Creating a Personal Technology Improvement Plan for Teachers of the Gifted

by Kevin Besnoy

There is a high incidence of today's gifted students independently interacting with their global community through technology tools. Teachers of the gifted (GT teachers) must possess an understanding of technology processes and concepts in order to engage their students through instructionally meaningful and appropriate lessons (Bybee & Loucks-Horsley, 2000). Although many educators would like to use technology tools as an instructional medium, two obstacles prevent GT teachers from integrating technology into the curriculum: access to resources and continuous professional development.

The first obstacle to technology integration is access to resources (Minkel, 2004; Wilson & Notar, 2003). During the past decade, United States school systems have spent more than $19 billion on developing technology systems for local schools. Furthermore, national groups have set standards aimed at improving teachers' use of technology as an instructional tool (National Council for Accreditation of Teacher Education [NCATE], 2003; No Child Left Behind Act [NCLB], 2001; Preparing Tomorrow's Teacher's to Use Technology [PT³], 2005; International Society for Technology Education [ISTE], 2005). The goal of these efforts is to increase the amount of needed resources so that educators can more frequently and efficiency integrate technology into curricula.

Yet, despite the allocation of funds and creation of standards, there has been only modest technology integration into 21st-century classrooms (Minkel, 2004; Wilson, Notar, & Yunker, 2003). Minkel (2004) conducted a study to determine students' (ages 6–17) satisfaction with computer and Internet access at school. The results showed that almost half of the students (49%) were dissatisfied with the amount of time spent online. According to Minkel,

"this represents a doubling of dissatisfaction on the part of children since 2000" (p. 26). Interestingly, even with the increased spending on resources, students are not satisfied with amount of computer integration into instruction. Perhaps the solution to inadequate integration of technology can be found in teacher training.

The second obstacle to more frequent technology integration is strategic planning that provides continuous professional development and allows GT teachers to learn how to integrate technology resources as an instructional tool. According to Shaunessy (2003), 81% of GT teachers report receiving fewer than 10 hours of staff development in technology integration. Staff development content generally is outlined by district and school administrators and designed for an entire faculty (school and/or district). Unfortunately, many professional development opportunities unsuccessfully meet the technology needs of GT teachers and gifted students (Karnes & Shaunessy, 2004).

As a result of the one-size-fits-all aspect of technology-focused professional development opportunities, GT teachers cannot afford to wait for districtwide staff development sessions to teach them how to integrate computer resources. Rather, they must independently seek professional development opportunities that meet their specific instructional technology (IT) needs. A Personal Technology Improvement Plan (PTIP) facilitates this by allowing GT teachers to create an individualized professional development plan (Karnes & Shaunessy, 2004; see Appendix A).

Based on research conducted by Dettmer and Landrum (1998), a PTIP is a personalized, strategic professional development plan used to help GT teachers analyze and identify their professional technology needs and create a plan that allows them to meet those

needs. PTIPs serve three purposes. First, they provide GT teachers with a continuous strategic plan to follow that will guide perpetual development and produce an able implementer of classroom technology (Al-Weshail et al., 1996). In addition, they permit teachers to individualize their own technology development and allow them to progress at a self-determined pace. Finally, PTIPs represent a concerted effort by GT teachers to meet the "ambitious learning goals we hold for all students" (Bybee & Loucks-Horsley, 2000, p. 34).

PTIPs are similar to other professional development plans except that they focus on an individual teacher's technology needs. Although each PTIP will be uniquely designed to suit an individual teacher, all PTIPs are created along the same guidelines. According to Kelly and McDiarmid (2002), professional development plans should (a) support continuous learning, (b) meet individual teacher's needs, (c) promote collaboration among educators, (d) reflect student learning, and (e) evaluate teacher proficiency. Individualizing a technology plan transforms a one-size-fits-all plan to one that a teacher of the gifted can use to improve classroom pedagogy.

Creating a Personal Technology Improvement Plan

In order to create a PTIP, GT teachers must conduct a needs assessment and identify professional development resources that enable them to enhance their technology integration skills (Dettmer & Landrum, 1998). Although Dettmer and Landrum did not specifically mention IT skills, this suggestion is prudent in light of the work of other researchers in the field of gifted education (Shaunessy, 2003;

Siegle, 2005; Southern & Spicker, 1989; Subhi, 1999).

Whether the GT teacher is a novice or an expert at integrating technology into the gifted education classroom, PTIPs can help improve his or her ability to use computers as an instructional tool. In order to create an effective plan that provides continual development over a 5-year period, GT teachers should follow a step-by-step process. The five steps include: (a) conduct a needs assessment, (b) write short- and long-term goals, (c) identify and access resources, (d) implement learned skills, and (e) evaluate progress.

Conduct a Needs Assessment

Conducting a needs assessment determines which resources and skills a teacher of the gifted has and which ones he or she needs. Furthermore, it provides a teacher with a direction that will guide the PTIP and maximize professional development opportunities. In order to conduct a needs assessment, a teacher should obtain a needs assessment survey. According to Thurlow (1999), the Teacher Computer Ability Profile (TCAP; http://www.johnthurlow.com/usm/emt/emt.html) is an easy-to-use survey that GT teachers can complete in a few minutes. The needs assessment survey should be conducted at least once a year to measure progress and reevaluate specific needs.

With this survey, GT teachers can determine their technology skills and needs. Each of the seven subscales (Basic Computer Skills; Managing Computer Files; Using Word Processing Software; Use of Other Software; Use of Multimedia, CD-ROM, and Educational Software; Use of the Internet; and Curriculum Integration of Computer Technology) allows teachers to determine their proficiency level (nonuser, novice, basic, advanced, or

expert) and helps to prioritize areas of greatest need (Thurlow, 1999).

Unfortunately, the TCAP does not have a section for determining the type and number of available computer resources. However, GT teachers can answer the following questions to quickly determine the available resources: (a) How many computers are in my classroom?; (b) Is there a computer lab? If so how many computers are there?; and (c) What type of software do I already have access to? These basic questions will serve as a good beginning for developing a needs assessment.

What do I do if I am a nonuser or novice? Individuals whose IT skills are at the beginning stage will create a needs assessment that addresses the most basic skills. It is imperative to identify an individual in the school building or district who can act as an IT mentor. Much like a personal trainer, an IT mentor will help the nonuser or novice work through technophobia situations. In addition, seek out peers who share the same basic IT skill set and form an IT support group. This allows individuals to share resources, frustrations, and successful experiences.

Write Short- and Long-Term Goals

As with any good professional development plan, a PTIP must have short- and long-term goals. There should be several short-term goals that can be accomplished in 4 to 5 months. On the other hand, there should only be a couple of long-term goals that are to be accomplished during the life of the plan. It is imperative to base the goals on the results of the needs assessment. According to Al-Weshail et al. (1996), a good flexible plan can be adapted to meet the changing needs and resources of both the teacher and his or her students.

Short-Term Goals. There are two types of short-term goals that GT teachers need to set for themselves: skill acquisition goals and hardware and software acquisition goals. Skill acquisition goals focus on specific abilities. Examples of short-term skill acquisition goals include:
- I want to have an organized filing system for my electronic documents,
- I want to know how to run basic software programs,
- I want to teach others how to use presentation software in their classrooms, and
- I want to be able to use technology to meet the National Association for Gifted Children's Program Standards.

Each of these goals is stated specifically and can be achieved easily in a brief time period.

Additionally, a teacher of the gifted should set goals that include acquiring newer and more robust hardware and software. Examples of short-term hardware and software acquisition goals include:
- I want to attain a new desktop publishing program to use with my students,
- I want another computer for my classroom, and
- I want to purchase a microscope that connects to the computer.

Although achieving these goals might seem costly, there are several professional development Web sites available for teachers that provide funding that make these aspirations attainable (see Table 1).

Depending on the teacher's starting point determined by the needs assessment, both skill and hardware and software acquisition goals can be achieved within a few months. It is important to be realistic about current skill level, available resources, and expertise. For

instance, a novice might not be able to create a Web page for the entire school within a short time frame. However, he or she can learn how to set up a simple Web page and post classroom information in just a few weeks.

Long-Term Goals. In order to maintain a cohesive PTIP, a long-term goal should be an extension of several short-term goals. GT teachers should consider skill and hardware and software long-term acquisition goals that will transform their classroom into a student's learning dream world. Examples of long-term skill acquisition goals include:

- I want to learn how to teach my students to create a series of learning podcasts,
- I want to learn how to integrate multimedia-rich activities and distance learning to deliver Web-based classroom instruction,
- I want to learn how to incorporate low-level video chat software to connect my classroom with other classrooms across the globe,
- I want to earn a higher degree in instructional technology, and
- I want to develop and implement a technology improvement plan for my school district's gifted education program.

Attaining these achievable goals requires a teacher of the gifted to commit to a sustained PTIP.

Many of these goals cannot be achieved without acquiring new hardware. As such, GT teachers might need to consult IT specialists as to the specific hardware and software required to complete the long-term goals. Examples of hardware and software acquisition goals include:

- I want to expand the number of computers in the school's computer lab,
- I want to acquire Web cams for each classroom, and
- I want to put all student work into an electronic portfolio.

Table 1
Instructional Technology Professional Development Web Sites

4Teachers (http://www.4teachers.org)
4Teachers is a comprehensive Web site that provides educators with a portal to numerous IT tools and professional development opportunities. Interested individuals even can access an education technology-planning guide. Additionally, there are links to grant opportunities that specifically target K–12 classroom settings.

ALTEC (http://pd.altec.org)
ALTEC is for teachers who are interested in locating IT-focused professional development opportunities. This site offers help with learning basic and advanced IT tools. Teachers can register for online opportunities.

**Beginning Teacher's Tool Box
(http://www.inspiringteachers.com/bttindex.html)**
This site is a wonderful resource for teachers who are looking to learn new technology integration skills. It provides access to mentors, resources, and advice. Furthermore, this site has a collection of articles describing best practices for integrating IT tools into the classroom.

**STAR Tech Professional Development Program
(http://www.startechprogram.org)**
This program is open to anyone interested in learning how to integrate IT tools into their classroom. It guides teachers through a professional development program. Interested teachers can learn a range of skills for their individual classrooms.

Although the goal(s) can be as grand as a teacher envisions, they should be consistent with the other stated PTIP goals.

Identify and Access Resources

After conducting a needs assessment and writing goals, the GT teacher needs to implement the PTIP. It is important to identify a number of professional development opportunities and select the ones that match interests and needs. There are several resources available that can aid in this step. Many universities offer courses in instructional technology. Another resource is professional organizations, including the International Society for Technology Education (http://www.iste.org). Each year they host the National Educators Computer Conference (NECC), where experts in the field of instructional technology present the latest strategies. Finally, many local educational agencies and state educational agencies offer IT workshops that develop skills, which easily can be implemented into current lesson plans.

Identifying resources is just half the battle. GT teachers will not progress through their PTIP successfully if they do not access the identified resources. Take the time and register for professional development opportunities. It is best to take one opportunity at a time and then progressively get more involved as time allows (Thurlow, 1999).

Implement Learned Skills

This section of the PTIP is exciting because it represents the culmination of a lot of hard work. According to

Kelly and McDiarmid (2002) teachers should implement new strategies as they are learned. GT teachers should not wait until the end of a staff development to integrate new skills; rather, these should be implemented as they are learned. This will increase the value of the staff development sessions because teachers will understand what works and what does not work. It also provides an opportunity to ask the instructor tangible questions about specific strategies during the professional development session rather than waiting until it is too late.

Another benefit of implementing the new skills is that the gifted students immediately will see their teacher's dedication to using technology in the classroom. This realization helps to improve learning and teacher/student relationships. Moreover, the students will be given an opportunity to utilize computers in their learning.

Evaluate Progress

It is important to constantly evaluate progress. As a new skill is learned and implemented, the teacher of the gifted should evaluate how effective it was to integrate it into the gifted education classroom. According to Thurlow (1999), evaluation informs the teacher what worked and how to improve upon what did not work. Moreover, it provides feedback for the teacher as to what skills need to be learned to further progress through the PTIP. There are two forms of evaluation that GT teachers should conduct: student feedback and personal reflection.

The easiest method for gauging student opinions about implemented IT skills is to ask them directly. GT teachers should survey their students to determine if the implemented IT tools were successful. Students poignantly will opine whether or not the newly implemented IT skills were effective.

Furthermore, GT teachers should participate in the reflective teaching process. They need to reflect on the effectiveness of the implemented skills and how to improve them the next time. Implementing new skills always is difficult, but practicing them in authentic situations makes for more efficient instruction.

Final Thoughts

GT teachers must take the time to evaluate their ability to integrate technology into the gifted education classroom. Gifted students want to use computers as a learning tool, and understanding how to incorporate technology into the classroom is a 21st-century skill. By creating a PTIP, GT teachers can evaluate their current ability to integrate technology into the curriculum, and ascertain the best method for improving their skill. **GCT**

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