Districts may be better prepared for acquiring and supporting technology resources and services if technology leaders had a better understanding of the budget process. The researcher recommends that Technology Coordinators have more involvement in the budget process. Furthermore, these individuals must receive additional training and support in budgeting and planning for technology resources.

Almost 72% of the respondents indicated having duties related to planning professional development activities for the professional staff. The researcher recommends that Technology Coordinators become very involved in curricular matters and processes in order to properly support the classroom teacher. Frazier (2003) explained that one important task of a Technology Coordinator is to provide continuous staff development activities for educators so that these individuals can routinely utilize this knowledge in the classroom.

Research revealed that more than half of the Technology Coordinators report to the Superintendent of Schools as their immediate supervisor. Unless this individual has a cabinet level post, the immediate supervisor should be a curriculum oriented position. This is important because technology integration

must be tied to the curriculum. However, the researcher realizes that in a small district the Superintendent may be the only administrator.

The researcher believes that a Technology Coordinator must have a depth of knowledge and understanding of both education and technology to be successful as a technology leader. The research in this study revealed that Technology Coordinators perform a wide range of duties. Clearly, the literature supports the idea that the best qualified candidate must understand both areas.

Hiring a qualified Technology Coordinator can be very difficult for school officials. School administrators must seek technology leaders who have a solid foundation in curriculum and are well grounded in the theory of instructional technologies. Technology individuals must have good interpersonal relations and excellent leadership skills. This individual must have the ability to remain focused, the ability to deal with difficult people, be a motivator of people, and one who welcomes change. The ability to analyze a problem situation, conduct relevant research to find a palatable solution, and to clearly present the best solution to administration are basic skills needed to be successful in this position. When hiring a Technology Coordinator, Superintendents must find individuals with the following traits: the ability to control and manage technology resources; promote technology utilization within the district; the ability to develop and follow a technology plan; an understanding of emerging technologies that can be used in the classroom; a solid foundation of hardware, instructional software, and network infrastructures; The Technology Coordinator position requires a person

with a unique blend of skills and abilities that enables the person to work with both equipment and people.

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