USE-IT

Uniting Science Education, Inquiry and Technology

Final Evaluation Report

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NWO
Northwest Ohio Center for Excellence in STEM Education

BGSU

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Appendix A: Participant Information

This report describes the activities and findings of the USE-IT (Uniting Science Education, Inquiry, and Technology) III project that ran from September 2011 to April 2012. After a brief overview of the project activities and evaluation methods, the report describes the findings regarding the implementation and impact of the project activities on the participating teachers. The report concludes with some general conclusions and recommendations for future iterations of USE-IT and similar projects.

OVERVIEW OF THE USE-IT PROJECT

Project Summary

USE-IT is a teacher professional development project designed and implemented by the Northwest Ohio Center for Excellence in STEM Education (NWO) and funded by The Martha Holden Jennings Foundation. The project was initially funded in 2009, and has since been funded two more times. The focus of USE-IT is on improving the quality of science and technology instruction for teachers in northwest Ohio. This is accomplished by providing professional development about the ways in which several kinds of educational technology can be used to teach science. The USE-IT project has four goals:

1. Expose teachers to effective methods of science and technology instruction.
2. Elicit positive beliefs and behaviors about teaching using reform-based science teaching strategies and instructional technology.
3. Demonstrate and encourage the integration of technology in science lessons.
4. Promote the use of research-based best practices and collaboration in science and technology teaching in northwest Ohio classrooms consistent with local, state, and national standards.

The project activities included seven professional development sessions that took place once a month from September to April at Rossford High School in Rossford, OH. Each session addressed a different type of educational technology, and included instruction about the technology in general, and specific ways to integrate the technology into science lessons. At each session, teachers received technology equipment (e.g., microphone, webcam, video recorder) that would allow them to better or more effectively integrate the educational technology being addressed during that session. Several educational technology professionals served as facilitators for the USE-IT sessions, including two faculty members from Bowling Green State University

(BGSU), an NWO staff member, and staff from WGTE Public Media, a public television and radio broadcasting station in Toledo, Ohio. The table below includes information about each session implemented during the project.

Month	Session Title	Facilitated by
September	The Revised Science Standards and PREZI presentation software	Dr. Terry Herman, Professor of Technology Education at BGSU
October	Sharing Science Tools with Voicethread	Dr. Terry Herman, Professor of Technology Education at BGSU
November	NWO Symposium on STEM Teaching – Various Technology Topics	Various presenters – attendance at this event was not required for USE-IT participants
December	Classroom Science Instruction with Skype	Ms. Michelle Klinger, Assistant Director of NWO
January	Web 2.0 Technology Tools for the Classroom of Today and Tomorrow	Ms. Betsy Hood, WGTE Public Media
February	Introduction to Google Earth	Ms. Charlene Patton, WGTE Public Media
March	Science Poster Fair with Glogster	Dr. Lan Li, Assistant Professor of Classroom Technology at BGSU
April	Screencasting in Science	Dr. Lan Li, Assistant Professor of Classroom Technology at BGSU

Teachers were recruited for USE-IT via a series of e-mail blasts and the dissemination of paper flyers in July 2011. Enrollment was first made available to teachers on the "wait list" from the 2010 USE-IT recruitment, and then was opened to all interested science teachers in northwest Ohio. The participating teachers represented fifteen school districts, and taught grades from three to eight. Detailed information about the participating teachers is included in Appendix A.

Evaluation Summary

USE-IT activities were evaluated to determine the success of their implementation and their impact on participating teachers. The evaluation of the project activities was guided by the following questions:

1. How successfully were the project activities implemented?
2. What is the quality of the professional development provided to the teachers?
3. To what extent do teachers implement the knowledge and resources gained during the project in their classroom?

4. What is the impact of the project activities on teachers and their teaching, including their beliefs and behaviors regarding science teaching and educational technology?

The project evaluation was conducted using a mixed methods design. Both quantitative and qualitative data were collected from the USE-IT staff and participating teachers in order to comprehensively address the evaluation questions. Session attendance data (collected at each session), a professional development observation (conducted in January), and survey data were collected throughout the project.

Three on-line surveys were administered during the project. The Perceptions of Science Teaching Practices Survey (P-STeP) and the Technology Attitudes and Usage Survey (TAttU) were administered before and after USE-IT (in September and April, respectively). The Professional Development Evaluation Survey was administered after each session. Detailed information about each on-line survey follows.

Perceptions of Science Teaching Practices Survey (P-STeP). The P-STeP consists of two sections. The first section includes ten items that measure teachers' self-efficacy beliefs regarding science teaching. Some examples of items from the first section include, "I know the steps necessary to teach science concepts effectively," and "The inadequacy of a student's science background can be overcome by good teaching". The items in this section are measured on a five-point scale, with 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

The second section lists twenty-seven best-practices teaching strategies for science and asks teachers to rate the emphasis placed on the strategies during their science lessons (with 1=None, 2=Very little, 3=Some, 4=More than some and 5=A lot) and their confidence in using the strategies (with 1=Not at all confident, 2=Slightly confident, 3=Fairly confident, 4=More than fairly confident, and 5=Very confident). Some examples of the teaching strategies include, "Having students make connections between science and other disciplines," and "Asking students to demonstrate more than one way to solve a problem".

Technology Attitudes and Usage Survey (TAttU). The TAttU consists of three sections. The first section includes ten items that measure teachers' self-efficacy beliefs about using technology in the classroom. Some examples of items from this section include, "I am continually finding better ways to use technology in my classroom," and "I find it difficult to

help students who have trouble using technology in my classroom". The items in this section are measured on a five-point scale, with 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.

The second section lists seven instructional technologies and asks teachers to rate a) how *familiar* they are with the technology (with 1=Not Familiar, 2=Very Slightly Familiar, 3=Moderately Familiar, and 4=Very Familiar), b) how *frequently* they use the technology (with 1=Never, 2=Rarely, 3=Sometimes, and 4=Frequently), and c) how *prepared* they feel using the technology (with 1=Not Prepared, 2=Very Slightly Prepared, 3=Moderately Prepared, and 4=Very Prepared). The instructional technologies included in this section were those addressed during USE-IT III, namely Prezi, Voicethread, Skype, Google Earth, Web 2.0, Glogster, and Screencasting.

The third section lists eight strategies to integrate technology and 21st century learning into the classroom. Teachers are asked to rate how *frequently* they use the strategies, and how *prepared* they feel to use the strategies. Some examples of items from this section include, "Have students use technology to complete collaborative learning tasks," and "Facilitate learning activities that foster 21st century skills". The items in this section are measured on two different four-point scales that correspond to the scales used for the frequency and preparedness sub-scales of the second section.

A fourth section was added for the post-project administration of the TAttU, in order to determine the extent to which teachers integrated the specific educational technologies (i.e., Prezi, Voicethread) in their classroom, and how the technologies assisted their students' learning.

Professional Development Evaluation Survey. The Professional Development Evaluation Survey consists of eight items that measure teachers' perceived value of the professional development session they attended. Six items are Likert-style items that are measured on a four-point scale, with 1 = Disagree, 2 = Somewhat Disagree, 3 = Somewhat Agree, and 4 = Agree. Some examples of the items include, "The session was engaging," and "The content/information presented during the session was valuable to me". The two open-ended items ask teachers to write about their perceptions of the session, and offer general comments and suggestions for improvement.

EVALUATION FINDINGS

Implementation of USE-IT Activities

The extent to which the project activities were successfully implemented was determined by analyzing data collected from project registration information, session attendance sheets and professional development session descriptions. For the purposes of this report, successful project implementation consists of: 1) enrolling 24 science teachers from various northwest Ohio school districts, 2) providing seven professional development sessions that are attended by at least 90% of the participating teachers, and 3) providing professional development about several types of educational technology and 21st century skills. This definition of implementation is meant to be superficial in that it does not address the quality or impact of the project – those issues are addressed by the remaining evaluation questions. The definition is only meant to provide guidelines for determining the extent to which the project activities were carried out as initially planned.

The initial recruiting efforts were successful and resulted in the enrollment of 24 teachers from northwest Ohio at the start of the project. In fact, more than 24 teachers showed interest in participating in the project, which resulted in a waiting list containing 30 teachers. As was the case with the previous two USE-IT programs, some of the originally recruited teachers left the program before it began. Four teachers left before or shortly after the start of the program, and four teachers on the wait list filled their positions. Although the recruitment efforts were successful, there were multiple attendance issues throughout the project. There were two teachers who did not attend any professional development sessions, and five who only attended through the December session. Moreover, many of the teachers who remained in the project through the end did not attend one or two of the professional development sessions throughout the project. Therefore, session attendance varied widely throughout the project, with the lowest attendance being eight in January, and the highest being twenty in September. None of the sessions had 100% attendance, and only one of the sessions had an attendance rate above 90%. The average session attendance rate was 67%, thus the attendance objective for this project was not met. The table below contains the attendance numbers for each professional development session during USE-IT III. The two teachers who did not attend any sessions were not included in the total enrollment number. Therefore, the total enrollment was considered to be twenty-two teachers.

USE-IT III Session Attendance

Month	Teachers in Attendance	% of Teachers in Attendance
September	20	91%
October	13	59%
December	19	86%
January	8	36%
February	15	68%
March	17	77%
April	12	55%
	Average Attendance	67%

Although the project staff had some difficulty keeping 24 teachers enrolled in the project, the teachers who remained enrolled throughout the project were from the targeted population of northwest Ohio science teachers, thereby meeting part of the enrollment objective. The 22 teachers who ultimately enrolled in USE-IT represented 15 different northwest Ohio public school districts, with five teachers (23%) coming from districts deemed by the Ohio Department of Education as medium or high-support. Most teachers (50%) taught grades three or four and another 32% taught grades five and six. Only three of the teachers taught grades seven or eight, and none taught high school. All of the teachers taught science, and many teachers taught other subjects as well, including math, language arts, and social studies.

The table included in the Project Summary section (page 2) illustrates that each session of the project addressed a different educational technology. Therefore, the last objective of successful project implementation was achieved.

Quality of USE-IT Professional Development

The quality of the professional development provided to the teachers was determined by analyzing data collected from the professional development session observation (conducted during the January session), the session agendas and resources[1], and the Professional Development Evaluation surveys. The objectives for the professional development sessions, as outlined in the evaluation plan, were: 1) Session facilitators demonstrate how several forms of instructional technology can be used in science lessons, 2) Session facilitators demonstrate best practices in science and technology teaching through hands-on, inquiry-based professional development sessions, and 3) Professional development sessions are aligned to state and national standards. The quality of the professional development sessions was therefore determined based on these objectives.

One of the recommendations from the evaluation of the USE-IT II project (2010-2011) was to provide more structured examples regarding the use of technology for science teaching. Although the USE-IT II professional development sessions did effectively instruct teachers how to use several technologies (e.g., Skype, FlipCams, Google sites), they often did not provide more than fleeting examples of how to use technology for teaching science. USE-IT III, the project currently being evaluated, effectively implemented the recommendation by including explicit science-related examples for technology integration within its professional development sessions. The session about Glogster, for example, demonstrated how the technology could be used to create interactive science fair posters. The session about Skype demonstrated how the technology could be used to connect teachers and their students with local scientists. The session about GoogleEarth demonstrated how the technology could be used to teach about the Apollo 11 mission and other space science concepts. Furthermore, the Prezi, Voicethread, and Screencasting sessions were all based upon a science foundation (see session title in the table on page 2), so we can assume that the technologies were taught and discussed within a science education framework. The implementation of last year's recommendation has thus resulted in the achievement of the project's first objective regarding the quality of the professional development.

[1] Visit http://cosmos.bgsu.edu/UseIt/sessiondocs.htm

The second objective related to the quality of the professional development – that sessions are taught using hands-on inquiry based methods – was met according to evidence provided by the professional development session observation and the Professional Development Evaluation surveys. During the observed professional development session, the facilitator used many best-practices teaching strategies, including cooperative learning, hands-on exploration of concepts, the use of multiple types of media (video, web-based), and whole group discussions about core concepts. During the session, the teachers learned about three types of web tools, namely Wallwisher, Wordle, and Storybird. For each tool, the teachers were given time to explore on their own, and the facilitator was available throughout to provide any needed guidance. The hands-on nature of the professional development sessions was confirmed by the teachers' responses to the Professional Development Evaluation surveys. Teachers mentioned that they liked having time to "practice" and "explore" the technologies during the sessions. As stated by three teachers:

> *I was glad to have time to work on what we learned.* (September survey)
>
> *I love that she allows us to explore what we learn!* (October survey)
>
> *I really enjoyed being able to use Google Earth and learning how to pin and record locations.* (February survey)

The extent to which the professional development sessions were aligned to state and national standards was determined by consulting the session resources posted on the project website (http://cosmos.bgsu.edu/UseIt/). The session agendas and presentation slides indicate that most sessions explicitly addressed standards related to both technology and science. See Appendix B for an example of a session agenda.

The quality of the professional development was also determined by the teachers' responses on the Professional Development Evaluation surveys. The teachers were asked to complete the survey after each professional development session, resulting in a total of seven sets of teacher survey responses. Every teacher who attended each session completed the online survey, resulting in an overall response rate of 100%. Mean scores were calculated for each survey item for each professional development session. The survey responses indicate that teachers perceived the professional development sessions to be engaging and valuable, taught by facilitators who were knowledgeable and well-prepared.

Mean survey scores for each USE-IT professional development session

Survey Item	Month							Total Mean
	Sept. (n=19)	Oct. (n=13)	Dec. (n=19)	Jan. (n=8)	Feb. (n=15)	March (n=16)	April (n=12)	
The session was engaging	1.79	1.69	1.74	1.88	1.27	1.56	1.75	1.66
The session facilitator(s) was/were knowledgeable and well-prepared	1.89	1.92	1.79	2.00	1.33	1.63	1.75	1.75
The content/information presented during the session was valuable to me	1.68	1.62	1.79	1.75	1.40	1.63	1.83	1.67
I learned something new from the session	1.84	2.00	1.79	2.00	1.80	1.69	1.83	1.83
I will incorporate the content/information from the session into my classroom lessons	1.47	1.54	1.47	1.50	1.47	1.81	1.58	1.55
Attending the session made me feel more excited about using technology in the classroom	1.74	1.69	1.74	1.75	1.20	1.81	1.73	1.66
Total	1.73	1.74	1.71	1.81	1.41	1.68	1.75	1.68

Note: -2 = Disagree, -1 = Somewhat Disagree, 1 = Somewhat Agree, 2 = Agree; therefore, positive scores represent positive attitudes and negative scores represent negative attitudes

Teachers' qualitative survey responses were thematically analyzed, and compared to the quantitative findings shown in the table above. The themes identified among the teachers' qualitative responses were mostly consistent with the quantitative survey results. Teachers often wrote positive comments about the session facilitators, and about the sessions in general. Aside from generally positive remarks about the professional development (e.g., "the session went well," "interesting"), the most prevalent theme among the qualitative responses was teachers' intention to use technology in the classroom. At least one teacher (and oftentimes several) per survey indicated their intention to use the technology in their classrooms. Several teachers wrote:

> *I can see myself using this tool in a variety of ways in my classroom and expanding its use to other subject areas.* (September survey)

This was a really useful tool that I would definitely use in the classroom. (October survey)

I plan on using the technology in my classroom as a tool to enhance learning and understanding. (December survey)

I was excited about story bird and will eventually be able to implement it into my lesson. (January survey)

I think this is a valuable tool that I will probably use a couple times a year. (February survey)

I am excited about using Glogster and went back to school and talked with the principal about getting a site license. I was excited about using Glogster and can see many applications for the classroom. (March survey)

I think the screencasting is very useful in my 5th grade classroom. I can see both myself a nd my students using this technology! (April survey)

The abundance of comments about using the technology in the classroom suggests that teachers perceived the technology to be applicable in their classroom, supporting the quantitative results in which teachers generally agreed that they would "incorporate the content/information from the session into my classroom lessons" (see the table on the previous page). The next section describes teachers' actual implementation of technology during the project.

Teachers' Implementation of Project Resources

The extent to which teachers implemented the knowledge and resources from USE-IT in their classroom was determined by analyzing teachers' responses to several questions on the post-project TAttU survey. These questions asked the teachers if they had used the technologies addressed during the project (e.g., Skype, Glogster), and in what ways they had used them in their classroom. All but one teacher reported using at least one of technologies addressed during the project. The table below illustrates teachers' responses to these questions.

Teachers' Use of USE-IT Technology in the Classroom

Technology	% Teachers Who Used the Technology (n = 17)	Ways in Which Teachers Reported Using the Technology
Prezi	53%	Presenting new material to students, and having students make presentations to each other
Voicethread	12%	Student presentations
Skype	29%	Communicating via video with other classes and scientists
Google Earth	71%	Locating different biomes and geographical features (e.g., mountains, flatland, glaciation)
Web 2.0	35%	Used many of the websites (one teachers specifically used Wordle for review)
Glogster	41%	Having students present to each other about science projects and book reports
Screencasting	18%	Presenting lessons
Average	37%	

Even though it was not used as frequently as some of the other technologies, the responses indicated that teachers and students were most excited about using Glogster in the classroom. Three teachers wrote:

> *We did this as a presentation tool for my students' reports. They absolutely loved this and were extraordinarily excited to work in and out of class.*

This was one of their favorite activities to use this year! They created a poster on Glogster after finishing their book club books and had a field day with it!

[My] principal is going to get a site license for next year since I was so excited about it.

Throughout the project, several teachers mentioned their inability to implement technology in their classroom, due to limited resources and/or Internet restrictions at their school. At least one teacher commented about these limitations every month with the exception of January (Web 2.0) and April (screencasting). Three teachers wrote:

The only downside is that our district does not allow access to the Prezi website. (September survey)

I had trouble finding a way to use VoiceThread in my classroom. Plus our district has a r estriction on this particular site. I love the new technology I'm learning but am frustrated with blocked sites at school. That's nothing you can fix, it's just disheartening. (October survey)

I enjoyed the session and see how valuable Google Earth can be unfortunately when I came back to school excited to use it I was told our computer lab can't accommodate a classroom all using Google Earth at the same time. (February survey)

I would love to use more technology but our school has limited resources and I often can't get access to computers for my kids. (TAttU post-survey)

Despite the limitations reported during the project, most teachers implemented the technology to some extent in their classroom. In fact, the data presented in the next section illustrate that teachers significantly increased their use of the technologies addressed during the project. When asked to reflect on how the implementation of the technology assisted student learning during the school year, teachers reported, "students definitely gain a deeper understanding of topics when they are able to use technology," and stated their belief that, "technology is strongly needed for our students to survive and succeed in the 21st century". Teachers also stated that students generally enjoyed using the technology, and expanded their knowledge about what technology can be used for.

Impact on Teaching Beliefs and Practices

The teachers' beliefs and practices regarding science teaching were evaluated using the P-STeP survey, which was administered once in September 2011 and again in April 2012. Reliability analyses were conducted for each scale at each administration time, and the alpha coefficients indicated that the scales were all sufficiently reliable (> .70).

Dependent t-tests[2] were conducted to determine the direction, magnitude, and statistical significance of the change in teachers' beliefs and practices regarding science teaching. Fifteen matching responses were included in the t-test for the self-efficacy scale, and fourteen matching responses were included in the tests for the emphasis and confidence scales. The results demonstrate that over the course of the project, teachers significantly increased their self-efficacy beliefs about teaching science, felt significantly more confident using reform-based science teaching practices in their classroom, and placed significantly more emphasis on the use of those practices in their classroom. The table and figure below illustrate the changes in teachers' beliefs and practices regarding science teaching.

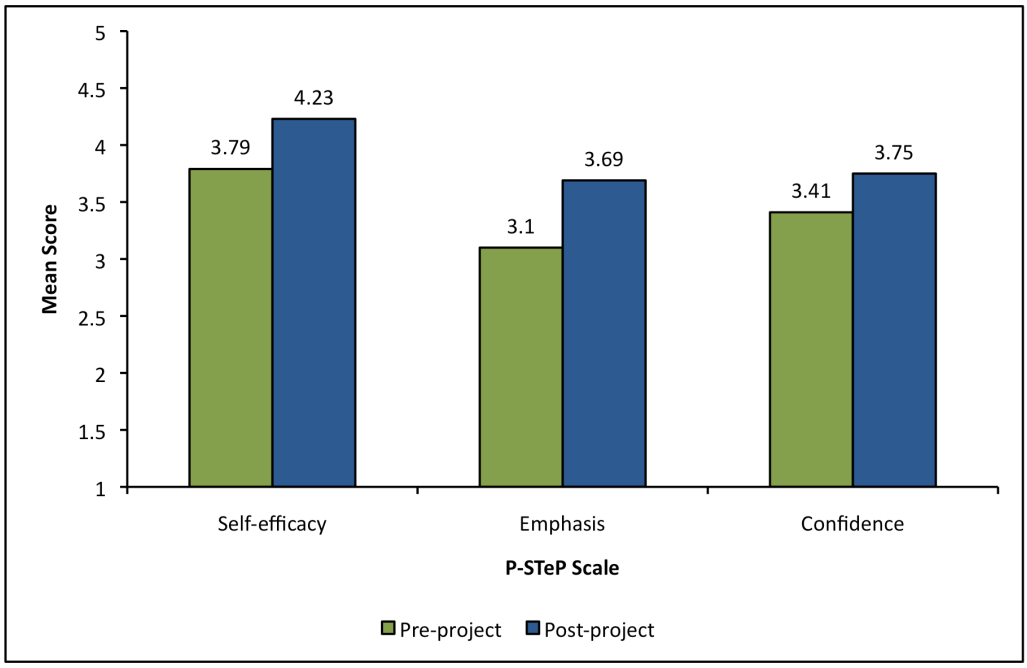
Summary of the P-STeP analyses

Scale	Pretest Mean (S.D.)	Posttest Mean (S.D.)	t	Effect Size
Self-efficacy	3.79 (0.62)	4.23 (0.71)	4.62***	1.19
Emphasis	3.10 (0.73)	3.69 (0.79)	3.85**	1.03
Confidence	3.41 (0.61)	3.75 (0.57)	3.04**	0.81

*Note: ** p < .01, *** p < .001, effect sizes > .20 are considered small, > .50 are considered medium, and > .80 are considered large*

[2] Dependent t-tests, also called paired t-tests or matched pair t-tests, determine if there is a statistical difference between two sets of related data. In this case, the two related data sets were teachers' pre-project and post-project P-STeP scores.

Changes in teachers' beliefs and practices regarding science teaching



The teachers' beliefs and practices regarding educational technology were evaluated using the TAttU Survey, which was administered once in September 2011 and again in April 2012. Reliability analyses were conducted for each scale at each administration time, and the alpha coefficients indicated that the scales were all sufficiently reliable (> .70).

Dependent t-tests were conducted to determine the direction, magnitude, and statistical significance of the change in teachers' beliefs and behaviors regarding educational technology. Fourteen matching responses were included in the t-tests. The results demonstrate that after participating in USE-IT, teachers 1) felt significantly more self-efficacious about integrating technology in their classroom, 2) were significantly more familiar with the technology addressed during the project, 3) used the technology addressed during the project with significantly greater frequency, 4) felt significantly more prepared to use the technology addressed during the project, 5) used technology integration and 21st century learning strategies with significantly greater frequency, and 6) felt significantly more prepared to use technology integration and 21st century learning strategies. Although significant increases were observed for all of the TAttU scales, the largest effects were observed for Familiarity and Preparedness with the technology addressed

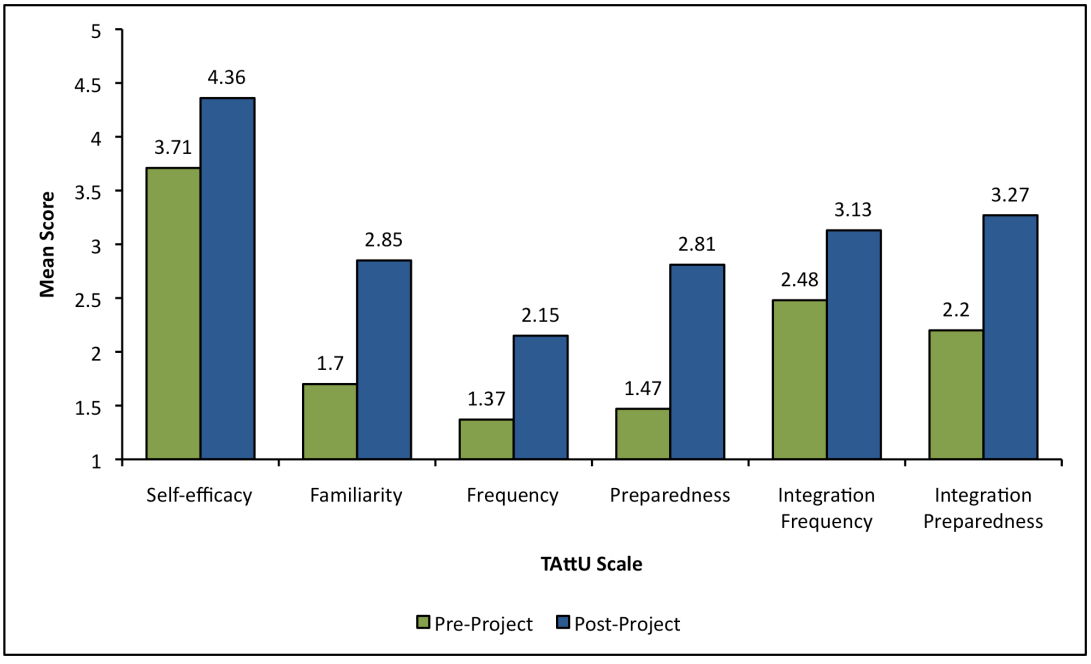
during the project. The table and figure below illustrate the changes in teachers' beliefs and practices regarding educational technology.

Summary of the TAttU analyses

Scale	Pretest Mean (S.D.)	Posttest Mean (S.D.)	t	Effect Size
Self-efficacy	3.71 (0.69)	4.36 (0.40)	3.38**	0.90
Familiarity	1.70 (0.32)	2.85 (0.43)	10.79***	2.88
Frequency	1.37 (0.33)	2.15 (0.60)	4.78***	1.28
Preparedness	1.47 (0.35)	2.81 (0.55)	7.61***	2.03
Integration Frequency	2.48 (0.64)	3.13 (0.52)	3.86**	1.03
Integration Preparedness	2.20 (0.66)	3.27 (0.37)	6.13***	1.64

*Note: * p < .05, ** p < .01, *** p < .001; effect sizes > .20 are considered small, > .50 are considered medium, and > .80 are considered large*

Changes in teachers' beliefs and practices regarding educational technology



Note: The Self-efficacy scale was rated from 1 to 5, and all other scales were rated from 1 to 4.

CONCLUSIONS

The evaluation data presented in this report demonstrate that USE-IT was successful in offering high-quality professional development about several educational technologies. The teachers learned about the technologies from qualified facilitators who used best-practices instruction (e.g., hands-on instruction, collaborative learning) to demonstrate how the technologies could be used to teach science. Throughout the project, teachers expressed their excitement and gratitude about the opportunities to learn about and use the instructional technologies that were explored during USE-IT. Teachers commonly wrote about the hands-on nature of the professional development sessions and their intention to use the technologies in their classroom.

The TAttU survey results demonstrate that USE-IT was successful not only in making teachers more familiar with educational technology, but also in improving their preparedness and actual use of the technology in their classroom. Although on average, only 37% of teachers (who completed the post-TAttU survey) used the technologies in their classroom, this is likely a marked improvement from their previous use of these technologies. In fact, most teachers reported "Never" using the technologies before USE-IT, so the teachers' seemingly small improvement is actually a significant step in the right direction. Aside from the specific technologies addressed during the project (e.g., Skype, Voicethread), teachers also increased their preparedness and use of technology and 21st century skill integration strategies, such as, "having students use technology to complete collaborative learning tasks," and "facilitating learning strategies that foster 21st century skills".

In addition to gains in beliefs and practices about educational technology, USE-IT was also successful in increasing teachers' beliefs and practices about science teaching as well. Teachers increased their confidence in using reform-based teaching strategies as well as the emphasis they place on those strategies during science lessons. These changes may be attributed to the stronger connection to science content during USE-IT III as compared to past USE-IT projects. Past projects did not explicitly address science content during instruction about educational technology, so a focused effort was made this year to frame all instruction around science topics. The significant increases observed this year in teachers' beliefs and practices

regarding science teaching are in contrast to past years, during which no significant gains were observed.

In general, we can conclude from the evaluation results that USE-IT was successful in achieving its goals. However, based on the project's findings, there are a couple of considerations that should be made if the project is to be replicated in the future.

Attendance Issues

First, a better system should be developed to maximize participation and guard against attrition. Attendance was a major problem during USE-IT III, and in fact represents the only project objective that was not achieved. While the project staff was overwhelmingly successful at recruiting teachers for the program (a waiting list of 30 teachers resulted from the recruitment efforts), the staff was less successful at ensuring adequate attendance during the project. While teacher motivation probably explains much of the attendance problem, changes in program organization and expectations may result in better teacher attendance.

School District Limitations

The second consideration, which was previous discussed in the "Teachers' Implementation of Project Resources" section, is the Internet and resource limitations that exist in many school districts. Several teachers commented about their inability to use the technologies addressed during the project due to limitations from their district. These limitations mostly had to do with Internet/cyber security issues, and thus many teachers stated concerns regarding the use of technologies such as Prezi, Voicethread, and Skype. Some teachers suggested that USE-IT only address technologies that will not be subjected to district security limitations, but due to different security standards and protocols at school districts, finding a technology not susceptible to district limitations seems unlikely. However, the issue of technology limitations at school districts could be addressed with teachers before or during the first professional development session. If a majority of teachers believe they will not be able to use the technologies in their school due to limitations, curricular adjustments could still perhaps be made to accommodate them.

Appendix A: USE-IT Participant Information

		Number of Teachers
School Districts Represented	Anthony Wayne Local	3
	Findlay City	3
	Huron City	1
	Lake Local	1
	Lakota Local	1
	Leipsic Local	1
	Lexington Local	1
	Liberty Benton Local	1
	Maumee City	2
	Ottawa Hills Local	1
	Rossford Exempted Village	1
	Tiffin City	1
	Toledo Public	3
	Van Wert Local	1
	Washington Local	1
Gender	Female	21
	Male	1
Grades Taught	Third	7
	Fourth	4
	Fifth	5
	Sixth	1
	Seventh	2
	Fifth and Sixth	1
	Seventh and Eighth	1
	K-12 (substitute)	1