What is InTech?

Introduction

The 1995 Needs Assessment for the State of Georgia indicates that over 40% of elementary, 37% of middle, and 25% of high school teachers give a "low" rating of their knowledge regarding the effective use of technology. In addition, approximately three-fourths of all elementary, middle, and high school teachers surveyed rate their level of access to technology-based inservice training as low or medium. The training that is available receives low marks according to these same teachers. Regarding the quality of technology related professional development activities, close to 80% of these teachers give a rating of low or medium. Over two-thirds of elementary, middle and high school teachers rate their administrators' knowledge of effective technology as low or medium. Thus, there seems to be a clear need for training that will provide teachers and administrators with the skills necessary to effectively integrate technology into the K-12 curriculum.

Project Goals

The InTech program offers teachers an extensive, curriculum-based professional development program that provides them with the training they need to successfully incorporate technology into the Georgia K-12 curriculum. In addition, the program trains and assists administrators as they support and encourage their teachers in this endeavor. InTech, Phase One of the Georgia Framework for INtegrating TECHnology, is designed to enhance the existing P-16 curriculum using modern technologies as a catalyst for fundamental changes in the teaching and learning process. The Georgia InTech Framework recognizes that instructional redesign is best accomplished through professional development activity that simultaneously builds teacher skills in five interrelated areas of proficiency. Georgia's Five Critical Areas for technology professional development target improved student achievement by: 1) focusing on Georgia's Quality Core Curriculum Standards, 2) using modern technological resources, 3) incorporating these technological resources into new designs for teaching and learning, 4) developing and using classroom management strategies which enable effective use of technology in the classroom, and, lastly, 5) blending these components into a new and enhanced classroom pedagogy.

Project Objectives

Through the 50-hour training program, InTech strives to provide teachers with the skills, knowledge, and support necessary to:

1. Critically examine their own instructional practices to determine how technology can play a role in enhancing the teaching and learning process.

2. Develop a minimum of four model lessons per teacher using their newly acquired technology skills to meet their curriculum objectives.
3. Implement technology-based projects and activities developed during the training program and throughout the school year.
4. Develop a plan to re-deliver the InTech training to the other members of their school faculty.

In addition, the program also involves administrators in the process. Administrators are required to attend a minimum of ten hours of the InTech training as well as two courses regarding the use of technology in teaching, learning, and assessment. This helps to ensure administrator support of the objectives set forth for the participating teachers.

Project Activities

InTech is a highly structured, 50-hour GEORGIA DOE professional development program. Teachers attend five days of initial training and then return for day six of training after three to four weeks back in their classrooms. They have another three to four weeks in the classroom before returning for day seven. At the conclusion of the seven days of InTech training, the participants and administrator for each school determine a plan for redelivery to other faculty members. Each InTech team that completes seven full days of training (50 clock hours) may then become their school's InTech Redelivery Team. These teams of trainers will be asked to participate in a two-day (15 clock hours) train-the-trainer session. This team, with administrative support, will develop a school redelivery plan that adheres to the InTech guidelines. With appropriate administrative leadership and intense redelivery team training, the school's original InTech team can become the InTech training team for their school.

There are three InTech programs specifically designed for elementary, middle school, and high school teachers. The seven days of training for elementary, middle school, or high school participants consist of technology training that is built upon model lessons. This is one of the strengths of this program. Teachers are shown that technology does not and should not drive the curriculum. Rather, it is a powerful tool for enhancing the teaching and learning of the already established curriculum. The entire InTech program is built upon this theme of curriculum integration. Each activity during the InTech training is related to a model lesson based upon Georgia's Quality Core Curriculum (QCC) objectives. The model lessons demonstrate integration in science, mathematics, social studies, and language arts. For instance, there are elementary lessons that focus specifically on using technology to enhance reading and writing skills. Software that engages students in reading, learning parts of speech, and creative writing is utilized, and teachers are shown how standard software can be adapted to meet the needs of students with varying levels of reading and writing competencies. Teachers are also introduced to technologies specifically designed to assist students with special learning needs.

InTech teaches and supports teachers as they learn how to use technology in their classrooms. The program is designed so that even novices will have developed and implemented four technology-connected lessons by the completion of the seven days of training. Activities throughout the InTech training provide teachers the opportunity to do the following:

- Use productivity software to create, update and maintain lesson plans
- Use presentation software to display and present information
- Use e-mail to expedite professional communication and collaboration
- Use Internet educational directories for research and curriculum support
- Locate, evaluate and select software for appropriate grade/subject
- Locate internet resources related to use of technologies in education.
- Select and use appropriate hardware to support instruction
- Select and use appropriate peripherals to support instruction (printers, projection devices, digital cameras, scanners)
- Locate, evaluate, select and use a variety of instructional software, internet resources, and CDs to advance specific curricular objectives
- Locate, evaluate, select and use productivity applications (word processing, database, spreadsheet) to advance specific curricular objectives
- Design and deliver curricular activities in which students use technology to master learning objectives
- Use a variety of technologies to present curricular information (LCD, scan converters, digital images, VCR, laser discs, etc.)
- Assess curriculum objectives and computer skills simultaneously
- Use on-line QCC objectives for planning and reference
- Maintain a collection of internet sites that correlate to subject area and/or grade level QCC objectives
- Apply technologies to provide whole group, small group and individual instruction
- Employ a variety of software to meet individual learning styles and needs
- Customize software to support special needs (bi-lingual, remedial, accelerated)
- Use peer tutoring to advance curricular and technological skills
- Engage cooperative and collaborative learning strategies for technology-based projects
- Lead classroom learning as a mentor, or coach of student activity
- Use technology-based activities to facilitate active student learning
- Apply principles of discovery-based learning in technology-based activities
- Use technological resources (CDs, laser discs, Internet) to establish common background knowledge and make learning connections
- Employ the use of multimedia, hypermedia, and telecommunications to extend classroom experiences via virtual visits or “field trips”
- Model behaviors that promote ethical and legal use of computer/technology resources
- Understand and uphold copyright laws
- Explain and enforce Acceptable Use Policy of school or district
- Establish classroom policies and procedures that ensure ethical use of technologies
- Apply appropriate attitudes in adopting the use of technology in the classroom
- Ensure equal access to technological resources
- Develop management strategies which maximize the use of technologies by all students
- Employ grouping strategies which accelerate learning for all students
- Arrange classroom to facilitate cooperative learning using technology
- Establish classroom areas which promote the use of technologies

An important aspect of the InTech approach is the involvement of teams of teachers from each participating school. InTech has been designed to build the skill set of teams of five teachers in each Georgia school. By involving

teams of five from each school, this professional development program encourages participants to support each other and share ideas and resources once they return to their school environment. Typically, three teams of five teachers will attend training together. Commonly, the three teams will be from different schools. Each InTech team uses information technologies to support, enhance and extend an existing and emerging technology empowered curriculum. The strength of this method lies in peer-to-peer sharing of technological and pedagogical skills in the context of curriculum-based model lessons. Beyond sharing ideas and resources with the other members from their school team, participants also support and share with the InTech participants from other schools. An important part of the actual InTech training is the time devoted to sharing ideas and activities. Each day of training begins with a reflective journal writing activity, an e-mail assignment, and a time for sharing with other InTech members. Participants meet with their school group each morning for a brief time of sharing; the entire group then reconvenes to discuss how they are incorporating technology into their classrooms. The teachers bring copies of their lessons plans and samples of student work to share with the other InTech participants. On day seven of the InTech training, each team brings a tri-board display to showcase how they are integrating technology into the teaching and learning process at their school.

To participate in the InTech program, the teachers need at least seven release days from their regular classroom duties (more days are required for those team members who go through redelivery training). Teachers attend one day every two weeks throughout the initial five days of training. There are three to four weeks between days five and six and also between days six and seven. The program is conducted during the school year so that teachers can return immediately to their classrooms and develop and implement lessons using newly learned skills. Since participation does require release time, substitute teachers must be obtained for each day that a teacher is not in the classroom.

Description of Participants

The recommended selection of teachers from each participating school is discussed with the administrators prior to team selection. It is recommended that school principals identify a team of five participants based on the following:

- **Elementary School**: It is recommended that two K-2 teachers, two 3-5 teachers, and one other classroom teacher, media/technology specialist, or school administrator make up the InTech team.
- **Middle School**: It is recommended that one sixth grade teacher, one seventh grade teacher, one eighth grade teacher (representing different subject areas) and two other practitioners selected from classroom teachers, media/technology specialists, or school administrators make up the InTech team.
- **High School**: It is recommended that five teachers representing different grade levels and subject areas make up the InTech team.

Teachers participate as collaborative teams representing an individual school. The team is challenged to share curricular and technological expertise and to rely on each other as they learn skills, develop management strategies, learn new pedagogies, and develop and implement technology-connected lessons in the classroom. Research indicates that when teachers collaborate in the development of instructional uses of technology, they are more likely to critically evaluate their practice and redesign instruction to better meet the needs of the students.

In addition, an administrator from each school is a vital part of the InTech team. Responsibilities of the administrators include:

- Selecting a team of five teachers.
- Providing teachers with seven release days.
- Assisting the InTech team in developing a redelivery training plan.
- Providing a multimedia workstation for each participating teacher.
- Providing productivity, multimedia and curricular software for each participating teacher.
- Attending a half-day workshop titled "Assessing Teachers in a Technology Connected Classroom".
- Attending a half-day workshop titled "Understanding the Classroom Module".
- Attending at least ten (10) hours of InTech training with the school's team.

Does the InTech Model Work?

Preliminary evaluation data indicate a positive response to the InTech training. Questionnaires, journal entries, email responses, and open-ended survey responses indicate that teachers have grown in their use of technology in their classrooms. Teachers believe that they are better able to use technology to enhance both teaching and learning. Comments regarding the benefits of InTech include: not afraid to experiment, overcame my apprehension, feel empowered to use technology, overcame feelings of inadequacy, helped my self-esteem. Others responded: learned how to integrate, life changing experience, format very effective, enabled new interactions and connections with my students, and should be required for all GA teachers, parapros, and administrators. Teachers felt that the required lessons and the sharing process encouraged them to implement what they had learned in training. One teacher commented:

> This course has been an absolutely wonderful opportunity to grow both personally and professionally. It has challenged me to learn new technologies and to learn more about myself as a teacher and as a learner. I have grown to understand my strengths and weaknesses and how the utilization of technology can help my students accomplish higher levels of learning and "better" learning.

Another teacher stated: "InTech was the most useful staff development class I have had in the last 15 years!"

Data collection and analysis is in the preliminary stages and will continue with an added emphasis on classroom observation. Data thus far clearly indicate that teachers believe the InTech training and model to be effective. We do not,

however, have data that examines the degree of technology integration after training is completed. This is the next stage in the data collection and analysis process.