The Centers for Quality Teaching and Learning
Evaluation findings from 2005

Technology use, student impact, and use of research based instructional strategies

Section One: Technology Use

The first section contains results from a data set comprised of participants (N=649) from the Spring and Summer cohorts during 2005. Participants filled out a web based survey one the first (pre survey) and last day (post survey) of the program. Just over 80% of all participants filled out both surveys. The section presents a comparison of responses to statements designed to measure technology use. Technology use is captured through statements focused on perceptions of confidence and ability to use technology along with statements focused on indicators of technology use in the classroom. Participants are asked to read each statement and decide to what extent they agree or disagree that the statement describes them. While on the actual surveys participants have six answer options they are presented here in chart format broken into either agree or disagree categories. It is very clear that both perceptions of confidence and ability to use technology and the use of technology in the classroom change significantly from before to after QTL program participation.

Section Two: Student Impact and Use of Researched Based Instructional Strategies

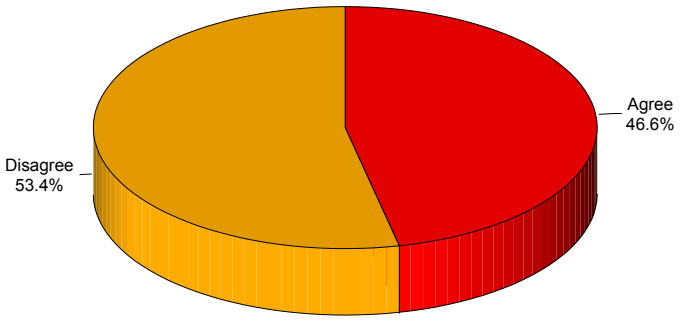
Section two contains results from a data set comprised of participants (N=312) from the Summer 2005 cohort. The first set of findings is from a measure designed to assess the extent participants rely on certain instructional strategies as part of their instruction. These are the same instructional strategies participants are exposed to during their participation. The second set of findings is from a question about the impact of QTL participation of students. Both the measure of instructional strategies and the question on student impact were designed based on qualitative analysis of open ended questions. Furthermore, both were piloted and revised to ensure reliability and validity.

Section One: Technology Use

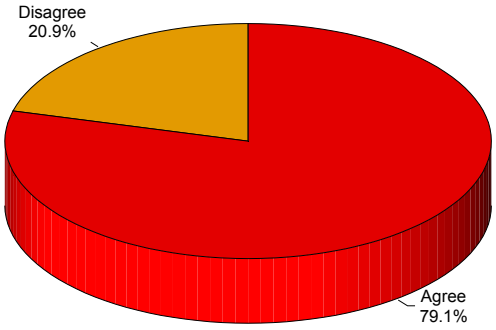
Statements reflecting ability and confidence to use technology

Finding: Almost 80% of participants indicate they feel comfortable using new technology after QTL participation compared to 47 % before QTL.

Pre: I feel comfortable using technology that I have not used before

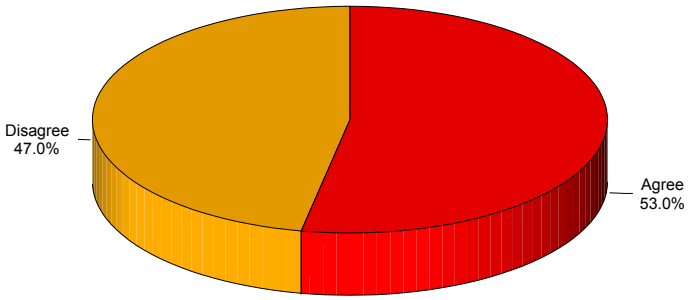


Post: I feel comfortable using technology that I have not used before

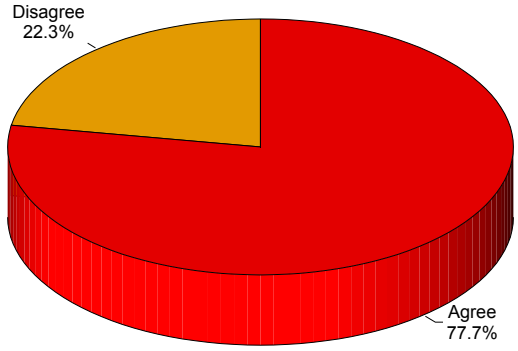


Finding: Almost 80% of participants feel confident enough to have someone else come into their classroom and evaluate their use of technology after QTL participation compared to 53% before.

Pre: Given a choice, I would invite others to evaluate my use of technology

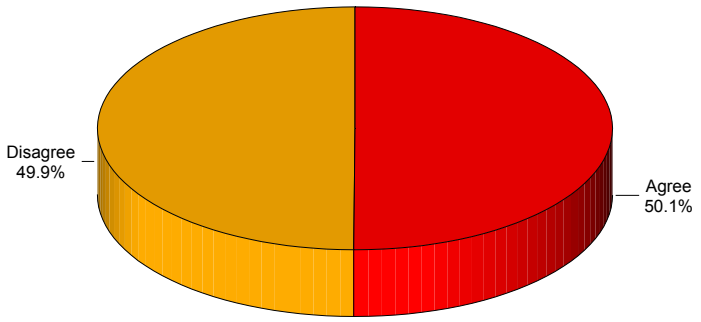


Post: Given a choice, I would invite others to evaluate my use of technology

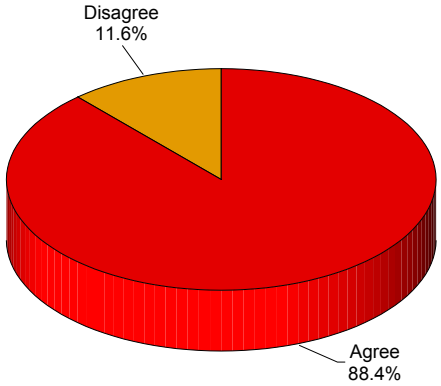


Finding: After QTL participation 88% of participants feel confident they know the steps to use technology in an effective manner compared to only 50% of participants before.

Pre: I know the steps necessary to effectively teach and work with technology



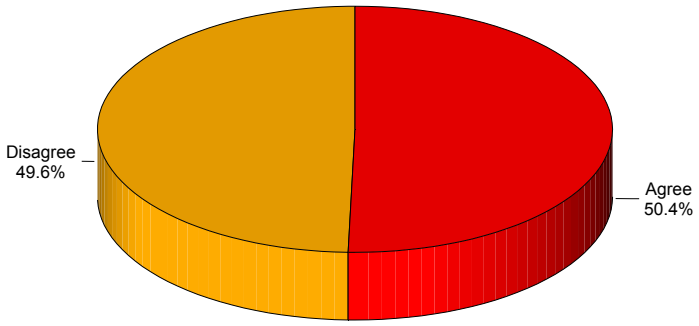
Post: I know the steps necessary to effectively teach and work with technology



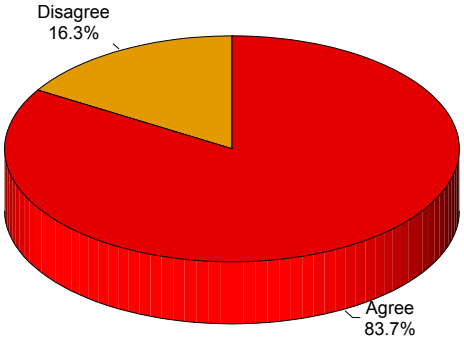
Statements reflecting the use of technology in the classroom as part of instruction

Finding: After QTL participation 84% of participants agree their instruction involves software programs and the internet compared to 50% before.

Pre: I employ instructional strategies that require students to use software programs and the internet

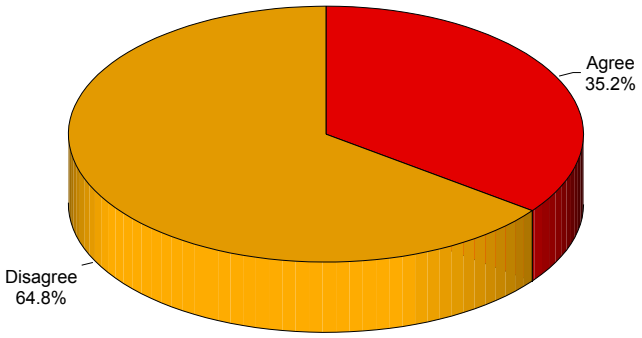


Post: I employ instructional strategies that require students to use software programs and the internet

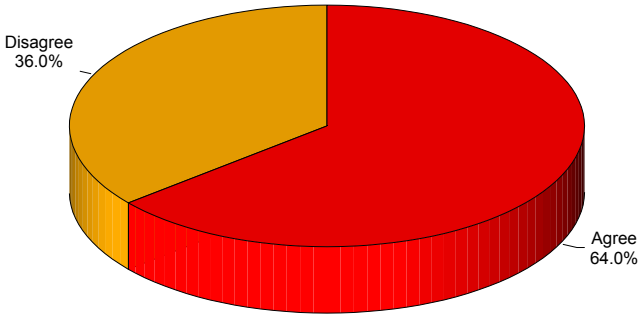


Finding: After QTL participation 64% of participants require students to analyze and present information compared to 35% before.

Pre: I employ instructional strategies that require students to analyze and present information

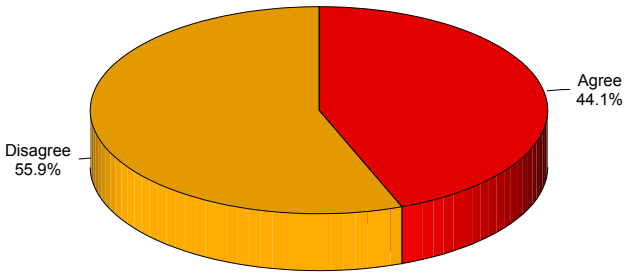


Post: I employ instructional strategies that require students to analyze and present information

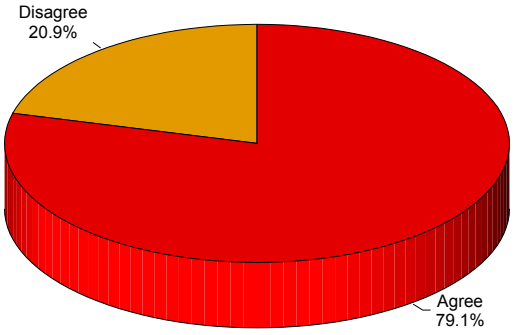


Finding: 79% of participants indicate they collaborate with others about ways to use technology in the classroom after QTL compared to 44% before.

Pre: I meet with others to discuss how we can improve teaching through the use of technology

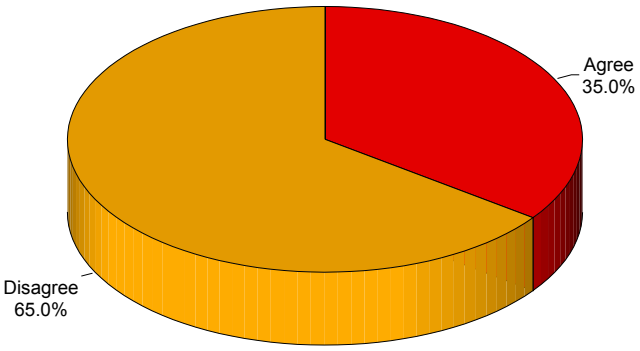


Post: I meet with others to discuss how we can improve teaching through the use of technology

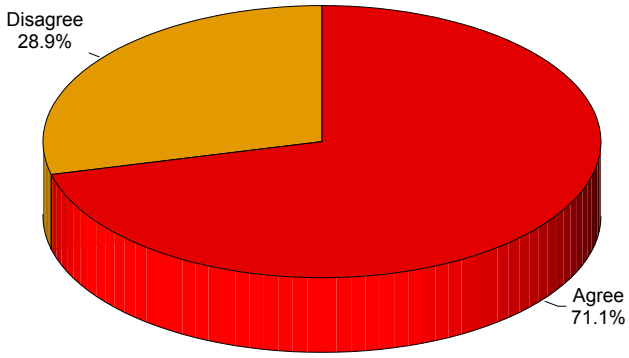


Finding: After QTL participation 71% of participants believe they understand how technology can be used to implement instructional strategies compared to only 35% before QTL.

Pre: I understand how technology can be used to implement instructional strategies



Post: I understand how technology can be used to implement instructional strategies



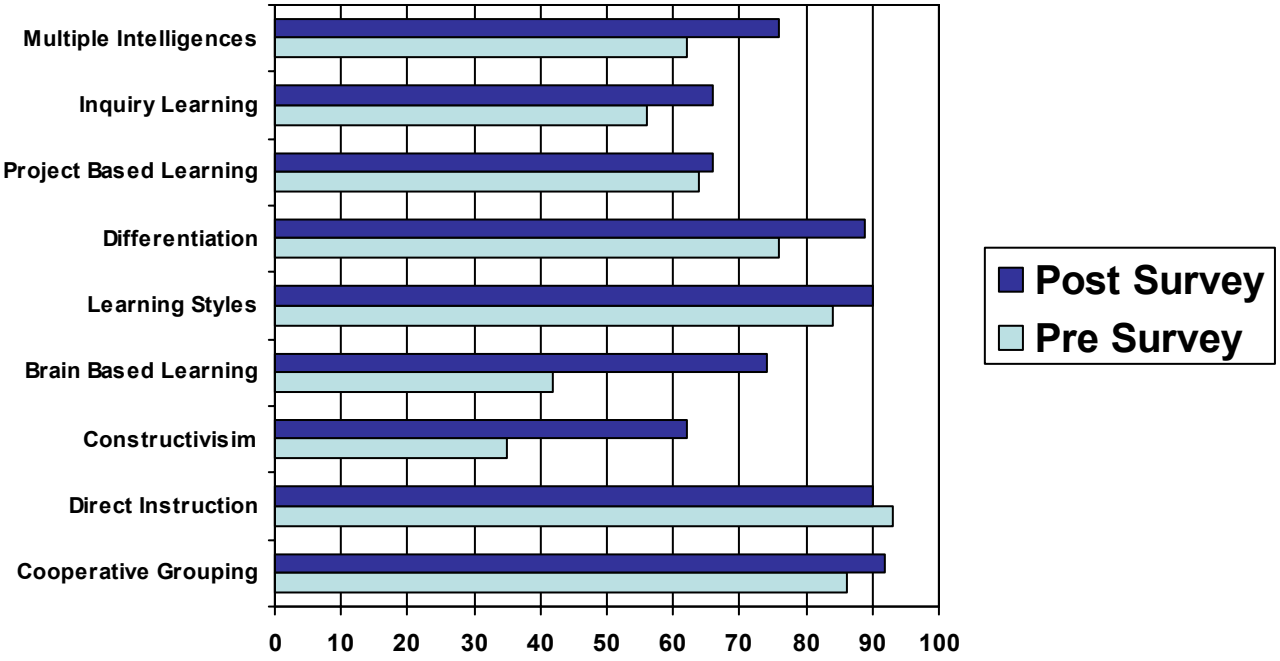
Section Two: Student Impact and Use of Research Based Instructional Strategies

Use of research based instructional strategies

Across the first five days of the QTL program participants are exposed to several research based instructional strategies. Each strategy is discussed and modeled in a classroom setting. By the end of the program participants should understand how each strategy can be implemented into the classroom. As part of the QTL program evaluation participants are asked to consider each research based instructional strategy and the role it has in their classroom instruction. Five answer options are presented and the participant has to choose the one that best describes them. The answer options include *not familiar with*, *familiar with but don't use*, *tried before but don't use*, *sometimes use*, and *often use*. Participants answered these same questions before and after their participation in QTL. The following results are from 312 matched surveys collected on the first and final day of the program.

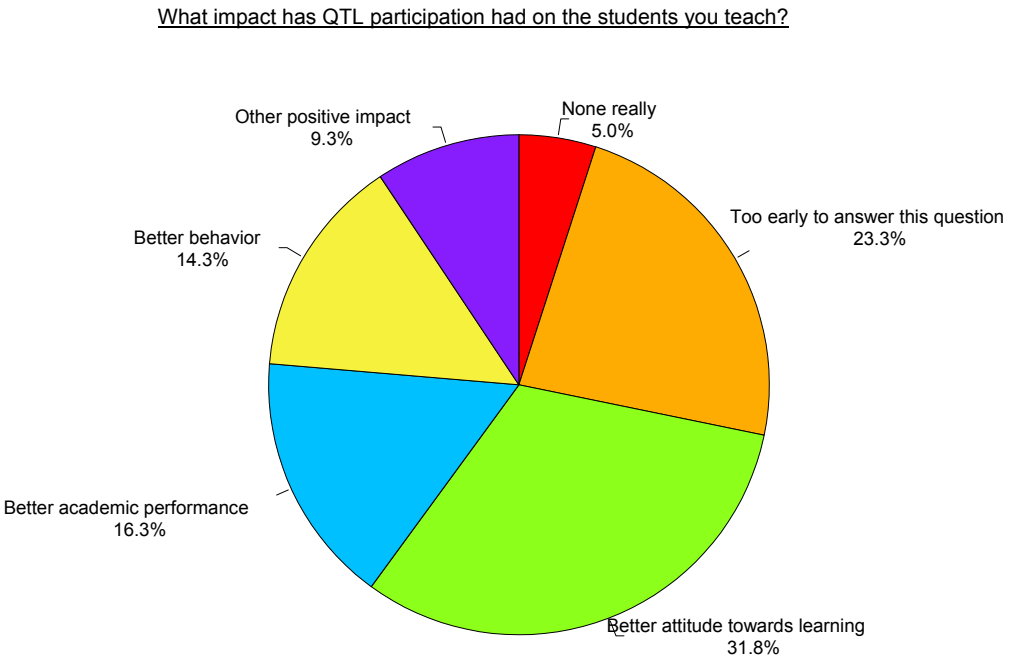
Main Findings: On the pre survey, 35% of participants indicated they either sometimes or often implement **constructivism** into their classroom instruction. In contract, on the post survey, 62% of participants indicated they either sometimes or often implement constructivism into their classroom instruction. For **brain based learning** 42% of participants indicated they either sometimes or often implement brain based learning into their classroom instruction. In contrast, on the post survey, 74% of participants indicated they either sometimes or often implement brain based learning into their classroom instruction. In addition multiple intelligences, inquiry learning, differentiation, and learning styles all showed a significant increase in implementation from before to after QTL participation.

The following chart shows the percentage of respondents that indicated either sometimes or often implementation on the pre and post surveys



Impact of QTL participation on student learning

In order to assess the impact of QTL participation on student learning a question was added to the final evaluation survey. On the last day of the program participants are asked about the impact of QTL participation on their students. The question "What impact has QTL participation had on the students you teach?" is presented along with six answer options. A participant can choose as many answers as they believe to be true. The answer options include *none really*, *too early to answer*, *better attitude towards learning*, *better academic performance*, *better behavior*, and *other positive impact*. These answer options are based on a qualitative analysis of several open ended questions asked on a previous evaluation centered on student impact. In addition to the close ended question a follow up open ended question is included to get further examples and description of QTL impact. The following results are from 312 surveys collected on the final day of the program.



*Even those participants that indicated it was too early to answer felt their participation would soon have a positive impact on student learning.

Here are some examples of what teachers had to say about the impact of QTL on their students even though they felt it was to early to answer…..

"My classroom is typically the place where students of many different academic levels are able to succeed alongside one another. I think that the QTL strategies and technology applications I have studied will enhance that situation and reach more students in more ways. Use of these strategies and tools will present another route to understanding, mastery, and overall academic success both in music and in the regular classroom."

"In the future I feel that it will help students in obtaining higher standards and should also see higher EOG test grades."

"Some of the training that I have had with QTL has helped me help students really get engaged in learning. Once my students have had the chance to truly experience some of the activities that I have planned I really think they will be excited to do more activities."

"I think it will have a positive effect on student motivation to participate and engage in activities."

"I think my QTL participation will eventually lead my students into having a better attitude toward learning. I also hope that it will lead some of my students to better behavior. In the end, I think it will lead to better academic performance."

Here are some examples of how QTL participation has impacted student learning…

"I have developed some lessons based on what I have learned here. These lessons interest all students, but especially those that are less focused in class discussions. These lessons allow them the opportunity to move about and use technology they might not otherwise have the opportunity to use. They are also very successful in the project."

"Students are more willing to step out and work with hands-on project activities. They also enjoy the technique of more collaboration and sharing their work with others."

"QTL training has impacted my students because of activators, project-based learning, and comprehensive review strategies. It has been extremely helpful using warm-up activities to start the class and get students situated. The use of project-based learning has allowed students to work on a topic and produce something that is theirs. Comprehensive review strategies, like the box creation, were very helpful in reviewing material before a test."

"Some students have stated that what we have learned in some areas, that they have been able to use that knowledge in other classes. This has been very beneficial to their

learning and participation in their other classes. Especially when other teachers and I have shared the same students, when we were working on the OTL teams."

"Students are engaged in their work. Teachers have told me that they are surprised when certain students seem more engaged than usual. When I check for understanding, students perform well."

"Students enjoy working in groups and creating presentations. Normally, I would have my students do individual projects. I love all of the strategies that I am able to use. The students are paired differently. I would have never put some of the students together before QTL."

"I have a low achieving student that is very capable but doesn't try very hard. Since I have implemented some of the QTL strategies with my interactive classroom, this particular student has put forth a much better effort - and I don't even think he realizes he's doing anything different. To him it is fun!"

Conclusion: There is strong evidence to support that QTL participation will result in increased confidence and ability to use technology and an increase in the integration of technology into the classroom for student use. Also, there is strong evidence to warrant that QTL participation will result in greater implementation of research based instructional strategies and will have a positive impact on student learning.