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ABSTRACT

This paper is a report of a study of a federally funded technology innovation grant, C*R*E*A*T*E for Mississippi. Qualitative techniques were used to examine the significance of the role of a school-based educational technologist (ET) in four middle schools. The study also examined how the qualifications that the ET possesses impact the effectiveness of the project. Data were collected through observations, interviews, and document analysis. Preliminary results indicate that knowledge of technology alone does not make a successful ET. Results show that ETs with a background in the middle school setting have a greater impact than ETs without a background in the middle school setting. (Author/MES)

Investigating the Significance of the Role of the Educational Technologist in Middle School Environments: A Qualitative Study

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Abstract

This paper is a report of a study conducted of a federally funded technology innovation grant, C*R*E*A*T*E for Mississippi. Qualitative techniques were used to examine the significance of the role of a school- based Educational Technologist (ET) in four middle schools. This study also examines how the qualifications that the ET possesses impact the effectiveness of the project. Preliminary results indicate that knowledge of technology alone does not make a successful ET. Results indicate that ETs with a background in the middle school setting have a greater impact than ETs without a background in the middle school setting.

Introduction

Technology is becoming increasingly available in school settings. Technological aids are available to broaden the spectrum of teaching and learning. As more technology becomes available, teachers find more innovative ways to present lessons to students. Teachers are also afforded the opportunity to provide their students with access to information or experiences that they otherwise could not. In direct opposition to the increased availability of technology is the lack of technological knowledge possessed by teachers. Teachers who do not feel comfortable or proficient in the area of technology are not apt to think of technology as an aide to enrich their lessons. Students, therefore are deprived of wonderful educational opportunities available with the introduction of technology into the classrooms and the integration of technology into the curriculum.

One of the more prominent reasons given for the lack of technology integration in the classroom setting is lack of teacher training. An efficient and effective method of teacher

technology training and support is needed to facilitate optimum technology education in our schools. Other reasons for this lack of integration are lack of time for teachers to attain useful websites, lack of time and training to prepare a meaningful technology infused curriculum, and lack of on-site support.

A consortium of schools and other partners was funded by the U S Department of Education to support technology integration. As a possible solution to lack of technology, training and support, the position of Educational Technologist (ET) was created in four middle schools in Mississippi. Participating from each school are the ET, four core teachers (one from each core subject area), the school principal, the district technology coordinator, and a school board member.

As defined by the C*R*E*A*T*E for Mississippi project, the major duties of the ET are to provide on-site training and support to teachers, administrators, and students. The ET is to provide guidance in the use of technology to support instruction, learning assessment, curriculum development, communication, collaboration, research, resource access, and classroom management. Further, the ET is to orchestrate the use of technology in the school for effective technology access, utilization, and application for the improvement of student learning and academic achievement. The ET position is a 12-month position.

The Study

Researchers in the four different schools conducted this study. The research data were collected through observations, interviews, and document analysis once a nine-month period during the start up of this project.

Researchers observed the function of the ET in order to develop an understanding of the significance of the ET's role in the middle school setting. The observations helped to determine the effectiveness of the ET in carrying out the duties that were prescribed in the ET job description. Observations also helped to obtain information about how the ET collaborated and interacted with the teachers, the organizational skills of the ET, and the strengths and weaknesses of each ET position.

Interviews were conducted with the ET's to understand how efficient they thought they were in fulfilling their duties. The core teachers were also interviewed to learn how well the ET was functioning in the school and learn the quality of services that were being provided. These interviews were conducted in an informal setting with grant participants of each school.

Documents included training materials developed by the ET, lessons produced by core teachers, and materials created by teachers. Changes in documents were compared over time.

Findings

Hilltop School

Sharon had been a teacher in the vocational education department of a rural public school in an economically depressed district before applying for the position of ET at Hilltop School. Hilltop Middle School is in a small middle class public school district. Hilltop has the highest level of accreditation available in Mississippi.

Sharon was initially given an interview with the superintendent of the school district because she was attending a graduate class at a state university with the superintendent's son-in-law. Sharon holds a Bachelors degree with an endorsement in technology education. She did not have experience using technology in an academic content area, nor did she have experience conducting in-service teacher professional development. Sharon has very good organizational skills and people skills. She has the ability to communicate technology in layman's terms, effective technology utilization and application in classrooms with one computer, and with multiple computers. Sharon has experience incorporating technology into the curriculum.

Sharon has been marginally successful as an ET at Hilltop. Hilltop, contrary to many schools in the state, has access to state of the art technology with six of its middle school classrooms equipped with teleconferencing capabilities, 8-10 computers with internet access, scanners, printers, projection systems, digital cameras, digital probes, and numerous software licenses. Although the teachers have had access to the technology, they did not know how to use the technology or how to integrate the technology into their lessons. Sharon has spent much time in learning to use the technology available at the school, but she has not helped the teachers integrate much of the available technology

into their lessons. It was expected the ET would take a leading role in infusing technology in the day-to-day lessons at Hilltop. Although Sharon made herself available to the teachers, supported the teachers when asked, and responded to the teachers' requests for help, she did not take a lead role in learning about the resources available, in planning to integrate the technology resources, nor in providing training and suggestions to the teachers on how to use and integrate the resources.

Sharon has made herself available to the teachers at Hilltop for technology support. She has been very successful with the teachers' support needs, in that she finds and provides web sites for topics the teachers plan to teach in class, responds to software problems, and tutors teachers in email, files, and software as needed. Sharon has also made herself invaluable to the school administrator by taking care of his email correspondence for him and by helping him become more competent at using email.

It was expected the ET would assist the school system technology coordinator in the development of a technology support guide for technology problems common to all teachers. Sharon does assist the school system technology coordinator in responding to technology problems reported by the teachers. Sharon seems to spend a great deal of time responding to computer hardware problems, the responsibility of the school system technology coordinator.

Sharon was expected to identify, instigate, and supervise a student technology team to respond to teacher technology support needs. Sharon delayed establishing a student technology team at Hilltop school, but, as the first semester drew to a close, she did name 16 students to begin the Hilltop student technology team. Work and planning is currently

underway to train the student technology team and decide exactly in what capacity they will function at Hilltop school.

Sharon has not driven the technology innovation effort at Hilltop school, but she has supported the teachers and administrators in their technology usage. Technology infusion has increased in some teachers' day- to-day lessons because of Sharon's assistance. Teachers are able to include more websites and on-line research in class projects because she has assisted in the time consuming process of locating and investigating web sites for them. Sharon has not assumed a lead role in the technology infusion in the teachers' lessons, and has not provided training and ideas on ways to infuse more technology into lessons.

Magnolia School

Magnolia Middle School is the only middle school in a large public school district. The school district encompasses a large number of urban working and middle class families. Magnolia has the highest level of accreditation available in Mississippi. Magnolia Middle School was unsuccessful in their search for an ET. The administration solved the problem by identifying two members of the school system who could split the responsibilities of the ET. Cindy, an administrative intern, and Tammy, a classroom teacher, were each named as half-time ET. Cindy earned a bachelor's degree in business and worked in the business world before going back to school to earn a degree in biology with teacher certification in Secondary Education. She taught science in the Magnolia School District for six years. During that time she pursued a master's degree in educational administration. During the previous year, Cindy had worked as a half-time

teacher and half-time administrator at Magnolia School. Her responsibilities as ET include the technology curriculum and technology training for the teachers.

Tammy has teacher certification in Elementary Education and has taught for nine years in the Magnolia School. The current year is her first year to teach Technology Excel, a new class offered by her school. Tammy teaches two sessions of journalism and two sessions of Technology Excel, in addition to acting as a half-time ET. Tammy's ET responsibilities include supervision of the student technology team and technology support for the teachers.

It was expected Cindy would provide on-site professional development and training on hardware, software, and technology integration in the educational setting. Training has not been held on-site for teachers or administrators in technology. Cindy appears to stay busy with administrative tasks such that she does not seem to find the time to plan or schedule professional development. Cindy's hectic schedule may also account for her apparent lack of organization. Cindy's lack of organization may make it difficult for her to keep abreast of expectations in technology training.

Cindy has developed an innovative means to provide teachers with technology support. Researchers have noted that Cindy publishes a weekly newsletter every Tuesday via email. This newsletter contains useful technology tips and reviews educational web sites that teachers can use in their planning, research, or for class projects.

Tammy, like Cindy, has many demands made on her time. Contrary to Cindy, Tammy appears to be highly organized and has been noted to meet expectations for technology support and supervision of the student technology team. Tammy's innovative use of the resources she has available has made her very successful in taking a lead role in

technology infusion at Magnolia. She has trained the student technology team to respond to teachers' common technology problems. Tammy has also lead the student technology team in developing a technology support guide by having the team use various software programs to document the nature of the problem that they are called to correct and the way they resolved the particular problem. After the problem and solution is documented and stored in a file, Tammy can email the solution to teachers reporting the same problem.

Tammy has also used the student technology team to provide technology support and technology infusion into day -to-day lessons at Magnolia. Tammy took requests from teachers for particular power point presentations they could use in upcoming lessons. The student technology team then researched each topic and developed power point presentations that the teachers could use in their classes.

Computers are limited at Magnolia School. Classroom teachers do not have computer access sufficient to allow them to research and present presentations on topics covered in class. Tammy has taken the lead in supporting the technology use of teachers and in infusing into day-to-day lessons, and she has been very effective. Teachers are able to include more technology in their lessons and teachers have reported that they are more comfortable using technology because they realize they have the support of Tammy and the student technology team. Tammy has driven the technology at Magnolia and represents the accomplishments made possible by a successful ET.

Valley Attendance Center

Valley Attendance Center is a small K-12 school in a rural town in which residents rely on farming and working in the manufacturing industry for their livelihood. Valley

Attendance Center has an accreditation level of 3 (successful). The ET appears to be successful in her role. The superintendent of the school is actively involved in the school, and knows the teachers and students well. The superintendent chose Katherine as ET after observing her using technology in her third grade classroom for three years. Since the ET was already a staff member in the school, she has been accepted by the core teachers and works well with the teachers one-on-one. She works with the teachers and students daily to improve their knowledge and skills in technology. It was expected Katherine would help the core teachers and students with technology, and she has gone above and beyond these duties daily basis. Katherine is eager to learn new skills in technology and is willing to attend workshops and conferences on technology even when she is not required to attend. Katherine is an excellent record keeper since she is required by CREATE to keep documentation of her work throughout the school day. Since she was once a teacher, she works well with students as well as with other teachers. The core teachers and administration see her as a resource for technological information.

Katherine has contributed to the project by creating duties that were not expected of her in her contract. For example, she conducts staff development in technology with large groups of teachers other than the core teachers that she is hired to assist. She not only helps the core teachers with technology and lesson plans, she also has earned their trust and friendship. A strong bond has developed between Katherine and the core teachers. Other teachers throughout the school recognize her as a useful resource as well. She not only helps the core teachers generate ideas for their lessons, but she also writes and revises the lesson plans. In fulfilling one of the duties outlined in the ET job description, Katherine has established a fully functioning student technology team. She

enjoys her present job, but misses classroom teaching. Although she has done an extraordinary job, she is willing to give up the position to spend the summer months with her children.

Katherine does not have a technology endorsement or an extensive knowledge of technology. She does not work closely with the technology coordinator since the technology coordinator works out of the central office and Katherine works within the school. She does not supervise the student techno team in their day-to-day work but meets with them once a week. Katherine has yet to create a student technology support guide, which is a responsibility of the educational technologist.

Leesburg School

Ertha had been the technology coordinator in another school district before applying for the position of ET at Leesburg Middle School. Leesburg has an accreditation level of three (successful) in a small community with moderate economic status. Upon a recommendation by the school's current technology coordinator, Ertha was hired for the position of ET through the decision of the school administrator. Ertha holds a class A certification with a technology endorsement. She taught technology-based courses in the community college sector for most of her professional career and has experience with technology training in the corporate sector. In addition, she taught business education courses on the high school level for three years. Because of the experience that she had with technology education, it was expected that Ertha would be of great benefit in communicating technological knowledge to the teachers. Although she has extensive experience in the education arena, Ertha does not communicate her experience into effective operation in the area of academic content at the middle school level.

Ertha has proven to be unsuccessful in the capacity of ET. Ertha does not effectively communicate technology-related issues to the teachers. This may be attributed to her demonstrated lack of social and people skills. Ertha's lack of social skills is demonstrated by her failure to acknowledge the core teachers when they come to her for assistance. This social ineptness is further demonstrated by her inattentiveness and blatant disrespect at organized meetings involving ETs from the participating schools.

Ertha is located in a building that is totally separated from the main school where the core teachers have their classrooms. Because of the distance between them, it was expected that Ertha would make an extra effort to make herself available to the core teachers. She does not make any attempt to make herself accessible to the teachers involved in the project. She also does not make any attempt to respond to teachers' requests for assistance, nor does she respond to requests that are made by her supervisors. In addition to her lack of people skills, Ertha also lacks the organizational skills necessary that are attached to effectively carrying out the duties of an ET.

Prior to participation in the project, the teachers at Leesburg School did not have access to much technology and they were not familiar with the utilization of the equipment. The technology that was available in the school was made possible through grants that were written by teachers within the school. Some of the teachers who wrote the grants for the technology are now core teachers with the project. With the inception of the project, the teachers have access to much more equipment and to a resource person to help with technology training. It was expected that Ertha would prove to be proficient in providing in-service training on the newly available equipment. It has been observed that the core teachers have made several requests for training, but there have not been

responses to these requests. The ET and the teachers do not share similar backgrounds and this may possibly be attributed to their lack of shared vision in the realm of the project.

Conclusion

In analysis of the qualification of each Educational Technologist, we have concluded that there are very apparent differences among the ETs that make a significant difference in their effectiveness. It was expected that the ETs with extensive experience and knowledge with technology would prove to be a great asset in the integration of technology in the classroom. It was observed that ETs with technology backgrounds were not as successful in translating these technological abilities into the academic setting as were ETs with classroom teaching backgrounds. It was expected that ETs who had spent the bulk of their career in the middle classroom setting would face difficulty in becoming familiar with the technology and being able to train other teachers on the technology. It was found that the ETs with prior experience in the middle school setting were more successful in fulfilling the duties outlined for an ET. The ETs seemed to have a much more positive effect in the school and with the teachers when they shared a similar background with the teachers.

The researchers expected to see that each ET would have good organizational skills. It was the observation of the researchers that most of the ETs were, at best, mediocre where organization was concerned.

It was not expected that any Educational Technologist would be resistant to communicate and collaborate with the teachers. It was found that the Educational

Technologist who had not spent time in the middle school setting had a more difficult time relating to the core teachers.

The researchers have noted that each Educational Technologist operates differently. The success of the project in each school is directly related to how well the ET functions. This study has shown that ETs are more effective when they share a background and vision with the teachers with whom they work.

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