

PITTSBURGH TEACHERS INSTITUTE—LESSONS LEARNED

**Research and Planning
for the
Preparation Phase of the Yale National Initiative**

SUBMITTED FEBRUARY 2003

Cornerstone Evaluation Associates LLC would like to express appreciation to its associate Dr. Beverly Loy Taylor for her extensive contribution to 'Pittsburgh Teachers Institute—Lessons Learned' and to its colleagues at Carnegie Mellon University, Dr. Christine Neuwirth and Dr. Janet Stocks, for their companion studies. We would also like to thank Ms. Anita Landreau for being there each step of the way.

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EXECUTIVE SUMMARY

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BACKGROUND

The Yale-New Haven Teachers Institute created and began implementing over 25 years ago a content-based professional development model representing the collaborative efforts of Yale University and the New Haven Public Schools. This model calls for public school teachers and college/university faculty to partner in a series of academic seminars to strengthen teachers' knowledge and to enhance their classroom curricula.

In 1998, the Institute offered other locations a chance to demonstrate the model's adaptability in urban school districts. Four demonstration sites were chosen to adapt and expand the Yale-New Haven model to large, urban areas with substantial low-income and minority populations. Thus, the Pittsburgh Teachers Institute (PTI) came into being.

Of the four sites, Pittsburgh's collaboration between one public (Pittsburgh Public Schools) and two private (Carnegie Mellon University and Chatham College) institutions was unique. It was unusual to have three partners, instead of two, and it was challenging because collaborations between private and public organizations have often proved difficult to sustain.

In the three years of the National Demonstration Project, 1999-2001, the Pittsburgh Teachers Institute offered 17 seminars to 120 teachers of all levels, from elementary to high school. The Fellows developed 142 curriculum units.

After the three-year demonstration, sites were 'on their own' to find funding to continue operation. For its fourth year, 2002, the Pittsburgh Teachers Institute received local monies from the Pittsburgh Foundation, Alcoa Foundation, Henry C. Frick Educational Fund of the Buhl Foundation and the Vira I. Heinz Foundation. The Institute set in motion two changes from its original implementation of the model—it opened itself to all Pittsburgh public schools, instead of the previous availability to 20 schools, and it offered seminars requested by the school district to address priorities in science, mathematics and social studies.

The Yale National Initiative was created in 2001 to continue and expand the Institutes nationally—with specific focus on school districts with students from low-income and minority communities. Supported by the DeWitt Wallace-Readers Digest Fund, a two-year preparation

phase was set in place—calling for research and planning activities to inform and guide the expansion.

The Pittsburgh Teachers Institute was one of two of the original demonstration sites funded to participate in the preparation phase. The PTI, in turn, engaged Cornerstone Evaluation Associates LLC, a client-centered research firm specializing in educational research and program evaluation, to undertake evaluation activities deemed critical to understanding the Institute model, drawing out ‘lessons learned’ during the demonstration phase and informing future implementation.

This summary, and the report itself, both focus on the topics of particular interest to the Yale National Initiative—learning more about the accomplishments, student outcomes and systemic impact of the Pittsburgh Teachers Institute.

KEY FINDINGS

Stakeholder Views

Stakeholders—key administrative leaders, teachers, principals, college/university and school district leaders—offered perspectives on the PTI experience, usage of the units, student impact, unit dissemination and PTI sustainability in the future.

PTI experience—learning and developing units—Teachers described PTI as the best professional development they’d ever had, noting that it builds their knowledge...

- Emphasizes content, not pedagogy
- Applies directly to the classroom
- Encourages ‘thinking outside the box’
- Provides sufficient time to master the material

Teachers and principals said PTI boosts teachers’ positive attitudes toward learning...

- Excites teachers in learning, which translates to students
- Enhances teachers’ self-image and sense of self-direction
- Augments teachers’ sense of professionalism
- Encourages collaboration among teachers
- Provides teachers with a network of resources

With regard to seminar topics, teachers were...

- Attracted by the independence they had in suggesting desired topics and then selecting seminars to attend, no matter what subject areas or grade levels they taught.
- Dismayed by allowing the district to determine seminar topics, which they felt would lead to restrictions on who could attend and the loss of widely applicable seminar content.

Writing PTI narratives caused anguish at the outset and exhilaration at completion...

- There is a mismatch between writing a narrative, which tells a story, and writing lesson plans, which give the objective and key discussion points.
- Online guidance—the Handbook and samples of units—helped ease the writing process, resulting in narratives that supported the development of new units.

Practices—using the units—Teachers discussed using the units in class and sharing the units with colleagues. They pointed out the units' high usability since...

- All units must align with district standards
- Some units get embedded into the district-wide curriculum
- Some units prepare students for courses they'll take later

Teachers enjoy great flexibility in using the units in their classrooms since they can...

- Determine when to implement the units
- Implement units in pieces or whole
- Refine their units from year to year

It was felt that more response to using the units would be helpful to teachers since...

- Fellows get little feedback on using the units in the classroom
- Seminar leaders rarely visit classrooms to see the units in use

Fellows collaborate with each other and freely share units with other teachers. They felt that non-Fellows could not become expert at unit development without a solid perspective gained from seminars and thinking through the issues while creating units.

Student impact—evidence of effectiveness—Teachers and principals described changes in student behaviors and attitudes, and noted that comparative assessments between PTI students and non-PTI students might be useful. They said students...

- Learned new ways of thinking
- Questioned what they read and saw
- Made connections among various subjects
- Eagerly learned content set within a familiar context
- Acquired and implemented research skills modeled by teachers

School personnel remarked that PTI students probably scored higher on standardized tests because of thinking and writing skills they'd developed. They proposed alternative assessments and attitudinal change studies of students to...

- Emphasize broad knowledge, not test scores
- Focus on attitudes toward learning, not test scores

Dissemination—spreading the word—School personnel explained district and school-level support, along with actual distribution modes. They noted that with the district...

- Unit alignment with district standards facilitates their dissemination
- The district's instructional support division aids in achieving that alignment

School-level support of PTI is evident...

- Principals sign off on development of units
- Principals endorse PTI at faculty meetings and in the daily bulletins
- Teachers communicate their good experiences with PTI

Electronic distribution modes for PTI units were judged excellent. Advice included...

- Produce syllabi of units as an organizational search aid
- Gain more PTI publicity from school district sources
- Encourage Fellows to take an even greater role in getting teachers to use the units

Sustainability—survival and the future—Stakeholders discussed various factors for PTI survival and offered ideas to enhance its future. Favorable factors were...

- PTI already holds a successful track record
- PTI units are aligned with district standards and available on its website
- A broad array of stakeholders stand committed to maintaining the PTI

Some critical factors unfavorable to PTI's survival...

- The poor economy has diminished hopes of funding from foundations and partners
- Three local foundations have withdrawn funding from the Pittsburgh Public Schools
- Teacher-driven professional development is at odds with school district practices
- Can PTI survive the retirement of its leader, the accomplished PTI director?

Recommendations for increasing PTI's chances for survival included...

- Mesh PTI and the district by designating PTI the model for professional development
- Look within partner organizations for actual funds and for development office help
- Seek foundation funding to endow the PTI as the 'Helen Faison Teachers Institute'
- Augment partners' buy-in to strengthen their bonds with PTI

Student Information

Two research approaches were used to gather student information—a student discussion group with pupils who had participated in a PTI unit, and a pre/post assessment study of seven classrooms ranging from preschool to high school to examine the effects of PTI units on student learning.

Student discussion group—Sixth-grade students discussed participation in a unit and noted what they liked and disliked, how it differed from other schoolwork and how the teacher's teaching style differed. Students said what they especially liked about the PTI unit were...

- Learning activities—acquiring knowledge
- Research activities—gathering information and graphic data
- Art activities—creating posters

They also described what they didn't like about the PTI unit...

- Interviewing issues—finding appropriate people to interview was difficult
- Computer issues—accessing and using computers created some obstacles
- Writing issues—preparing the report was tricky, to avoid plagiarizing

Students discussed what made the PTI unit different from other schoolwork...

- Freedom to choose topic and specific 'decade' to study
- More effort needed to obtain data
- More writing since interview responses had to be written, not taped
- Greater dependence on availability of others for scheduling interviews

Comments on the teacher's instructional style focused on personal traits, presumably because students couldn't differentiate between the person and her teaching style.

Pre/post assessment study—To study effects of PTI curriculum units on student learning, a unit assessment was developed and administered in seven classrooms—including a preschool classroom, three elementary, one middle school and two high school classrooms.

With few other classes in which the same content was being taught, no comparative assessments in a control classroom were conducted. In some cases, a pre-and post-test design was not feasible. Small numbers of students were assessed, so tests of statistical significance could not be performed, and much of the data were qualitative.

Due to the limitations mentioned above, it would be imprudent to make large claims about student learning. However, it can be stated that PTI students...

- Showed increased content knowledge as a result of exposure to the PTI units
- Got more right answers, and their answers were more complex and sophisticated
- Developed other skills that cannot be captured with simple objective measures
- Exhibited more comfort in making oral presentations in front of the class
- Displayed heightened interest in studying history and other cultures
- Built connections between classroom learning and objects in the world outside

Teachers were excited about the PTI units and had time to gain confidence in the subject matter. They felt the units were a success and resulted in several types of gains—both in student learning of content knowledge and in other skills and attitudes.

Website Usability Report

A PTI website review assessed usability for its stated purposes and offered improvement ideas. Methodology employed was a usability inspection, in which an expert judged the site's compliance against usability principles.

The usability review considered general areas—ease in finding the site, navigation, accessibility and animation—and particular site aspects. Overall findings included...

- The PTI site and its URL are easy to find and remember
- The site's broad, shallow structure enhances its usability
- Site navigability is generally good, with only a few minor problems
- Accessibility to users with disabilities may be improved with a text-editing tool
- Animated blinking should be used for emergency conditions or special exceptions

Several specific suggestions are offered for improving the home page and the curriculum units page. In addition, Appendix A provides a Bobby analysis.

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BACKGROUND

Twenty-five years ago, the Yale-New Haven Teachers Institute created and began implementing a content-based professional development model, representing the collaborative efforts of Yale University and the New Haven Public Schools.

This Yale-New Haven model calls for public school teachers and college/university faculty to partner in a series of academic seminars to strengthen teachers' knowledge and to enhance their classroom curricula. It also aims to leverage the teaching/learning process by focusing teachers on intentional teaching practice through the construction and implementation of rich curriculum units based on their own research and study.

In April 1998 the opportunity to replicate the Yale-New Haven Teachers Institute was made available to other locations that might be able to demonstrate the usefulness and adaptability of the Yale-New Haven model in large, urban school districts enrolling predominantly minority students.

Four national demonstration sites were selected across the country—Albuquerque, Houston, Pittsburgh and Santa Ana—to adapt and expand the Yale-New Haven model to large, urban areas with substantial low-income and minority populations.

National Demonstration Project

Three organizations in Pittsburgh joined together to sponsor a center for teachers' professional development at all grade levels. Thus, Carnegie Mellon University, Chatham College and the Pittsburgh Public Schools founded the Pittsburgh Teachers Institute in December 1998 and offered its first seminars in the first half of 1999. The Institute was established for its initial three years with a grant from the DeWitt Wallace-Readers Digest Foundation with matching funds provided locally by the Grable Foundation, the Hillman Foundation, the Henry C. Frick Educational Fund of the Buhl Foundation and the Vira I. Heinz Endowment.

The Institute's process involves teachers first identifying desired topics and college/university professors aiming to meet those desires in a selection of seminar offerings. Once a set of seminars has been agreed upon, teachers at all levels sign on as Fellows and attend the seminar of their choosing for two hours per week over a 16-week period, from February to June, on one of the college/university campuses.

As members of the higher education community, the Fellows gain access to the college/university's libraries, computer centers, recreational centers and arts facilities. In addition, Fellows may earn increment credits and Pennsylvania Act 48 credits that are required for the retention of certification.

In the seminars, Fellows discuss the content readings with the seminar leader and with each other. They each prepare and discuss with their colleagues a curriculum unit that draws upon the seminar content and, at the same time, aligns with the school district standards for their curriculum area. The Fellows continue work on their curriculum units throughout the seminar, at the end of which they have one month to complete their units. These curriculum units are then posted on the Institute's website and become available to the Fellows and all interested teachers for use in their classrooms.

Of the four demonstration sites, Pittsburgh's collaboration involving one public (Pittsburgh Public Schools) and two private (Carnegie Mellon University and Chatham College) institutions was unique and indeed, perhaps riskier. First, it was unusual to have three partners, instead of two, and, second, collaborations between private and public organizations have often proved difficult to sustain.

In the three years of the National Demonstration Project, 1999-2001, the Pittsburgh Teachers Institute successfully offered 17 seminars to 120 teachers of all levels, from elementary to high school, from 20 participating schools in the district. The Fellows developed 142 curriculum units.

Self-Continuation of Institutes

At the conclusion of the three-year demonstration project, sites were expected to find their own support. Funds to continue the Institute beyond the initial demonstration phase have been provided by the Pittsburgh Foundation, the Alcoa Foundation, the Wean Foundation, a US Department of Education Teaching American History grant awarded to the Pittsburgh Public Schools and a Heinz Endowment grant to Carnegie Mellon University in support of science education.

For 2002, two changes from the implementation of the model during the demonstration phase were set in motion by the Pittsburgh Teachers Institute...

- The Institute opened itself to all of the Pittsburgh public schools, representing all geographic regions of the city, instead of the previous availability to 20 schools in three parts of the city.
- The Institute also offered seminars requested by the school district to address its priorities in science, mathematics and social studies.

Of the eight seminars offered in 2002, five were based on teachers' suggestions and three on the district's priorities. One of these was not conducted due to lack of enrollment. Inviting the school district to request seminars based on its needs represented a departure from the Yale-New Haven model, but one that has since been adopted by other demonstration sites as well.

The school district provided funding for its three seminar selections from federal grants received from the National Science Foundation (for secondary mathematics and middle school science) and the United States Department of Education (for eighth grade American history).

Now, in 2003, the Pittsburgh Teachers Institute is entering its fifth year, with many successes from its first four years and with strong support from its program partners and its funding partners.

Yale National Initiative

At the Fall Conference held in New Haven in October 2001, the director of the National Demonstration Project described the desire to sustain the existing Teachers Institutes and also announced the creation of the Yale National Initiative. This new Initiative would create other Institutes, according to the Yale-New Haven model, for school districts with students predominantly from low-income and minority communities.

The Yale National Initiative was created to assist in the continuation of existing Institutes and to expand the model nationally. The initiative began with a preparation phase of research and planning activities in a process of evaluation and preparation that would serve to inform the expansion. The DeWitt Wallace-Readers Digest Fund made funds available to support this two-year preparation phase of research and planning activities.

Furthermore, the Yale National Initiative took the position that the Institutes would continue to be self-supporting at their present levels of operation while they undertook the process of evaluation and preparation for the implementation phase.

This report, then, encompasses eight months of research on lessons learned to inform this expanded implementation of the Institutes. It focuses on the topics of particular interest to the Yale National Initiative—learning more about the accomplishments, student outcomes and systemic impact of the Pittsburgh Teachers Institute.

EVALUATION PLAN

The Pittsburgh Teachers Institute engaged Cornerstone Evaluation Associates LLC, a client-centered research firm specializing in educational research and program evaluation, to collaborate with all partners—PTI, PPS, Chatham and Carnegie Mellon—to undertake evaluation activities deemed critical to understanding the Institute model and informing future replication.

The research and evaluation activities for the preparation phase were designed to provide information to serve three purposes—to inform the continuation and expansion of the Yale-New Haven model, to provide information for improving the PTI program and to offer evidence of program effectiveness in support of fundraising efforts.

The three key areas of investigation requested in the Yale directive included...

- Continued exploration of program accomplishments and challenges
- Research on the impact of the program on students
- Ongoing exploration of systemic impact and dissemination

These three areas will be addressed in the three sections of this report as follows...

- Accomplishments—in Stakeholder Views and Student Information
- Student impact—in Stakeholder Views and Student Information
- Systemic impact—in Stakeholder Views and Website Usability Report

Two of these three sections—Student Information and Website Usability Report—were produced in collaboration with Carnegie Mellon University associates and thus are formatted somewhat differently from the first section of the report.

Stakeholder Views

Cornerstone gained stakeholders' perspectives on accomplishments, student outcomes and systemic impact by facilitating focus groups of teachers, principals, college/university and school district leaders in September and October 2002 and conducting telephone interviews with key administrative leaders in December 2002 and January 2003.

A total of 37 people participated in the three focus groups. The first focus group, a total of 14 people, was comprised of 11 elementary and middle school teachers and three principals. The second group included a total of 13 participants—12 high school teachers and one principal. The third focus group, with a total of 10 participants, involved five university advisory group members, four seminar leaders and one school district curriculum leader.

Each focus group lasted approximately 2½ hours. A Cornerstone staff member facilitated the groups, and a stenographer/court reporter transcribed the discussions verbatim. For each focus group, the facilitator led the discussion through five topics...

- PTI experience in learning and developing units
- Practices in using the units
- Observations on the impact of the units on students
- Views on dissemination of the units
- Ideas for sustaining PTI in the future

Cornerstone also conducted four telephone interviews with key administrative leaders representing Carnegie Mellon University, Chatham College, the Pittsburgh Public Schools and the Pittsburgh Teachers Institute. Each telephone interview lasted between 45 and 60 minutes and verbatim notes were taken by two recorders. In each interview, a Cornerstone staff member led the discussion through ...

- Role in the PTI initiative
- Lessons learned in the college/university/district partnership
- Sustainability of the PTI
- Impact of local foundations' pullout on PTI
- Implications of retirement of PTI director

Student Information

To obtain information on the program's student impact, two activities assessing student response to the Pittsburgh Teachers Institute curriculum units were conducted. These mini-research studies tapped students' attitudinal as well as performance outcomes.

To determine student perceptions of and reactions to a PTI-created curriculum unit, Cornerstone initiated a student discussion group in late January 2003. The group consisted of 16 sixth-grade students who had participated in the PTI Reading and Communication unit "Defining Decades with Media Events" when they were in the fifth grade. A Cornerstone staff member led the 40-minute discussion, and another staff person took notes on the major themes and recorded direct or paraphrased quotes. The discussion focused on students' attitudes and opinions. They were asked...

- What they liked/disliked about the unit
- How this unit was different from other school study
- What were the pros and cons of working individually and in pairs
- How their teacher's teaching was different with this unit

To assess student performance, Carnegie Mellon University's Director of Undergraduate Resources Initiative worked with volunteer Fellows of the Institute who had developed curriculum units. These Fellows attended a seminar on assessment and the CMU director helped them to create a pre/post test for their curriculum unit. The teachers administered the tests before and after they taught their units. The CMU director guided teachers in examining pre-post changes in students' knowledge of the unit information.

The findings from each of these research activities are located in the Student Information section of this report.

Website Usability Report

To look more deeply into an aspect of PTI's systemic impact and dissemination, Cornerstone associate Dr. Christine Neuwirth—an associate professor of English, Human-Computer Interaction and Computer Science at Carnegie Mellon University—conducted a usability inspection of the Pittsburgh Teachers Institute website in which she examined the site and judged its compliance with current usability principles.

This usability review assesses all sections of the Pittsburgh Teachers Institute website to examine ways in which...

- Sections conform/depart from web design standards and interface guidelines
- Interfaces could be improved

The usability review considered these areas...

- Ability to find the site and URL memorability
- Site structure
- Navigation
- Accessibility
- Animation
- Home page
- Curriculum units page

The findings from this study are presented in the final section—Website Usability Study—of this report.

FINDINGS—STAKEHOLDER VIEWS

In response to the Yale National Initiative’s interest in learning more about the Institute’s accomplishments, student outcomes and systemic impact, all three of these areas are addressed from the stakeholder perspective in this section of the report. Five key investigation topics are considered in the following order...

- PTI experience—learning and developing units
- Practices—using the units
- Student impact—evidence of effectiveness
- Dissemination—spreading the word
- Sustainability—survival and the future

TOPIC 1. PTI EXPERIENCE—Learning and Developing Units

“It’s what we dream professional development is about ... learning new content, interacting with teachers and professors, feeling smart again.”

Focus group participants spoke very highly of the PTI experience, commenting especially on its unmatched professional development, encouragement of collaboration of college/university seminar leaders and teachers across all grade levels and broadening of their horizons within their own subject areas and beyond. Teacher recruitment did not surface as a topic requiring a lot of attention, although participants did offer some suggestions for better utilization of existing recruitment methods.

Participants strongly agreed that the current method of selecting seminar topics is the best way to preserve the quality of the PTI experience for teachers. In fact, the focus group participants were united in their opposition to the school district identifying topics for seminars, because they believe (and offered an example of) that the district will limit attendance to those teachers in a particular subject area and at a given grade level. “Just like the district’s old professional development workshops,” they said.

Writing the narrative proved to be a topic of considerable interest to all of the focus group participants. They described it as difficult and necessary, arbitrary and useful, maddening and satisfying. Most felt that additional help with writing the narrative would be a worthwhile enhancement of the PTI program. The role of coordinator emerged as hazy in the minds of the participants. Some explained that coordinator activities depended on the seminar leader, who might seek assistance from them in helping Fellows with the narrative or might only require help with administrative tasks.

Subtopic 1.1. Superior Professional Development

Participants described their PTI experience as the best professional development they’d ever received. Fellows, in particular, noted with approval that PTI offered a broader, more nuanced perspective than district-sponsored professional development. They especially liked that teachers themselves had freedom to choose seminars in which to participate, rather than having the district impose its decisions upon them. In general, teachers appreciated the sense of professionalism they derived from their participation, as well as the wide network of resources opened to them.

What works?

PTI builds teachers' knowledge—Participants spoke frequently of the intellectual rigor of the PTI as professional development for teachers. They enthusiastically described the focus on knowledge and content, instead of the usual district emphasis on pedagogy and lesson plans. Teachers spoke feelingly about being encouraged to “think outside of the box” and the time allowed to learn, master and apply the new content to their classrooms.

- **PTI offers rigorous professional development**

I really appreciate the rigor of the PTI. It is probably the most rigorous in-service I have ever had to do as a teacher, writing that 25-page curriculum. – *Elementary/Middle School Teacher*

PTI is so wonderful because it comes directly from the public schools and yet it still is intellectually rigorous. A great deal of what comes through the schools is not. – *High School Teacher*

It's what you dream about, that professional development is related. It's what you dream that professional development is really about, that you are sharing with other people, that you feel smart again. – *Elementary/Middle School Teacher*

We joked about that the first year we were in PTI ... “I feel smart again, I know what I'm doing, and I'm learning something really worthwhile,” and then to be able to bring something worthy back to your students, something you've worked on a long time and really thought about. – *Elementary/Middle School Teacher*

I really think – and I believe this with my whole heart – that this is the best professional development opportunity I have ever engaged in. It gave me, as a teacher, the autonomy to develop lessons that were culturally and contextually relevant for the group of students that I teach. There's no other opportunity like that. – *High School Teacher*

- **PTI emphasizes content, not pedagogy**

Another strength of the PTI experience is the emphasis on content, not pedagogy – it's about content, learning something and then using it. – *Elementary/Middle School Teacher*

As a teacher, as someone who loves to learn, one of the things I appreciated so much was that the seminars were content-focused. – *High School Teacher*

I like the academic, scholarly part of teachers participating in PTI. – *Elementary/Middle School Principal*

I think we teachers know more about teaching in the public schools than college professors do. In fact, one of our seminar leaders said, “I was very surprised to see the level of pedagogy and to see you thinking about how to teach a topic in your papers.” She had no other experience than college teaching, and there's a big gap between what we do and what they do. – *Elementary/Middle School Teacher*

One of the particular things that I enjoyed about my seminar was that I had both a kindergarten teacher and a high school teacher, and a teacher from the creative and performing arts school. They were adapting the material, I thought, very cleverly and instantly to their audiences. They knew their audiences in a way that I had no way of knowing them. I was impressed by their ability to make the rationale and to organize immediately a series of lesson plans and illustrate them as well for their children. – *University Seminar Leader*

I go to PTI seminars to get information. You tell me about the aspects of this, that and the other, and I will figure out how to put together a program that my kids can use in the classroom. I think that what we expect as we go into a seminar colors what we get out of it and how we respond to what is happening in the seminar. – *Elementary/Middle School Teacher*

- **PTI directly relates to the classroom; it's not just theory**

You can directly relate what you're learning in PTI to what you are doing in your classroom. So often, you go to professional development, and it's theory – it can't really be used in your classroom. – *Elementary/Middle School Teacher*

- **PTI encourages Fellows to “think outside of the box”**

I am willing to do things as part of my curriculum unit that are not in the district curriculum. I'm willing to think outside of the box, I'm able to stretch. – *Elementary/Middle School Teacher*

- **PTI provides enough time for Fellows to master the material**

Other professional development is in small pieces – it's a day or a couple of hours, an afternoon. So when you go back to your school, there's a lot that's left up in the air. But with PTI, we have enough time to come to grips with some issues, solve some problems and create more questions that allow you to move on with whatever you're doing. – *Elementary/Middle School Teacher*

We worked at PTI two hours a week for 15 weeks, and then, of course, we had specific dates for turning certain things in. That gave us some structure, but also allowed us the freedom to be and to move within that structure. – *Elementary/Middle School Teacher*

The Steering Committee revisits the school calendar every year to see when teachers' grades are due, when holidays and the end of the school year are scheduled. Then, it rearranges the seminar schedules so that the teachers won't get swamped with seminar work due at the same time that grades are due. – *Elementary/Middle School Teacher*

That kind of scheduling doesn't happen with other commitments – the tendency is to have 47 things, all of them due on Friday. – *Elementary/Middle School Teacher*

PTI increases teachers' positive attitudes towards learning—The teachers in the focus groups exhibited passion for learning and attributed much of its reawakening to the PTI program. They described the transfer of this excitement to their students. Teachers also valued the sense of self-direction and professionalism that working with the PTI engendered in them.

University representatives in the focus groups underscored these comments and praised the collaboration among teachers, noting that it seemed to be a new opportunity for teachers to come together and talk. Further, teachers expressed pleasure with their new, and growing, network of resources—other teachers across all grade levels, university seminar leaders, and the college/university campuses' offerings of people, research centers and arts/sports facilities.

- **PTI excites Fellows in learning, which translates to their students**

Our whole job as teachers has become management of kids and behavior. I got excited about learning again, and it becomes contagious, because I'm constantly giving kids examples of things that they need to read. – *High School Teacher*

We often take courses in our own field. But then, we take a seminar out of our field and make a connection. That is a very valuable thing for our students. – *High School Teacher*

PTI is not designed to teach, say, biology to people who are teaching biology. They should already know biology, and the purpose of PTI is to bring some new light, some new interest into that

person's curriculum. PTI should teach them something they can get excited about, that is going to make their students more excited. Ultimately, there should be a ripple effect on the student population that will light a fire in some student's brain too. – *University Seminar Leader*

I had finished my degree probably 20 years before I took a seminar. I hadn't been back in school since then, but I knew I really needed to do this. This was a good incentive to get me back in school. And I became an active learner again; I became a research teacher. I learned how to use new technology. – *High School Teacher*

I've had moments in my office when a teacher who has been teaching 15 or 20 years suddenly has an epiphany and says, "I've been wanting to do something like this for so long, and I'm really excited!" It's very touching for me to see a teacher become passionate about something she's been teaching years and years and hadn't been passionate about for a long time. – *University Seminar Leader*

One professor offered a seminar on math and science. It attracted two groups of teachers, math and science, and neither group knew anything about the other topic. There was no interaction at the school between the math teachers and the science teachers. He said that when they got to the seminar, both groups experienced a "built-in incompetence" – they each had something to learn. He said they all belonged in that seminar and that the school system should push teachers to develop those cross-competencies. – *University Seminar Leader*

Teachers have a need to feel inspired in what we do. I haven't felt that way for a long time in this school district, but in the PTI program, we get to satisfy our own hunger or thirst for knowledge. From there, we go out and share it, but the first thing is us. As we talked about it at Yale – before I became a teacher, I was a student. – *High School Teacher*

There are teachers at our school who have retired, and they've asked if they could come back to PTI and audit seminars. They didn't need the credits; they just wanted to come back and write a paper. They are people who love learning. – *High School Teacher*

- **PTI enhances teachers' self-image and sense of self-direction**

Teachers can choose what they are going to concentrate on, rather than have either a consultant or the District decide what you will concentrate on. That makes it very different from other forms of professional development. – *Elementary/Middle School Teacher*

There was an openness – basically, we could do whatever we really wanted to do. – *High School Teacher*

We were able to do things and work on our own, without having to watch who was watching us and being careful with what we could and couldn't say. – *High School Teacher*

Teachers that come out of PTI feel good about themselves, and they have more confidence. I know, for myself, I took an astronomy course at Yale and I felt that I was a scientist. – *Elementary/Middle School Principal*

Most programs are mandated, regimented and formatted to meet the needs of a great mass of people. The PTI program was individualized, and was very meaningful. – *High School Teacher*

- **PTI augments Fellows' sense of professionalism**

The environment of the college and the whole seminar experience offered a professional setting to Fellows. Also, there was a stipend, and even though it wasn't that great, it added to that professionalism because it said to Fellows that their work was valued and that their experience would be supported. – *High School Principal*

Teachers seemed to take a great deal of pride in implementing their own curriculum units in their subject areas. Most of the time, you don't find faculties so eager to put that amount of time into something. – *High School Principal*

I was able to integrate the district standards and the state standards – all of those mandates that teachers have to follow – into my curriculum units. We had the flexibility and autonomy to integrate that into our materials in a way that was effective for our students. So, we had the opportunity to design specifically for the students we teach. – *High School Teacher*

- **PTI encourages collaboration among teachers**

I like the fact that PTI allows teachers to engage with other teachers to work together and to create curricula for children. Teachers share with others. – *Elementary/Middle School Principal*

I really like the fact that there were elementary school teachers and middle and high school teachers in the same class, and everybody learned from each other. There's nowhere else we could do that. – *Elementary/Middle School Teacher*

We created dialogues with people we worked with every day but never had a chance to talk with every day. We talked with other people in the same school system that we never saw. That's very positive. – *High School Teacher*

There's nowhere else where across the board you meet with your colleagues. – *Elementary/Middle School Teacher*

We got to meet with people from other grade levels. As a high school teacher, I never get to talk with people from elementary school, middle school, people from other disciplines – except for my sister, who is an elementary school teacher. We talk to children all the time, but talking with adults from different levels and disciplines enlivened and energized me. – *High School Teacher*

I think the high school teachers were able to learn a lot from the primary school teachers, and vice versa. They interacted a lot, they brought things to class, and they shared articles and information about what was going on in the city. – *University Seminar Leader*

Working in PTI, teachers can continue to grow – they engage in teamwork with each other, and move toward self-actualization, knowing that “I am growing now.” – *Elementary/Middle School Principal*

As more teachers got involved in PTI, they seemed to build up a sort of support group in the school. That really helped because they could expect help, there were different professional development experiences, and they had the opportunity to get together and dialogue about issues. – *High School Principal*

You only have 12 Fellows in a seminar group, and that's where the strength of your group comes in. You always have each other to bounce ideas off, or get suggestions on how to present in the classroom – because every seminar allows time for mini-presentations. You have teachers across elementary, middle and high school levels, and they're all giving feedback that helps you take it back to your classroom. – *Elementary/Middle School Principal*

The PTI experience that teachers have shows us the importance of good stretching for professional teachers, but it also indicates that we must find ways to bring teachers together more often and not allow this isolation. – *High School Principal*

- **PTI provides teachers with a network of resources**

PTI is an ongoing kind of professional development that fosters teachers developing ongoing relationships with the university involved. Teachers can continue to use those resources, plus the seminar leaders they're working with – they can always go back to them for information and know that they have resources like that. – *Elementary/Middle School Principal*

Even as teachers go on to different topics, they always have those previous resources to go back to...and it all began with this initial interaction with the seminars in the PTI. – *Elementary/Middle School Principal*

Last year I had a lot of physical problems, pain and discomfort. My seminar leader contacted me and said she would extend the deadlines, and she stayed with me throughout the process. She edited everything by email, and she sent me copies back. Teachers have to understand that the emphasis on a collegial relationship between seminar leaders and teachers really does exist. – *High School Teacher*

I really like the scholarly involvement of PTI, and the fact that it put me in Pittsburgh every week, so I could really get involved in the community and reach out to other teachers and a few other schools, plus the universities. It also helped me get more involved with new technology and doing research that was so beneficial for me. – *Elementary/Middle School Teacher*

I was in a seminar with a teacher who works with gifted children, and these teachers are required, I believe, to think outside of the box. Even though we teach different curricula, I feel that I have benefited from knowing her and seeing what she does, because I see that there's no reason why I can't do the same kind of things that she is doing. So what if my class isn't full of gifted students? I'm sure there are kids in her class that she doesn't think are gifted. So, why can't I think of all my kids as gifted? – *Elementary/Middle School Teacher*

Subtopic 1.2. Teacher Recruitment

There seemed to be general agreement that teacher recruitment was working fairly well, with its appeals to teachers and principals and introductory activities held for teachers considering PTI involvement. The focus group participants offered some suggestions for recruiting more teachers—such as communicating the PTI message more broadly and explaining the benefits and costs of PTI involvement more clearly.

What works?

PTI appeals to teachers and principals—Principals and teachers felt that the PTI had done a reasonably good job of recruiting teachers by involving the principals from the start and then by benefiting from the principals' and Fellows' enthusiasm to attract other teachers.

- **PTI first got the school principals on board**

First, Dr. Faison talked to the principals, because if they didn't care, if they weren't concerned with what could happen with the PTI seminars, then, of course, the teachers wouldn't be interested or sign up. It had to come from somewhere. In my case, our principal informed us, talked with us, and allowed me – because I became the liaison person – to speak personally with the other teachers. – *Elementary/Middle School Teacher*

- **A strong appeal is that PTI lets teachers “think outside of the box”**

It was a definite strength for us principals to be able to tell teachers that by working with PTI, they'd be able to think outside of the box, go out and do some research and find activities they could incorporate into the classroom that weren't necessarily a part of the current curriculum. – *Elementary/Middle School Principal*

- **Seminar leaders' visits to schools build teacher interest**

When I've visited a Fellow's classroom to see how the topic is being used there, the teacher's excitement causes him or her to talk about PTI with other teachers, and they become more aware of what is happening in PTI. – *University Seminar Leader*

PTI offers introductory activities—The focus group participants cited the introductory activities sponsored by PTI, such as the open house and other pre-startup activities describing the curriculum units and the time commitment, as useful in orienting teachers who might want to join the Institute.

- **PTI preliminary activities allay teachers' fears**

What is helpful are the preliminary activities that PTI does to help alleviate teachers' fears about becoming a Fellow of the Institute. There was an open house and displays and other activities preceding the startup of the seminars, so teachers could see what takes place, what the papers look like, how much time is involved, and all of those things that are very helpful for teachers. – *Elementary/Middle School Principal*

- **Chatham holds an open house to introduce teachers to potential seminar topics**

There's an open house on November 4 in which we, as potential seminar leaders, will address a wide audience of teachers who are interested but haven't committed yet to PTI. We each present an outline of our suggested topic and if they like it, they can sign up. If nobody signs up for my topic, it won't run next year. – *University Seminar Leader*

What doesn't work?

- **PTI materials put into principals' packets get lost in the shuffle**

Dr. Faison calls and asks to make a presentation at the principals' meeting about PTI, and she also prepares packets for duplication and insertion into materials distributed at the system-wide principals' meeting, which is held once a month. The problem is, it's a very thick packet of materials and no one is going to follow up with the principals on it. So, not much comes of it. Plus, there are multiple competing interests in professional development. – *PPS Curriculum Leader*

- **PTI can't rely only on teachers to spread the word**

Very often the news gets spread by the teachers themselves who are enthusiastic about PTI. So you have a nucleus of teachers who are co-workers that know each other well and bring their friends and colleagues in. And at the same schools, particularly large ones, a whole other group of teachers won't know about PTI, and they could very well be good possible recruits. – *University Seminar Leader*

In another case, a teacher in PTI moved from one elementary school to another, and she served as the conduit. She made contact with her new principal and brought that school into the program. – *University Seminar Leader*

- **The time commitment to PTI reduces the number of teachers recruited**

We had a lot of interest in my building, but there were twice again as many teachers who weren't interested because of the amount of time it would take, the amount of work involved, and particularly, having to write a paper. Now, once you do it, the second time is not as difficult. – *Elementary/Middle School Teacher*

It is very difficult for teachers to commit to those two hours after school once a week, plus the additional time required for reading and research. So, once you explain the process and what's involved to teachers, the time commitment is the most negative point in getting teachers to agree to participate in a PTI seminar. – *Elementary/Middle School Principal*

At our school, our teachers teach until 4:30 basically every day, so it was very difficult for them to get released to go to an after-school PTI seminar. Some teachers were already taking classes for their Master's degrees, so they couldn't spend more time on PTI. – *Elementary/Middle School Principal*

Teachers' first responsibility is to teach, and in areas where you have predominantly low-income students, they're doing twice as much as teachers at other schools anyway. So, that time commitment and the heavy load of work really drains these teachers in high-risk schools. – *Elementary/Middle School Principal*

Recommendations

Communicate PTI message more broadly—Focus group participants felt that better advantage could be taken of existing channels of communication to broadcast the PTI message. They noted that teachers should be contacted directly through various teacher orientation programs and teachers' reading materials. They also suggested bringing more principals on board through presentations at their network meetings. In addition, bringing visitors into the school buildings and promoting PTI in the larger community were considered good strategies to widen the audience.

- **Work through existing venues to contact teachers directly**

If you want to grow the program, my suggestion would be to work through some of the venues that currently exist – like the new teacher induction program offered by the Pittsburgh Federation of Teachers or the PFT/PPS ER&D program, which is a professional development program in different areas. Bring in a PTI person to talk directly with teachers and give them descriptive flyers. – *PPS Curriculum Leader*

Maybe putting information into principals' packets isn't the best way to attract teachers. We want to make sure the PTI information gets into whatever the teachers read regularly about their own professional development. – *University Seminar Leader*

- **Make PTI presentations at principals' network meetings**

PTI should come to our principals' network meetings and periodically make a presentation. It could be a couple of Fellows or our coordinator to share what they're doing and to highlight a particular issue, e.g., "We want to talk about ideas focused on standards. Here are some rich examples, etc." just to keep us on board in a practical way. – *Elementary/Middle School Principal*

Elementary school principals meet once a month to talk about current issues. Keep us sustained by including teachers (Fellows) in our network groups, so that we can get involved, or continue to be involved, in the seminars. Most important, communicate with our building coordinator. – *Elementary/Middle School Principal*

- **Bring PTI representatives into the school buildings to generate interest**

If you have visitors in the building – professors, PTI representatives – that will heighten the curiosity of the teachers in that building and serve to encourage them to get involved in PTI seminars. This would be especially effective in schools where the principal didn't know about PTI or didn't buy into it, and therefore wasn't recruiting teachers for it. – *Elementary/Middle School Principal*

- **Use multiple channels to promote PTI throughout the community**

I had been doing similar seminars for teachers under my dean's arrangements, and I was completely unaware of PTI. They're completely separate operations doing the same thing. So there was very little awareness of PTI on our campus, and I don't know if the public hears enough about it through such things as articles in the newspaper. None of the positive news about what PTI is doing seems to be getting out there. I think if it had a more visible public image, teachers might be more drawn to it as a prestigious activity. – *University Seminar Leader*

Until this past year I had children in the Pittsburgh Public Schools, and not one of their teachers had ever heard of PTI. Maybe they hadn't because that particular school was not participating. But they weren't even aware that there was a PTI, and this was true of almost every other teacher with whom I've spoken – whether they were at participating or non-participating schools. – *University Seminar Leader*

There seems to be a tremendous need for PTI advertisement. I don't know if the PTI has opened its arms to the entire school district or just to selected schools, but the impression I get is that we're not being overwhelmed by requests to join. And on the Carnegie Mellon campus, I've heard virtually nothing about PTI for a year and a half or two years. There's just not enough PR, advertisement and straight promotion to attract more people. – *University Advisory Group Member*

Explain PTI benefits and costs very clearly—Some teachers and principals felt that more could be done to provide clarity about what involvement in PTI would really entail—in terms of the benefits to teachers themselves, the benefits that teachers' students might realize in higher scores and the costs of an aggressive time commitment to PTI learning and development.

- **Emphasize the benefits of becoming a PTI Fellow**

Teachers will see work outside the school as an added burden unless you point out the opportunities for them – for some, it will be collaboration with other teachers, for others it's the chance to be continuous learners. You can build up a critical mass as you accumulate a larger core of people with positive experiences in PTI. – *High School Principal*

- **Emphasize scoring benefits of using PTI curriculum units**

When we speak of the connections and assimilations that kids have to make to get fours and threes, advanced and proficient, scores on the PSSA exams and that is the kind of thing they practice when they're working on PTI curriculum units, that's a huge hook to get teachers to sign up for PTI. It makes them want to be a part of it, to give up that two hours every week, if their kids will score better on the exams. – *Elementary/Middle School Principal*

Teachers need to know how you have improved your kids' test scores by being a part of the PTI. They want to know what you've gained, how excited and enthusiastic you are to share information you got from PTI with your kids in the classroom. – *Elementary/Middle School Principal*

- **State very clearly the time involved in being a Fellow**

Most people who drop out do so at the beginning, after a couple of sessions, once they see how much work has to be done, how much reading has to be done. – *High School Teacher*

Subtopic 1.3. Selecting Seminar Topics

Focus group participants discussed at some length the process by which seminar topics were chosen, and throughout the discussion, one point of view emerged strongly and often—a major attraction that appeals to teachers is their independence in suggesting desired topics for seminars and then selecting seminars they wish to attend, regardless of the grade levels and subject areas they teach.

Much heated discussion focused on the downside of allowing the district to determine seminar topics, which would inevitably lead to restrictions on who could attend (only teachers at a particular grade level and subject area) and the loss of seminar content that could be applied by a broad range of teachers at different grade levels and subject areas. Participants felt that if the district got involved with topic selection, they'd be back to the same old limited workshops for one topic, one grade level and would lose the essence of what makes PTI professional development unique. They cited as an example the immigration seminar that was limited to eighth-grade history teachers.

What works?

- **Seminar topics are chosen jointly by teachers and seminar leaders**

Even before the school district got involved, I don't think we had met the ideal situation. Many seminars truly came from the professors' ideas and who was available to teach I took two seminars like that, that had nothing to do with ideas that teachers came up with, but it was wonderful. I loved them. – *Elementary/Middle School Teacher*

We collect information from teachers on what types of seminars they're interested in, then a staff is identified who are willing to teach, and then they set aside time periods. – *High School Teacher*

This year we gave teachers a list of topics and asked them to tell us what they wanted to know something about. A lot of teachers had an interest in math, for example, and then we sought out professors who were available to bring in a math course. So, it was a two-way thing. – *Elementary/Middle School Teacher*

We usually put a list of possible topics into every teacher's mailbox, and teachers are asked to mark their preferences and return them to the representative. They can even add other topics to the list that they're interested in learning about. Some of the topics are combined, and the seminar descriptions are written up in such a way that they appeal to teachers who have marked the various topics they wanted. – *High School Teacher*

Basically, what it came down to was who was available to do the desired seminars, and who could commit to the time. It was a joint list. – *Elementary/Middle School Teacher*

My understanding is that every year the representatives ask their teachers what they'd like to have offered and that list gets matched up with professors who are able to address these particular ideas. Then professors are asked to submit a description of a seminar they'd be interested in presenting. The ideas shift around a bit. Teachers get these descriptions and are asked if they like these ideas. During these stages, Dr. Faison may have to twist an arm or two to get professors in particular areas. – *University Seminar Leader*

The topics boil up from the teachers, and Dr. Faison takes them to a group of current seminar leaders. They get shuffled around, and if someone can't do a topic, she talks with a friend in that department and asks him or her to write up a paragraph on it. She takes it back to the teachers, who love the idea, and the professor is committed to doing it. – *University Advisory Group Member*

Another part of that is the current seminar leaders meet regularly, so they're asked if there are any topics they'd like to offer next time. – *University Seminar Leader*

Some topics are so specific and locally focused, they must have originated with the seminar leader, but once the teachers grab onto it and discuss it, many of them can see where they could take that topic in their classrooms. – *University Seminar Leader*

When the teachers put together their list of topics, I believe they discuss among themselves what needs they have and what their colleagues have suggested to them. So, the list of topics does come from below. – *University Seminar Leader*

What doesn't work?

- **The school district should not select seminar topics**

What was unpleasant about it last year was that some topics were proposed by the school board and got promulgated as "A" group seminars, and those that came from us and the teachers were "B" group seminars. So I was delighted when the school district's seminars failed – nothing personal – and my "B" group seminar on comedy got a dozen people in it. I think the teachers should choose what they think will be fun. – *University Seminar Leader*

The topics were supposed to be teacher-chosen so that there would be no need for recruitment. I'm surprised to hear that there were areas suggested by the school district for the teachers to become interested in, as opposed to the original idea, which was supposed to be a self-driven series of seminars. – *University Advisory Group Member*

One thing that changed last year was that the district got a grant and selected the topic and only eighth-grade teachers could take it. There may be more seminars like that in the future which are limited to certain studies or levels. But if the board gets into it and specifies that this has to be an English seminar and that has to be something else, that will ruin it. This whole program is about giving us – the teachers – the chance to decide what we need to be better teachers and to give our students what they need. The board, I'm sorry to say, does not always know what's needed. – *Elementary/Middle School Teacher*

And you know what'll happen? We'll get seminars where there are just eighth-grade teachers. Part of the ambience of the Pittsburgh Teachers Institute is that you get to be in a seminar with cross-levels – elementary, middle and high school. If you just do an eighth-grade piece, it becomes just another ordinary professional development. – *Elementary/Middle School Principal*

Recommendations

- **Some top-down organization might be helpful**

At the beginning, when something is new, it probably starts at the top. Then after that, it's supposed to continue on its own. It needs to be emphasized somewhere nearer the top, anyway. – *University Advisory Group Member*

If I were starting a new PTI in some other city, I'd like to see some top-down organization at least among the seminar leaders. There would be a group of seminar leaders sitting around organizing what topic areas it would be useful to advertise. So, biology ought to be mentioned, and we'd go to the university biology department and put out a call for people to write a one-paragraph course description. The teachers –the Fellows – do make the final decision but we shouldn't necessarily think they would generate a broad spread of topical issues. – *University Seminar Leader*

Subtopic 1.4. Writing the Units

In talking about writing the narrative for the curriculum units, focus group participants generally praised the Handbook and the PTI website for providing guidance and examples. However, they were united in stating that the narrative-writing activity was difficult for most Fellows, particularly if they were not English teachers and/or had been out of a college/university classroom for a long time. There was a great deal of discussion about the mismatch between writing a narrative and writing lesson plans, which is what teachers primarily do. Whereas the narrative involves telling a story, lesson plans consist of bullet points of succinct information regarding the objective, the key discussion points and the materials to be used.

They stated that PTI currently offered inconsistent help with writing the narrative and suggested that additional assistance be made available to Fellows, including the use of on-the-spot help from seminar leaders, outside writing experts and a text on writing.

What works?

- **The PTI website posts the Handbook for easy reference**

The little Handbook has been improved, and it's on the PTI website this year. I'm directing everyone in my building to take a look at it. It tells you how to structure your paper. – *Elementary/Middle School Teacher*

My first year, I couldn't follow the form in the Handbook. But they've improved the guidelines, and they gave writing examples from Yale, so I used it. Now, all of our papers are there, so it should be easier. – *Elementary/Middle School Teacher*

The Handbook is very specific, dealing with the narrative, the unit, the rationale, objectives, people's perspectives and expectations. We're always updating it. It's not as good as it could be, but it's as good as it is so far. This Handbook is better than last year's, and if there is one next year, it will be better than this year's. – *Elementary/Middle School Teacher*

We give input, and so do the Steering Committee and the coordinators. We come together as a group and discuss what's missing or what needs to be changed. There's also a disk that shows you the setup for how your curriculum unit should look. – *Elementary/Middle School Teacher*

This year we relied heavily on the Handbook, and I was so glad we had it. This is my third year in PTI, and it seemed like we were pulling out a lot from the Handbook since there were some questions about interpretation of certain aspects of what we were doing. – *Elementary/Middle School Teacher*

- **The PTI website posts all the Fellows' curriculum units**

We have a wonderful website, and I found my paper on it. It's up there already, and I got to read some of the other papers. That's a helpful thing to do – read what somebody else wrote and see how their approach is different from yours and still good. – *Elementary/Middle School Teacher*

The formats are a little different – I think each site has made their own adaptations, but people who are coming onsite now can benefit from those of us who have already done it. All four years of the completed curriculum units are on this website, and you can read them. – *Elementary/Middle School Teacher*

- **PTI offers writing workshops to new Fellows**

Dr. Faison held a workshop last year, which was my first year so it was really rough, and she invited a Carnegie Mellon professor in to teach us how to write and to show us examples. It really helped me. – *Elementary/Middle School Teacher*

What doesn't work?

Teachers have difficulty in writing the narratives—Teachers are trained to write in a different style from that required in the PTI narrative. With years of experience in stating an objective, bulleting key procedures and listing needed materials, teachers must shift gears and tell a story in narrative form. Instead of being succinct, they are asked to describe the details. This switch from the pedagogical to the content focus takes time and requires some help.

- **Mismatch between prose of a narrative and outline of a curriculum unit**

Teachers suffer from what might be called “discursive conversational organization” – this means that in their classrooms, teachers loop back to cover the content multiple times in order to tie things together and to reinforce ideas. The problem when they write their narratives is that on the written page, that looping-back approach looks disorganized. – *Key Administrative Leader*

When you tell teachers to write their units in a narrative format, that's difficult for them because they're used to writing a plan, which gives an objective and bullet points the procedures to be used. The professors are content-based and the teachers are pedagogically minded. They're immediately thinking, “How am I going to teach this content at this particular grade level?” It's always going to be a stumbling block until teachers understand that this is a professional development experience, and that the professors are there to provide the content. – *Elementary/Middle School Principal*

My problem was that, in 30 years of professional teaching, I had been trained to write in as few words as possible. Make the point, and make it clearly, and don't write 25 pages when 2 pages would do it. So, it was a major problem for me to run on like that. – *High School Teacher*

There's a built-in tension in the seminar between the production of the narrative and what Fellows are learning. I've found that, for the most part, teachers are expert at designing the curriculum unit, but they feel a strain in having to move away from bulleted items to a narrative. – *University Seminar Leader*

There's still confusion. I know that I like reading narratives better than curriculum outlines, but no one has really explained to me WHY we should do it that way. No one has ever delineated the purpose of the narrative, and I think that's why everyone has problems with it. – *High School Teacher*

It's a problem of teachers' expectations coming to PTI. When we've written curriculum in the district, we had a particular format – we just list objectives, activities, materials, evaluations. One page has a lesson, and the next page has the next lesson. – *High School Teacher*

Seminar leaders are not there to examine your teaching style in the classroom, so writing the paper is very difficult until you understand that. That's why you see so many different writing styles on the website – invariably, in different units, you see procedures, objectives and bulleting. The professors leave it there, because they're not there for that purpose. They just want to make sure the content is there. – *Elementary/Middle School Principal*

- **PTI's long narratives scare teachers who've been out of college for awhile**

The first year I was very scared about writing a paper. I hadn't written a paper in 15 years, certainly not a 25-page paper, so it was very scary. I thought, “I have to do this, and I have to sound

intelligent, and the only thing I've written lately is 5th-grade worthy stuff." I think this is a misconception we have to get over. – *Elementary/Middle School Teacher*

I have no problem writing any way you want me to write. I do have a problem with writing six pages and having the seminar leader say it has to be 15 pages. How do I puff up a story that has been told completely in only six pages? – *High School Teacher*

PTI offers inconsistent help with writing the narratives—It was felt that there was inconsistency in the help that teachers were offered—either because seminar leaders represented a wide range of writing abilities themselves, or because there was inadequate communication in what constituted a well-written narrative.

- **Seminar leaders vary greatly in ability to help teachers with writing**

I think the seminar leaders vary a lot in how they believe they can or should be helping teachers with writing the paper. Some feel absolutely no commitment to helping teachers with the writing process. Some are incredibly involved; they'll sit with you individually and help you work it out. So there's a huge gap among different seminar leaders. – *Elementary/Middle School Teacher*

I think the seminar leader has a lot to do with explaining the narrative and communicating what is expected to the Fellows. In my case, the seminar leader was very good; maybe other Fellows didn't have that experience. – *High School Teacher*

One of my teachers was really intimidated with writing his paper, and he brought it to me to ask what I thought. He and I went through everything, and I was thinking, "Well, this is okay to get him on board with the PTI and to build confidence," but I was also wondering, "Gee, is there no support for him there or is it just that he feels so uncomfortable?" – *Elementary/Middle School Principal*

- **Lack of communication in how to write the narrative**

There was some difficulty in communicating how the narrative should be written, what should be included, what about footnotes, and the people running the seminars didn't seem to know how that should be done. – *High School Teacher*

People didn't seem to understand the narrative, that, in teaching English, it's the same as telling a story. People didn't know what that was, or they couldn't recall it. Maybe they don't use that format in their classes. – *High School Teacher*

Most people don't want to read manuals; they want a little story to get them interested. The problem I had was that there wasn't one model. When I went online, the Yale "models" were all different – some were 10 pages, some were 25; some narratives told stories, some sounded like research papers. I think it's better for teachers to start with their own style and then to be shown what needs to be different from what they already understand. – *High School Teacher*

At Yale they did stress why this type of narrative was important, but I don't think we've done such a good job of articulating that message to the rest of the teachers. – *High School Teacher*

The first year they gave technical help, like how to use a word processor and put a unit together, but a lot of Fellows came to me, because I'm an English teacher, and asked me to read their narratives because they weren't getting help with that part. And even I – an English teacher – was daunted at the beginning in how to write a 10-12-page narrative. It was not how I had been taught to write, and it was totally different from what I had ever done before. – *High School Teacher*

Writing the narrative was one thing, but they also wanted us to cite our sources, using the MLA format. People had forgotten it, or it had changed, so Chatham gave us a 2-hour lesson on it at the library. – *High School Teacher*

Recommendations

PTI should offer teachers additional help with writing the narratives—Focus group participants suggested that more help was needed and that it should be made available by PTI. Their ideas ranged from immediate help during seminars by the seminar leaders to recommending a good text on writing to providing outside experts to work with Fellows on writing the narratives.

- **PTI should offer on-the-spot help with writing**

Teachers might be intimidated when they see the very finished writing products, so I think it would be helpful to emphasize the help that Fellows will get along the way, and of course bringing in people to teach writing is useful, but also, more could be done in the individual seminars to offer assistance to teachers who are struggling. Maybe they could focus on one session and deal with the writing. – *Elementary/Middle School Teacher*

Seminar leaders need to realize that Fellows are coming with 20-30 years in different professions, and that they might have to be more explicit in showing how to write a narrative that hooks readers. Maybe they can build in some in-class writing experiences. – *High School Principal*

If teachers are saying, “I’m having trouble writing the rationale,” maybe the seminar leader should stop right there and work on that. – *Elementary/Middle School Teacher*

For the science and math teachers not so familiar with writing a narrative, maybe there should be extra explanation offered – why the narrative is done, more guidance in writing it. – *High School Teacher*

- **PTI could include outside experts to help Fellows with writing**

As we look toward the future of PTI, we might consider the school districts and having their pedagogical experts get involved in PTI to offer assistance in writing to the Fellows who request it. – *Elementary/Middle School Principal*

We might look to universities other than the ones currently involved to find writing teachers for assistance in writing the narratives. – *Elementary/Middle School Principal*

- **PTI could include a writing text to help Fellows with writing**

One thing I did this past semester was to include an undergraduate text that addressed the issue of compositions and critical writing. Even though it was a first-year college text, the teachers appreciated it very much, since it had been a long time since they’d had any guidance in writing critically... The truth is that there is some remediation that is needed for people who haven’t had a lot of writing experience lately. – *University Seminar Leader*

- **PTI could require seminar leaders to document individual conferences with Fellows**

I wonder if each seminar leader was required to turn in a sheet of paper on each Fellow, stating when they had a conference, what points were discussed, what were next steps. I say this because I’ve had conferences where the seminar leader would say, “You’re doing a great job; just keep it up,” and that’s it. Then I’ve had very detailed meetings with other seminar leaders. If they were required to turn something in on each one of us as individuals, saying what we’re doing, it would make seminar leaders more accountable for talking to us. – *Elementary/Middle School Teacher*

I’m not sure that’s a good idea. It is already difficult to get some university professors to commit, and when they do, if you require them to give individual feedback on conferences with Fellows, they might not want to. It could destroy the sense of collegiality. – *Elementary/Middle School Principal*

Subtopic 1.5. Role of Seminar Coordinators

Focus group participants described the role of seminar coordinators as helping the seminar leaders with administrative tasks and helping Fellows with the format and editing of the narratives. However, this role description may have evolved according to the skills and situation of people in the coordinator role at various times. There seemed to be a lack of clarity about the role and occasionally, confusion between it and the role of school representative. This latter role was never discussed.

What works?

- **Coordinators take on administrative tasks for seminar leaders**

As coordinators, we meet once a month with Dr. Faison. When we have Fellows coming late to seminars regularly, we report that to her, so that the seminar leader doesn't have to do that. We represent the Pittsburgh Public Schools and the PTI, and we want to put a good foot forward too. – *Elementary/Middle School Teacher*

- **Coordinators help teachers translate content to their classrooms**

Dr. Faison picked coordinators with experience, so that Fellows could go to them for assistance in writing the narrative and in taking it back to the classroom for presentation. – *Elementary/Middle School Teacher*

With my seminar coordinator, I knew I could email her late Saturday night and she'd respond to me as soon as she could. – *Elementary/Middle School Teacher*

The other teachers did rely on me as an English teacher and as the coordinator to help edit their papers and talk with them about the format. – *High School Teacher*

Coordinators provide a lot of support to Fellows by keeping in touch, and listening to your problems. They also serve as a liaison between Dr. Faison and the Fellows. – *Elementary/Middle School Teacher*

What doesn't work?

- **The coordinator role is still unclear**

I do think the role of the coordinator is still hazy. Every year we have tried to rewrite those responsibilities, and I have been a coordinator twice. One year, the professor didn't seem to have knowledge, and I read all of the curriculum units. – *Elementary/Middle School Teacher*

I went to my seminar leader the first day and told him that I was the coordinator and would help him in any way I could. He had been a seminar leader for several years and said he didn't really need any help. He didn't want me to look at any of the curriculum units. The only thing I ended up doing was taking attendance and reporting back on dates we discussed in meetings. I know from colleagues that that is not what happened to them, though. – *Elementary/Middle School Teacher*

- **First-year coordinators often can't help teachers**

Coordinators can sometimes help teachers with their writing, but if you're a first-year coordinator, as I was, it was hard enough for me to do my own writing, let alone help others with their writing. – *Elementary/Middle School Teacher*

Recommendation

- **Coordinators should maintain constant contact with new Fellows**

I think a number one responsibility for every coordinator should be to maintain constant contact with first-time Fellows. – *Elementary/Middle School Teacher*

TOPIC 2. PRACTICES—Using the Units

“Flexibility describes it ... we can decide what to put into the units, how to use them in the classroom, and when to use them.”

Focus group discussions dealt with using the units in the classroom and sharing them with other teachers. Usability of the units in the district was regarded as a definite advantage, as was the considerable amount of flexibility the Fellows enjoy in using the units in their classrooms.

However, the weak link in this otherwise strong chain of using the units was reported to be little recognition and reinforcement of the Fellows’ efforts by school administrators and rare visits by seminar leaders to Fellows’ classrooms to see the units implemented. Both of these shortcomings led to a paucity of feedback to Fellows on their work.

Subtopic 2.1. Using Units in Fellows’ Classrooms

Teachers focused on how usable the units were due to the requirement that they be aligned with district standards, and, in particular, how much flexibility they had in using the units in class—when to use them, whether in whole or in part and their ongoing refinement of the units. That said, they felt that they received very little feedback on using the units and that seminar leaders rarely visited their classrooms to see the units in action. Recommendations thus included reinforcing the use of units by school administrators, as well as incorporating a structured method of visits by seminar leaders to observe how Fellows had integrated the units into their classrooms.

What works?

The units’ usability in the district is high—Focus group participants noted that all PTI units must align directly with the district standards and that requirement dramatically increased the units’ usability in classrooms. Some teachers pointed out that this alignment factor proved to be beneficial to them in developing and using the units in their classrooms, as it unleashed their creativity within the curriculum boundaries set for them. Several participants mentioned that their units had been embedded in the district-wide curriculum and represented, perhaps, the ultimate in usability.

A constant theme running through the focus groups involved teachers’ and principals’ quest to prepare students for coursework they’d encounter later in their school careers. By building their units’ usability in the district, they felt they could affect students’ readiness for more advanced subjects in the future.

- **All units must align with the district standards**

The everyday math curriculum works, and they have the data to prove that it works. Even so, within that math curriculum, there's a lot you can do. My kids were counting Frisbees during gym, so in math class we made a bar graph of their results. – *Elementary/Middle School Teacher*

It sounds like a restrictive factor that before you do a unit you have to plan how it will fit into the existing curriculum. But, in a way, it is freeing because you can teach something you're required to teach in a more creative way, and in a way that satisfies your job requirements. – *High School Teacher*

- **Some units get embedded into the district-wide curriculum**

I did a unit on nuclear energy, which is timely, and I've written my unit into our general science curriculum. So it is going to impact kids across the Pittsburgh Public Schools who take this course. – *High School Teacher*

In a general science class I had students research 5 or 6 environmental issues and then write a summary statement about them in their community. I wanted them to look at these science issues from a different perspective – this is your community, how are these issues affecting it? It was a combination of science topics and the Social Studies problem-solving approach. So, what I'm doing in the class is very different, but it's now a part of that course as well. – *High School Teacher*

- **Some units prepare students for courses they'll take later**

I took a seminar in physics in math and then created a physics unit on motion and accelerated motion. In addition to covering what I needed to cover in physics, this unit helped kids develop a basic understanding of the principles of calculus. The result has been that when they go to calculus class, they already understand the calculus concepts the teacher is talking about. They said this has never happened before. – *High School Teacher*

Teachers have flexibility in using the units in their classrooms—Teachers expressed pleasure at the great amount of flexibility accorded them in using the units as they saw fit in their classes. They noted their freedom to refine the units each year, decide when to implement them and to implement as much or as little of a unit according to a particular class's needs. This flexibility, they said, meant that everything they had gained from the seminars and developed in the units always impacted their teaching and what students learned.

- **Fellows can refine their units from year to year**

Taking a seminar every year, I find I get better at refining my unit. The first one I did was a portfolio on the Fifties that had many different issues in it. It was so huge that I could have done a 9-week unit on each issue. The next year I scaled it down and used pieces of it here and there. – *High School Teacher*

Even when you do a unit a second year, after you've developed it, you tend to expand it with additional material and to refine it. It's an ongoing process, and it tends to change with different populations of students as well. – *High School Teacher*

- **Fellows can implement units in pieces or in whole**

It's important to clarify that a unit doesn't have to be a semester, three weeks or anything else. If you need a month-long unit, fine. If I need two lessons out of that unit, I can do that and that's fine too. – *High School Teacher*

You may use the unit all the time, you may use some parts of it. You may use part of a unit you haven't used before, maybe because of time. But, you, the teacher, are the one that has to be curious and engaged and interested. – *High School Teacher*

When I wrote my first unit, it could have lasted a whole semester. My second unit could have been a half semester, and by the third unit, I finally figured how to write smaller pieces. I have used a 3-week unit in its entirety 3 or 4 times, and I've used it in summer school and in regular school. It really works. – *High School Teacher*

The reason we write such big units is because we cover so much material in the seminar and we don't want to waste it. We want to put all that good stuff into a unit. That's not necessarily a bad thing, because that may become important two years down the road. When I look back on my units, I can pull any chunk out and teach it independently if I want to. It was all put together as independent pieces that were coordinated. – *High School Teacher*

- **Fellows have flexibility in when to implement units**

Some Fellows don't teach their units right away. The first year that you write a unit, you can't fit it in, so you wait until the next year. But if you make a conscious decision that you are going to write a unit and implement it right away, you can do that. This year I did that – we're doing this cookbook unit in class the week after next, but if I hadn't planned it that way, I would have waited on it until next year. – *High School Teacher*

If you plan ahead of time and you really organize what you're going to do, you can do a unit in the exact amount of time that you have for it, without its being too long or too short. But it takes planning. – *High School Teacher*

I found it a big help to develop a unit and implement it simultaneously. Of the five units I've written, I implemented two of them as I was writing them. So, as I was attending seminars, and writing units, I was implementing the unit with the students. The advantage to that was that I could see what I needed on a day-by-day basis. I could expand, or take another approach or strategy, or pull in other content as it evolved. – *High School Teacher*

- **Everything gets used in the classroom, at one time or another**

Keep in mind that, whatever you are doing is going to be part of the curriculum and put back in the classroom or become research topics for students. – *High School Teacher*

As I become enriched by taking different PTI seminars, I can use part of that in class. It might not happen for two years, but it is going to spill over at some level. – *High School Teacher*

We were told today that there is going to be a week on careers. It is now mandatory and will be put into all Social Studies classes. Nobody asked me if I wanted to teach that, but I have to. So, I can look at every PTI seminar I've taken and find some content that applies to careers. – *High School Teacher*

What doesn't work?

- **Fellows get little feedback on using the units in the classroom**

The problem is that a Fellow turns in a unit, it goes on the website, and we assume he/she is doing something new and exciting. But that Fellow doesn't get any feedback beyond my comments about the curriculum, and I think that's detrimental to the teacher. It amounts to a dismissal of what he/she has been doing the whole semester. – *University Seminar Leader*

- **Seminar leaders rarely visit school classrooms to see the units in use**

I've asked sometimes to be invited to the classroom, but there's never been any follow-up. I think the Fellows' lives are just too busy. – *University Seminar Leader*

I've only gone when I've been invited. I would tell Fellows at the seminars that I would be very interested in observing a class to see what they were doing with the material. Several Fellows actually contacted me and asked if I wanted to come to see a unit on such and such a day. I found it just marvelous. – *University Seminar Leader*

Recommendations

- **School administrators should reinforce Fellows' use of units in the classroom**

There has to be school support for the individual who brings back a curriculum unit and integrates it and is doing innovative things in the classroom. Whether it's the principal, the unit head or the superintendent, somebody needs to be reinforcing that work. – *University Advisory Group Member*

- **We need a formal structure for inviting seminar leaders to visit Fellows' classrooms**

Would it not be important to get a seminar leader into an elementary, middle or high school class to see how we're using the units? Now, maybe I need to call and invite them – but I just never had the time. Still, it would be valuable for them to visit classes for a half-day or so. – *Elementary/Middle School Principal*

Three years ago our seminar leader had a large group, and she made site visits to all of our schools – and we were pretty spread out. We had to adjust our schedules a bit, but it really made us feel that she was going beyond her role, which we do all the time. She got to see us deal with real kids in a real environment, and it made us feel good. – *Elementary/Middle School Teacher*

I'm not sure that professors – the seminar leaders – are aware of the district standards that we build into everything we do. It would be good for them to come and visit the sites, where they'd see standards, standards, standards. – *Elementary/Middle School Principal*

Seminar leaders should visit classrooms – but only when invited. – *University Seminar Leader*

Seminar leaders themselves would benefit from seeing how the curriculum units are delivered in the classroom. Seeing how the units come to fruition with students would give seminar leaders insights when they lead their next seminars. – *PPS Curriculum Leader*

Subtopic 2.2. Sharing Units with Colleagues

Participants in the focus groups described an informal sharing network between Fellows and non-Fellows, and collaboration between Fellows. Some participants gave voice to their concern that non-Fellows would not be able to replicate using the units in their classrooms because they lacked the rich perspective gained from participating in the PTI seminars and thinking through the issues and nuances of the content material while developing the units.

What works?

- **Fellows use informal sharing network with non-Fellows**

I grab teachers I know and tell them they might be interested in these units. One unit was taken and never returned, and the teacher, who was a gentleman, smiled fondly at me and said how great the unit was, that he was using it, and I would probably never see it again. – *Elementary/Middle School Teacher*

Basically, I just snatch up folks and say, “Hi, I thought about you, and I thought this would work in your classroom, that you could make something of this. People are glad to get something that’s already written up, because they don’t have to think it through and go through all the changes. It tells them what you did, why you’re doing it, what you think you’ll get out of it – it’s 10 pages of narrative and a whole lesson plan. – *Elementary/Middle School Teacher*

- **Fellows collaborate with each other**

Depending on schedules, we do a lot of collaboration at Oliver. We have done projects together, and some of our teachers have then become involved in the PTI. As long as some teachers have taken PTI seminars and know how to write the narrative, we can talk back and forth about our units. We get ideas from each other on how to hook some topics together across subjects. – *High School Teacher*

We take pieces of our units and do them together if it coincides with what the Social Studies teacher is doing. On writing a historical fiction unit, it helps a lot to have a Social Studies teacher work with me to select real live incidents from history to use as examples for students to write their historical fiction. Working together like that gives each of us more time because we can let the kids work on the same assignment in both periods. – *High School Teacher*

What doesn’t work?

- **Non-Fellows cannot become expert at unit development through sharing**

One of the basic objectives of PTI, I believe, was for Fellows to share their work with their non-Fellow colleagues...but how can you do that if they haven’t been at the seminars and gotten the content? That doesn’t seem like it would work very well. – *University Advisory Group Member*

It seems to me a mistaken notion that Fellows could get non-Fellows to become master curriculum unit producers. I don’t think the skills are transferable. Without being at the seminars, without thinking through the issues, I don’t think they can flesh out the material as well as Fellows who have been there for 10 weeks thinking about the issues and arguing them out with their colleagues. – *University Seminar Leader*

TOPIC 3. STUDENT IMPACT—Evidence of Effectiveness

“After using a PTI unit, I can say that my students look at things differently from the way they did before, and isn’t that the point of our teaching?”

Participants in the focus groups saw ample evidence of the effectiveness of the PTI units on students, and described changes in such behaviors as thinking, making connections and questioning. They also commented enthusiastically on the positive interactions between teachers and students and noted frequently the cross-over of enthusiasm for learning from teachers to their students. Most participants felt that standardized tests did not capture the important data about students, and they instead called for attitudinal change studies and comparative assessments between PTI students and non-PTI students.

Subtopic 3.1. Observable Changes in Student Behaviors and Attitudes

Focus group participants noted that their use of PTI curriculum units had led to observable changes in students’ knowledge and skills, as well as in their attitudes towards learning. They discussed their students’ new ways of thinking and their increased enthusiasm for learning, and they attributed much of the change to the osmosis between enthusiastic teachers and their students.

What works?

PTI builds students’ knowledge and skills—Teachers and principals in the focus groups spoke enthusiastically about how students studying PTI units had learned new ways of thinking, were looking at things differently and especially, were questioning what they read and saw. For them, it was of the utmost importance that their students could make connections among the various subjects across curricula, rather than learning facts in each subject without seeing the relationships between them.

Some teachers described how essential it was to provide learning materials to students in a context that was familiar, that they could relate to, that they could identify with. They felt that the PTI curriculum units they were able to develop offered them a way to encourage students who might not otherwise see any point to education. Furthermore, some Fellows noted that their students learned and implemented the research skills modeled by their teachers.

- **Students learn new ways of thinking**

That PTI unit I did the first year has worked every year and has opened the kids up to so many different ways of thinking and so many different ways of learning. – *Elementary/Middle School Teacher*

The important thing about the PTI unit is: Are you really able to get your students to think? How are you getting them to think? How are you posing questions to help them think? What is different about how they are responding to you? – *Elementary/Middle School Principal*

After using a PTI unit, I can say that my students look at things differently from the way they did before, and isn’t that the point of our teaching? – *Elementary/Middle School Teacher*

Students learn how to question what they're studying. They'll look at a painting, and they can tell you about the line, the art, the artist, where it's from. It's not just learning facts; it's seeing the whole piece and making connections to another piece. – *Elementary/Middle School Principal*

- **Students learn connections across curricula**

Within a unit, the music teacher can do something, the drama teacher can do something, so can the social studies and English and math teachers. We all can do a unit together, and the children can see how things are connected, that English or math are not isolated pieces. – *Elementary/Middle School Teacher*

When children see how subjects are connected and when they see how teachers can work together to achieve something for their benefit, it helps them to grow socially and it helps them to learn. – *Elementary/Middle School Teacher*

- **Students learn better in a contextualized situation**

Because of my involvement with the PTI, I was able to bring units that focused on the background and issues that my particular students faced. For example, from a seminar on diversity and resistance, I used *Othello* as a vehicle to discuss the implications of race and cultural differences. For a newspaper unit, we used African-American journalists and newspapers across the country as the core and substance of what we learned. This had the effect of really engaging the students, who had been completely alienated from education, and who suddenly saw new things in education for themselves. We were able to integrate all of the state standards in terms of the strategies and skills that students need. So they were acquiring the skills they needed in reading and writing, but they were doing it in a context that had relevance for them. – *High School Teacher*

I have another example. I built my unit around *Cora Unashamed*. My students were so intrigued about the relationships between Cora and her family – the only black family in a Midwestern town – and we talked about racial relations and how to survive in a society as a minority. I didn't do anything that different than what I do with any other piece of literature, but the students were really engaged because it was about people they could understand, people like them. I think they got so much more out of it. – *High School Teacher*

- **Students learn research skills from Fellows' modeling**

Students will see me writing, or reading, and I tell them that this is what I have to do in terms of research. It's amazing because they'll ask me what I found out, and then that becomes a class. That type of learning is very important because they see that I still have a brain, that I don't just stand here and tell them to sit down. They have to know that we are well educated and that we continue to be and want to be. Students take pride in that. – *High School Teacher*

When you take a PTI seminar, you're actually on the Internet finding things and working with things. When some kid tells you some goofy thing that can't be done, you say no, that's not so, because I just did it last night and I know how it works. It puts you more in tune with what is going on with the kids. – *High School Teacher*

We used to have enrichment and supplemental materials in the classroom. Now we have the Internet, and I'm constantly online to find resources for the classroom. So I'm constantly in a learning mode and students see that. – *High School Teacher*

PTI enhances students' eagerness to learn—Most, if not all, of the teachers and principals at all grade levels agreed that the Fellows' enthusiasm for learning transferred readily to their students. They noted that if the material excited the teacher, then that excitement carried across to his/her students—it was catchy.

- **Fellows' enthusiasm for learning transfers to students**

As you get teachers becoming learners and then revisiting that part of their growth and development, it naturally translates into how they approach their subject, how they approach their profession, and that enthusiasm transfers to their students. – *High School Principal*

The PTI units are engaging, and I think when the teacher is engaged, then the kids are too. – *High School Teacher*

I know from my experience that the PTI units enhance the curriculum and make it more interesting for me. If it's more exciting for me, my enthusiasm carries over to my students. We do a lot of research and the kids get into it. It's exciting to go to the Internet and go to Encarta, so research has become more fun for them. In fact, for the last two years, their research skills have actually measured higher on the PSSA. – *Elementary/Middle School Teacher*

The greater the background of the teacher and the more enthusiasm, the more there's an infusion into the students. – *High School Principal*

I felt that my students were more excited about the PTI units because I was more excited. – *High School Teacher*

In addition to our excitement and love of learning that we share with our students, we also bring a richer background of knowledge. Many times, when we are working with students who don't have a strong academic bent, the excitement entices them and they recognize they're learning something new, or that we're building their background so they can move into what it is they have to learn. – *High School Teacher*

What doesn't work?

- **Outmoded classroom equipment doesn't promote student learning**

Limited equipment resources is one of the difficulties in following through in our units. We need materials that we don't have the money to get. The last time I got new equipment was when we opened a brand new physics lab at Westinghouse 15 years ago... We are being told to teach a laboratory course, but we are not provided with funds or equipment to do it. – *High School Teacher*

Recommendation

- **Use PTI units to promote student learning across grade levels**

An elementary teacher wrote a physics unit and broke down the content to use on the elementary level. Why can't the younger children see what the older students are learning, and vice versa, to bring it all together? Kids learn well from each other. – *Elementary/Middle School Teacher*

Subtopic 3.2. Assessment Tools for Units

We asked focus group participants to discuss assessment tools in relation to the PTI units implemented in the classroom, and they noted that alternative assessments—such as portfolios—were used often. In addition, it was felt that students who had worked on PTI units probably scored higher on their standardized tests because of the thinking and writing skills they developed. Recommendations called for more emphasis on students’ broad knowledge and improved attitudes toward learning.

What works?

- **PTI units use alternative assessments**

Of the three PTI units I’ve done, students have been able to add assignments to their writing portfolios. The first was a personal narrative, which was a culminating activity for the unit. So, in effect, there has been an assessment. – *Elementary/Middle School Teacher*

- **PTI units potentially impact standardized test scores**

In order to get fours and threes, advanced or proficient, on the PSSA exam, students have to be able to make connections between the different subjects they’ve studied. If they’re in effect practicing that skill in PTI units, then we need to know that. – *Elementary/Middle School Principal*

Students wrote a lot of essays in the two units I brought in. I don’t know for sure if those units led to great academic skills, but most of the time the students did very well on AP tests. Of course, it’s hard to say if that unit gave students a four instead of a three on an AP test. – *High School Teacher*

Recommendations

Emphasize students’ broad knowledge, not test scores—Teachers and principals in the focus groups recognized the importance of test scores in our society, but nonetheless they advocated strongly there should be less focus on test scores and more on students’ acquisition of broad knowledge. Many participants felt sure that if the state test scores of PTI students and non-PTI students were compared, that their PTI students would prevail because they were being taught to think and to question.

- **Focus less on test scores**

I feel a pressure, as principals do, to see our kids perform, and with these empowerment scores and everything else, we’re under pressure not to waste any time, to leave out the fluff and to get results. But, are we really there to teach for the PSSA? I would hate to say that we are. What horrible teachers we’d be if all we did was teach to the test. Our kids would be dumb if we just did that. – *Elementary/Middle School Teacher*

- **Informally compare PSSA scores of PTI students and non-PTI students**

It might be interesting to look, in-house, at student scores on PSSA and compare those who have studied PTI units and those who haven’t to see if the units have made any difference in how they’ve responded to the test questions. – *Elementary/Middle School Principal*

I took an astronomy class at Yale and wrote a unit called “A Star is Born,” in which I broke it down to the third grade level. I talked about space and starbursts. I felt that my students did better at research and also did better on their assessments. It would be easy enough to find out if there is a difference between PTI and non-PTI students, since we get those sheets back. – *Elementary/Middle School Teacher*

Emphasize students’ attitudes toward learning, not test scores—Many of the focus group participants indicated their strong belief in the greater importance of students’ positive attitudes towards learning over their actual test scores. Positive attitudes, time on task and good student-teacher interactions were regarded more highly than test scores. Thus, the participants recommended that the district emphasize student attitudes toward learning rather than standardized test scores.

- **Focus on teacher-student interactions, not test scores**

I would caution against looking at hard numbers or 2% grade increases, rather than looking at interactions. It’s better to look at how the teacher is interacting with students to support their work. There are already protocols for looking at interactions. – *Elementary/Middle School Principal*

There’s already evidence that productive teachers have high-achieving students, so why not look at how the PTI program makes teachers more effective? – *Elementary/Middle School Principal*

- **Study students’ attitudinal changes**

We lack the tools to measure students’ attitudinal changes in the affective domain, and I think that type of measurement would be very useful. – *Elementary/Middle School Teacher*

We should look at changes in students like openness, self-esteem, confidence, time on task and project orientation. – *Elementary/Middle School Teacher*

Kids are being exposed to a lot of things now that they hadn’t been in the past, and I think one thing that has to be looked at is an enthusiasm for learning. You can’t measure that, and you can’t test for it. It’s not going to be on a standardized test, or a state test, or a national test or anything else. – *High School Teacher*

TOPIC 4. DISSEMINATION—Spreading the Word

“Distributing curriculum units for widespread use is probably an easily solved problem ... People have a lot of ideas, we’ve tried some things ... We just haven’t done enough.”

There was a general feeling among focus group participants that dissemination of the PTI curriculum units was occurring, if perhaps a little too slowly. The fact that all units must be aligned with district standards, of course, is a major factor in disseminating them, and the district’s instructional support division helps Fellows achieve that alignment.

While the electronic availability of the curriculum units was considered excellent, it was suggested that some tweaking might be helpful for increasing dissemination. Ideas included developing syllabi as an organizational search aid, gaining more publicity from school district

sources and Fellows and studying the current level of dissemination to determine what's occurring and what work is still needed.

Subtopic 4.1. PPS/State Endorsement

Focus group participants described the school district's acceptance of PTI curriculum units as currently high, since the alignment of the units with district standards and curriculum frameworks has been a requirement from the start. In addition, they noted that the district's instructional support division even works with Fellows to ensure their units' alignment. Some discussion focused on the built-in tension between the district curriculum and the new units, but it was not viewed as problematic. No one wished to comment on state endorsement.

What works?

- **Alignment of the units with district standards**

[Relevant] district standards must be incorporated into the curriculum unit. – *High School Teacher*

The Division of Instructional Support works with teachers to make sure that the units are aligned with district standards. – *High School Teacher*

The curriculum units have to address the district standards and explain how they meet those standards. The teachers seem to know instinctively how to do this. Some of them explain in detail where the unit fits. The best example I had was an experienced teacher who says that when he goes into the classroom in the morning, he writes on the board what standards are being addressed. He writes them all down. – *University Seminar Leader*

What doesn't work?

- **Inherent tension between existing curriculum and adding new units**

I think the problem has been that we've always thought in terms of a lockstep curriculum – I have to cover everything in the book from page 1 to page 600. – *High School Teacher*

There is a tension between aligning units with the existing curriculum and a teacher's need to grow and investigate new areas. The tension is built in. I'm not sure it is bad, but I think it's inherently there. – *High School Teacher*

Subtopic 4.2. School-Level Support

Participants in the focus groups considered school-level support for the PTI to be relatively strong, inasmuch as principals were favorable to the program and encouraged teachers to consider it. In addition, Fellows, like new converts, praised the program and often described its benefits at meetings and in flyers placed in teachers' mailboxes.

Some of these comments may apply more to some school buildings than to others, since a few Fellows spoke of teachers at their schools who had never heard of PTI. They felt that more publicizing was needed. Several participants recommended bigger, more accessible teacher

research areas in the schools so that PTI could become even better known and utilized by the whole school community.

What works?

Principals' involvement with PTI—According to the focus group participants, support for the PTI program has been strong at the school level, as evidenced by the principals' endorsement at faculty meetings and in the daily bulletins. It was thought that principals hold positive views of PTI because they have been involved with it. They are aware of the units' development and must sign off on them.

- **Sign-offs on curriculum unit development**

Principals have to sign off on our units. We don't just get to pick something and off we go. It is all coordinated with the understanding of the principal and with full knowledge of the Division of Instructional Support. – *High School Teacher*

- **Principals support PTI at faculty meetings and in bulletins**

The principals are very open to letting Fellows speak at faculty meetings to talk about what we're doing in PTI and to share our curriculum units with other teachers. – *Elementary/Middle School Teacher*

I just wrote a note to myself to get that teacher at the end of the table to speak to my faculty at a faculty meeting or during an in-service. We have a November 5 in-service. It's an excellent opportunity for Fellows to share what they're doing with other teachers. – *Elementary/Middle School Principal*

My principal has been supportive, and she encourages us to speak about our units at faculty meetings and in our daily bulletin and when we're with other teachers. – *Elementary/Middle School Teacher*

Teachers' communications about PTI—Focus group participants felt that the Fellows, who broadcast their good experiences with PTI and encouraged others to join in, had enhanced school-level support. The posters and flyers in teachers' mailboxes at schools also served as reminders. Several teachers described designated areas—in their school libraries or in classrooms—that offered PTI manuals and other materials for all teachers to review and use.

- **Fellows' experience led to increased interest in PTI at school**

In the second year of PTI, there was a vast increase in the number of teachers at Taylor Allderice who decided to get involved in PTI. That told me that, obviously, something good had happened, and the word had spread from the Fellows who had been there. – *High School Principal*

- **Flyers and posters advertise PTI get-togethers in schools**

I think all of the teacher reps put notices in flyers that go out to teachers' mailboxes. There are posters around the schools. We do quite a bit. – *Elementary/Middle School Teacher*

We send out invitations to all teachers to come to our get-together at the beginning of the school year. We also use billboards. – *Elementary/Middle School Teacher*

- **Designated school area for PTI materials**

We have a small space in our school library – I think that’s true for practically all the schools – that is titled Pittsburgh Teachers Institute that holds the manuals and everything else. Bigger space would be nice, but it’s good to have everything together. – *High School Teacher*

What doesn’t work?

- **“Hit or miss” publicizing of PTI**

There are still a lot of people within the school system who have never even heard of the Pittsburgh Teachers Institute or the curriculum units. If I’m working on a curriculum unit and a teacher asks what I’m doing, I’ll tell them. They always say, “Oh, can I do that?” They’ve just never heard of it. Maybe there’s a way to publicize it. – *Elementary/Middle School Teacher*

Recommendation

- **Designate a teacher research area in schools**

It would be nice if there could be a large area set aside in buildings for teacher research. It should be bigger than what we have in some of the schools and very accessible. – *High School Teacher*

At our school we direct new teachers to my room, where I have a literacy center with all the units, articles and books and other materials. In preparing for a young teacher coming in, we went on the web and pulled off the journalism unit and a few other things. There are lots of materials to enrich and guide new teachers. – *High School Teacher*

Subtopic 4.3. Distribution Modes

All focus group participants noted that the electronic mode of distribution for the PTI curriculum units was excellent. There was discussion about improving the publicity about the printed curriculum unit binders, and there were recommendations for refining and enhancing dissemination by providing syllabi of the available units, obtaining more school district involvement and encouraging Fellows to take on more of a role in getting other teachers interested in using the units.

What works?

Electronic availability of curriculum units—Focus group participants were unanimous in lauding the easy accessibility of the PTI curriculum units electronically and praising the quantity of online support offered by Yale-New Haven.

They did point out, however, that the printed curriculum unit binder that is sent to principals of participating schools often sat unnoticed on the school office counters. They advised that

more needed to be done to make teachers aware of these binders and to work with teachers in using them.

- **Publishing curriculum units on compact disks**

All of the units are online, and last year just before Thanksgiving, everyone got this gift from PTI – the units on compact disk. Everybody was excited and happy that they had a CD they could share with their family. – *High School Teacher*

- **Making curriculum units available online**

Every year a teacher asks what seminars are being offered, but she never takes the steps to get involved in PTI. It's good that she asks about the seminars, and then at the end of last year she asked me: "When are those genetics units going to be online?" So I think, I'll just keep talking about PTI, and they'll come to it when they need it. – *Elementary/Middle School Teacher*

There's a teacher who has never had anything to do with PTI, but that teacher knows what subjects are being dealt with. – *Elementary/Middle School Principal*

- **Yale-New Haven provides a lot of online support**

If you are ever looking online for curriculum material to use in your classroom as supplementation, there are a number of websites dedicated to teachers in various unit plans and lesson plans. – *High School Teacher*

A number of websites are published by the Yale-New Haven project people, and they constantly come up online. – *High School Teacher*

What doesn't work?

- **PTI curriculum unit binder is not publicized**

The PTI director sends out a binder of curriculum units – but only to the participating schools. Then when the principal gets the binder, maybe he/she will take a minute to leaf through it, but then the binder either sits on the office counter for people to look at or it goes to the library's professional development shelf where people might see it. You have to call it to people's attention. – *Elementary/Middle School Principal*

Recommendations

Refine and enhance dissemination of the units—Participants of the focus groups indicated that some work was needed to increase the units' dissemination. They recommended developing syllabi of the units to provide a tool to users for quickly assessing the content and the approach taken in each unit. These syllabi could appear online and also in a print mini-book for the schools. Further, participants felt that the school district could play a larger role in disseminating information about the PTI units at department and district-wide in-service meetings and in the Pittsburgh Public Schools' publication, *The Reporter*.

Also, it was suggested that Fellows could be charged with active dissemination through their own informal networks. Finally, several college/university people advocated conducting a study to find out exactly how effective the current informal dissemination of units really is—how far from their developers do the units actually travel?

- **Produce syllabi of the curriculum units to maximize unit dissemination**

I'm not sure the units can be disseminated to people who haven't gone through the development process themselves, but it seems to me that one thing that could be done is to publish syllabi of the seminars on the web in addition to the units. Maybe seminar leaders need to produce some kind of an account on a website of what the content is, what approach is taken, and so on to provide structure to readers. – *University Seminar Leader*

Maybe these syllabi could be expanded into a mini-book. You might not get teachers to do the units, but at least they'd have access to the resources. I think teachers go to the website and look for the curriculum that the units were developed for and then focus on the reading lists. They're not going to implement them the same way. – *University Seminar Leader*

- **Use PPS personnel and publications to disseminate information about the units**

Our District Curriculum Supervisors could bring the curriculum units to the attention of people in their departments or at district-wide in-service meetings. – *Elementary/Middle School Teacher*

The Pittsburgh Public Schools publish *The Reporter*, a small publication that lets teachers know what is going on all over the district. Every year they publish the grant awardees of various mini-grants available to teachers. It would be really simple to publish all the curriculum units that were written during the last year. It could go into teachers' handbooks. – *Elementary/Middle School Teacher*

- **Encourage a Fellows' informal dissemination network**

Teachers can do what I do – grab particular teachers in your school and say, "You might be interested in this. We do this, this, that and the other, and here are some pieces." I even give out some units we got from Yale that I think teachers might be interested in, and they return them when they're finished. – *Elementary/Middle School Teacher*

- **Study the extent of informal dissemination of the units**

For sure, somebody ought to collect data on how far away from the Fellow developing it did a curriculum unit actually travel. Did it only get to the classroom next door? – *University Advisory Group Member*

It might be difficult to get accurate information about that, but you could start by talking to the authors of the curriculum units, and ask: Do you know of any other teacher who's using all or part of this curriculum unit? – *University Advisory Group Member*

TOPIC 5. SUSTAINABILITY—Survival and the Future

“College, elementary, middle and high school people, all working together to improve teaching ... You really don’t want this program to disappear.”

Key administrative leaders and focus group participants devoted considerable time to discussing and problem solving the issue of PTI’s sustainability. They identified a number of factors favorable to PTI’s survival and, on the other side of the coin, even more unfavorable factors. Luckily, the PTI holds a successful track record in the Pittsburgh school district and enjoys a great deal of support from its many stakeholders.

However, the economic downturns and a key philosophical difference between PTI and the school district cast a negative shadow on the PTI’s ability to survive in its current, teacher-driven, multi-level form of professional development.

Recommendations included closer ties with the school district professional development offices, deeper excavation of institutional partners and foundations for funding support and construction of strong buy-in from institutional partners.

Subtopic 5.1. Factors Favorable to Survival

Focus group participants, along with key administrative leaders, observed that the already successful track record that PTI has achieved is a strong factor in its favor. In addition, the threads of PTI are intertwined with the district’s whole cloth, since its curriculum units are aligned with district standards and are readily available on the PTI website. Finally, a broad array of stakeholders, including the school district, stand committed to maintaining the PTI,.

The PTI has a successful track record—Key administrative leaders and focus group participants described the success that PTI already has achieved since its beginnings in Pittsburgh. It has built interest in public education among college and university faculty, and it has created a new model of professional development for teachers craving more independence and professionalism in their ongoing work. The curriculum units already developed provide wonderful documentation of what has been accomplished, and anecdotal comments from teachers and principals applaud the program and its outcomes.

- **PTI has already made a great impact**

This project was started from scratch and over a five-year period it has made a big difference for teachers, for students, for seminar leaders. At the very least, it’s brought us all together to talk about these things, and sometimes we forget that it takes years, literally years, to get the smallest things to happen. So, now it’s time to ask: What’s the next step? How do we build from here? – *University Advisory Group Member*

The Institute design has been pretty true to form and it has given us enough success along the line we wanted to pursue that we value it and we want to figure out how to integrate it more fully into the district. – *Key Administrative Leader*

Working with the PTI has increased college and university interest in public education. It has also broadened the respect with which seminar leaders view public school teachers. – *Key Administrative Leader*

With PTI, we have the best possible documentation – namely, the written units. It’s what is known as a portfolio. It’s standardized in the sense that everybody has to do them, according to the same rules, and they must comply with the school district’s standards. – *University Seminar Leader*

We have anecdotal comments from the teachers about how their attitudes toward teaching have changed, their enthusiasm has been recharged, their interest in a particular topic has been reignited. Sometimes, that turns out to be the single best indicator of a program’s success. – *University Advisory Group Member*

I think we have many, many anecdotes and narrative accounts that would persuade almost anybody that there’s been a change in the teaching relationship. – *University Seminar Leader*

The PTI Fellows have had wonderful, intellectual experiences. Over and over, Fellows have said that it’s the best professional development they’ve ever had. – *Key Administrative Leader*

The curriculum units have become a part of the district—Underscoring what has been described in previous sections, key administrative leaders and focus group participants noted that the PTI curriculum units have become a part of the fabric of the school district through their alignment with district standards and their online accessibility to all teachers.

- **PTI curriculum units align with PPS district standards**

The Yale-New Haven model was more insular than Pittsburgh’s take on it. From the start, we said that the PTI curriculum units had to align with the school district standards. – *Key Administrative Leader*

One thing we’re not taking into account is that PTI has ensured that every curriculum unit can be used by any teacher interested in using it – because they’re all written to fit into the district’s overall curriculum and they’re all designed so that anybody else could pick up that unit and teach it. – *University Seminar Leader*

The alignment with district standards has been accomplished by PTI. – *Key Administrative Leader*

To the extent that PTI meets district needs systemically, the district will value it. We could make a case for district resources coming to the table for it. I also think the college and university involved would have to bring some resources as well. So I guess the issue is going to be: Do you value this enough to put some general fund budget money into it. – *Key Administrative Leader*

- **PTI curriculum units are online for easy dissemination to other teachers**

We wanted to go beyond the immediate teachers participating in the PTI seminars and make their curriculum units available online so that other teachers – non-Fellows – would have access to them. We wanted more widespread use of the units throughout the district. – *Key Administrative Leader*

The whole idea is not just to have an impact on one teacher in one class. It has to go beyond that. So the units that teachers write become available to everybody, and the impact ripples outward. There was even talk at one point about marketing the units. – *University Seminar Leader*

We thought it through initially that PTI would work for the district in these ways – helping the curriculum data bank and making the units available to teachers. We didn’t want teachers to develop the units, go back to their classroom and shut the door, making the units extant only in their own classrooms. We wanted wider availability and use. I don’t know to what extent we’ve accomplished that, but I do know that systemically, teachers are being oriented to the units and other teachers have used them. – *Key Administrative Leader*

The Stakeholders are committed to PTI—Key administrative leaders and focus group participants commented most favorably on the value of bringing together all levels of stakeholders—people from higher education and from the elementary, middle and high schools—to improve the quality of instruction in the school district. The district has joined in by seeking grants to fund particular seminars to meet local priorities, and while some stakeholders feel that district involvement may dilute the program’s independence and professionalism, others see it as evidence of the district’s acceptance of the PTI.

- **PTI brings together all levels of stakeholders to improve teaching**

University, college, elementary schools, middle schools, high schools, all working together to improve teaching – it seems like the PTI should be an easy sell to foundations. – *University Seminar Leader*

The PTI has created a corps of teachers who feel the responsibility of self-improvement and also the responsibility to pass along this opportunity to other teachers. They actively participate in recruiting other teachers – they have moved beyond the selfish motivation to share with others. – *Key Administrative Leader*

We are all in the system, but we don’t know what the other grade levels are teaching. But getting this group of people together – it’s phenomenal the stuff we learn from each other, the sharing that goes on. And when you go away, as an elementary teacher, you know how to get your kids ready for that next move. – *Elementary/Middle School Teacher*

- **The school district has begun to help identify PTI seminar topics**

Pittsburgh was probably the first site to allow the school district to participate in identifying seminar topics. Of course, this has to be watched carefully, so that we don’t get too far from the model. But, on the plus side, it helps meet district needs and helps with funding. For example, the history seminar that ran last year and this year grew out of a grant for which the district had applied. The same is true for the NSF grant that the district got to support mathematics and science. – *Key Administrative Leader*

Subtopic 5.2. Factors Not Favorable to Survival

Three factors that might interfere with PTI’s sustainability and chances for long-term survival include the economic outlook, both generally and locally, the philosophical differences between PTI’s teacher-led professional development and the district’s traditional top-down approach, and the challenge of replacing the “irreplaceable” PTI director.

The economic outlook is not positive—Several economic factors, as noted by key administrative leaders and focus group participants, suggest a less-than-positive prognosis for PTI’s survival. They include our sagging economy for the past two years, which has taken its toll on foundations and on PTI partners Chatham College and Carnegie Mellon University and diminished monies available for any program. In addition, much of the external funding provided to the Pittsburgh Public Schools and the Pittsburgh Teachers Institute have come from three leading foundations that have decided to withhold funds from the PPS. This action increases PTI’s concern about future resources.

It was also noted that foundations seldom provide funds to institutionalize programs, and that they prefer to offer seed money to get innovative programs under way. Also, several focus group participants suggested that funders are intent on helping only programs that can offer hard proof of their success.

- **Poor economy does not bode well for PTI funding**

The economy has reduced foundations' funds; they're struggling to survive themselves. Even the Carnegie Museum is cutting back on programs. I've seen organizations change their focus to get money to stay alive – if you do that, are you still doing what you started out to do? – *Key Administrative Leader*

Carnegie Mellon University and Chatham are not in a financial position to give hard money to PTI. Chatham has provided the most support in the past – space, phones, utilities, help with writing proposals and reports. – *Key Administrative Leader*

Colleges and universities are so strapped for money now. If I asked the president for PTI funding, the first question back to me would be: “What programs are you going to cut to make up the difference?” Maybe if Dr. Faison asked the president for PTI funds, we might get a directive to cut 10%, say, off our budgets. – *Key Administrative Leader*

- **Withdrawal of foundation support to Pittsburgh Public Schools**

Three foundations have indicated that they are withholding funds for the district or any partnerships with the district, so that means our funds have pretty much dried up. The positive side of this situation is that if we value the Institute, then we have to find some real sustainable money to keep it going. That means each institution has to step up and say, “I value it this much.” That will help to institutionalize it over the long haul. – *Key Administrative Leader*

A new issue was thrown into the mix this summer. Two of PTI's main funders are some of those agencies that pulled money out of the Pittsburgh school district. They said that if the Pittsburgh Public Schools were named in any grant-writing proposal, they wouldn't fund it. – *High School Teacher*

[The Pittsburgh Board of Education] will have to mend fences with the foundations that pulled money out of the district last summer; otherwise PTI will fade. We can't go to them for funding unless we team with another district, say, Wilksburg, as “the front person,” and Chatham and CMU must still take the lead on PTI. – *High School Teacher*

- **Foundations don't fund the institutionalization of programs**

Foundations provide seed money, but they're not there for the long haul. That's the risk of depending on foundation money. – *Key Administrative Leader*

- **PTI has no formal assessment procedure to attract funders**

Having been at the Yale meeting last year, I can tell you that it's coming down to the “A” word – assessment. Schoolteachers and faculty members are 100% against standardized testing, but on the other side are several representatives from foundations who said that they were focused on standardized assessment that was quantitative. – *University Seminar Leader*

Foundations want some sort of built-in assessment that will guarantee that their money is going to have an impact. We're going to have to provide some sort of assessment procedure, if not absolute proof, that the students are benefiting in some tangible way. – *University Seminar Leader*

I went to a meeting with some grant people, and their basic attitude was: “Don't tell us that PTI is good for teachers and that it increases your feeling for your work. Show us the figures. How will this affect student learning?” So, I think we need data of some sort. The PTI rests on getting foundation support, and they want data. – *Elementary/Middle School Teacher*

There are philosophical differences between PTI and the district—It was pointed out that the notion of teacher-driven professional development differs from school district practices. At issue is how much each side can compromise without hollowing out the core of the PTI approach to professional development.

PTI teacher-driven professional development may be forced into the more traditional status quo to achieve institutionalization. In that case, the question, “Will PTI actually have survived?,” will be an apt one. Teachers and principals are already pointing to the encroachment of district-sponsored seminars, which restrict the subject areas and grade levels of teachers allowed to participate.

- **There is tension between teacher-driven development and school district practices**

Because our original design called for PTI units aligning with district curriculum and they're put online and we tell teachers they're available, PTI hasn't been completely on the sidelines in the district. But, its effects are still laissez-faire and it is more peripheral than system curriculum development and professional development efforts. – *Key Administrative Leader*

To build a foundation for the PTI initiative beyond its funding period and become part of the fabric of the Pittsburgh Public Schools, I think we'll have to move more toward connecting these efforts to system-wide curriculum initiatives. This takes away from teacher control and the individual incentive of teachers to use PTI to stimulate their own professional growth. – *Key Administrative Leader*

The initial approach to dovetail the curriculum units with district needs certainly got us going in the right direction, but as the district experiences tighter and tighter accountability and the reauthorization of ESEA, the district will be more pressed to determine which of its external partnerships are powerful enough to help us achieve the most improvement in teaching and learning in the shortest amount of time possible. – *Key Administrative Leader*

My view of the future is that the more we tighten ties of district curricular initiatives with PTI seminars and curriculum-writing activities of the Institute Fellows, along with teachers' other initiatives, as long as they're aligned with the district curriculum, the more sustainability we'll see. – *Key Administrative Leader*

The more we look at district needs, the more tension there will be and the less room there will be for so-called laissez-faire approaches. The greater the share of seminars tied into specific district needs, the less tension there will be because the teachers lining up to do it will already understand what they're there to do. – *Key Administrative Leader*

In fact, we do have a couple of funded seminars now, in science and mathematics that fit into system-wide curriculum needs. We defined the curriculum need, and teachers who were interested in working on curriculum in that area could step forward and sign up to do that. – *Key Administrative Leader*

- **PTI's teacher-driven professional development may not survive institutionalization**

PTI can become a permanent part of the district infrastructure to the extent that it can integrate more fully into system-wide curriculum and professional development needs. The PTI experience helped teachers go more deeply into their content areas and hone their curriculum writing skills, but it's not impacting large numbers of teachers. Nobody disputes that that's a good resource to build in the district – a cadre of teachers who can develop curricula – since district-developed curricula has been a tradition here. – *Key Administrative Leader*

In terms of curriculum development and professional development, the more PTI can be integrated into system issues, the greater impact we can have on larger numbers of teachers. So, the more PTI squares with district needs, the more it dovetails into systemic approaches to making that happen. – *Key Administrative Leader*

Now, we can choose what we need to help us be better teachers, but if the topic is pre-selected and the grade level is fixed, it will ruin this whole situation. I took the art seminar, which I wouldn't have if it was only for art teachers, but it has enriched my teaching in all areas. It was the same with physics and with comedy, where we read Shakespeare. If they were set aside for physics or English teachers, I'd have been out of luck. – *Elementary/Middle School Teacher*

If outside grants call for more structure in grade level and subject matter, it will usurp the purpose of PTI. It would destroy the project's ideology, so why would teachers want to come? It would be an ordinary professional development workshop. – *Elementary/Middle School Principal*

As it becomes more difficult to raise money for programs like this, we may need to enfold PTI into the district's professional development. If we do, some changes will be needed – such as offering leadership training for teachers, rather than welcoming whoever wants to come. That is a different direction than the Yale-New Haven model, which aims for teachers' personal improvement and its positive effects on student learning. – *Key Administrative Leader*

I am so attached to [the PTI concept] that it would be like selling my soul to circumvent the way PTI is set up ... just for the sake of getting money. – *Elementary/Middle School Principal*

- **Funded seminars are prescribing which teachers will attend**

Grant chasing has started to blur the teacher-driven model of PTI. For example, the funded history seminar is limited to 8th grade teachers, so there isn't that wonderful cross-levels experience that teachers have learned from. And with these funded seminars, teachers won't be able to choose to attend; they'll be told to participate. – *Key Administrative Leader*

Finding a new PTI director will be a challenge—PTI will soon face the age-old question of whether an organization can survive when its founder leaves. Dr. Faison, the PTI director, may retire, and if/when she does, the community will be hard-pressed to find someone of her accomplishments, experience, wisdom and connections to try to fill her shoes.

- **PTI Director is near retirement and is widely considered “irreplaceable”**

Let me say this: If Dr. Faison retires, you're going to have an issue with sustainability. – *PPS Curriculum Leader*

Very often, with a program like this, it becomes the person. When the person is no longer there, you wonder if it's going to survive. So, if we're going to survive, we certainly need to begin to look at all the angles. I think, as a group, we need to wean ourselves and be strong, and part of that is knowing how to get funding, so we can stand on our own. – *Elementary/Middle School Teacher*

If Dr. Faison retires, we are going to need somebody. Any time you bring up her name, people are willing to do anything, and her name is magical when it comes to funding. We'd have to find someone with ties to the universities and the school district. – *Elementary/Middle School Teacher*

I think if Dr. Faison retires, we'll have to find a very strong, visionary, insightful, collaborative player that the three institutions can buy into. That person will have to carve out a new niche. It can be done, but it'll have to be someone with significant accomplishments. It'll be a challenge. – *Key Administrative Leader*

Subtopic 5.3. Recommendations for the Future

Key administrative leaders and focus group participants suggested several approaches to increasing PTI's chances for survival. First, they felt that meshing PTI and the district—primarily by designating PTI as the model for the district's professional development—would ultimately be of value to the district and to PTI. Second, they offered some ways to build financial support for PTI with its institutional partners. Finally, they recommended seeking more institutional buy-in to strengthen their bonds with PTI.

Mesh PTI and the district—Both types of suggestions for meshing PTI with the school district call for keeping the Pittsburgh Teachers Institute as it is—a teacher-driven, multi-grade-level professional development program. Key administrative leaders and a great number of focus group participants recommended that PTI be designated as the model for professional development in the district.

- **Designate PTI as the model for PPS professional development**

The best way would be for PTI to become the basis for professional development in the Pittsburgh Public Schools. – *Elementary/ Middle School Teacher*

Whether to use PTI as the main model for PPS's professional development is a very important question. I think the answer depends a lot on who is Superintendent and who is Assistant Superintendent for Instruction. – *Key Administrative Leader*

We need the superintendent, or someone in the superintendent's cabinet, to collaborate with some of the PTI Fellows. Also, the executive directors, who oversee the elementary, middle and high school levels, should get invested in PTI. They need to make PTI systemic within the school district. – *Elementary/ Middle School Principal*

- **Maintain PTI's successful focus on teacher-driven, multi-grade-level development**

How do we keep something really good like this alive? Teachers identify what they want, faculty professors respond with content, teachers write curriculum units aligned with the district standards. The idea of cross-levels of teachers is excellent. This program is innovative and teacher-oriented. It has succeeded in teaching teachers content and teaching faculty about what teachers face in the classroom. You really don't want this program to disappear. – *Key Administrative Leader*

Build financial support for the PTI—It was agreed among key administrative leaders and focus group participants that sustaining PTI would require additional efforts to build financial support. Some suggested looking within the partner organizations – Chatham, Carnegie Mellon and the school district – for development office help and for actual funds.

Others focused on approaching foundations, and, in perhaps the most innovative and intriguing notion, recommended seeking funds to endow the PTI in honor of its director as the “Helen Faison Teachers Institute.”

Several participants felt that foundations might be more interested in funding PTI if alternative assessments were used to better advantage. One suggestion—which had already been embraced last year—focused on cutting costs of the PTI, and, in particular, standardizing faculty pay at a lower level.

- **Seek ongoing sources of funding to sustain PTI**

We should tap the school district more carefully and say: “We want PTI to be a part of our school district, and we need your help in finding a way to sustain it.” – *Elementary/Middle School Principal*

Part of the partnering with Chatham and CMU should call for the college/university development offices to do all that they can to help raise money to support the ongoing PTI program. – *University Advisory Group Member*

The University Advisory Board should take some responsibility on this issue of PTI sustainability and provide ideas and suggestions. – *University Seminar Leader*

We should seek funding to endow the PTI in honor of Helen. We’d have to go to foundations like Grable, Pittsburgh and Heinz and ask them to endow the “Helen Faison Teachers Institute” as she retires. I’ll bet they’d do it too. – *Key Administrative Leader*

If there were funding available from the state, it would be tempting, but we have to remember that state involvement means more regulations and restraints and assessment tests. We have to keep in mind the tradeoffs of getting state money. – *Elementary/Middle School Teacher*

It would be great if we could get funding at the state level like the federally funded National Writing Project gets. Congressmen love the National Writing Project, and they give almost no-strings-attached money for it. – *Elementary/Middle School Teacher*

Maybe three to five years isn’t enough time for a project with this scope... But there is a process happening and it would be useful to assess it and to ask future funders to help us implement this process fully. After all, the process is supported by Yale and by various theoretical studies and philosophies... – *University Advisory Group Member*

I think that if we were given the task to help an organization that we care about to survive, we could indeed come up with something in the way of grant writing. – *Elementary/Middle School Teacher*

We’ve learned how to write proposals from writing our curriculum units. I’m pretty sure that we can get 10 or 12 of us together, and we could write a proposal to get money from Carnegie Science Center and the Children’s Center. – *Elementary/Middle School Teacher*

- **Use alternative assessments to attract funding to sustain PTI**

Foundations may want to know a program’s impact on students, but I think we can only get one derivative away from the students – and that’s the teachers. PTI invigorates the teachers, obviously they become better teachers, and they have a more positive impact on students. A teachers’ attitude survey would be a good piece of evidence of the success of PTI. – *University Advisory Group Member*

Foundations might buy that if we sold PTI to them as a program to invigorate elementary, middle and high school teachers – as teacher development. – *University Advisory Group Member*

- **Cut the costs of PTI**

The biggest expense is faculty pay. We could do some cost cutting by not paying the faculty as much to lead the seminars. Yale had set up faculty remuneration as a percentage of the faculty member’s salary – one ninth to be exact. At CMU, this means that some faculty get \$13,000 to teach one PTI seminar. At Chatham, the pay is less. We ought to be trying to standardize remuneration between \$7,000 and \$8,000 per seminar. – *Key Administrative Leader*

Augment institutional buy-in to the PTI—Several focus group participants believed that the participating institutions themselves—Carnegie Mellon, Chatham and the Pittsburgh Public Schools—would be more likely to provide funding support if they more fully bought into the PTI. These participants suggested helping the institutions of higher education cast their PTI work as community outreach, thus providing them good public relations. They also felt that integrating teachers’ accomplishments into the school district more tangibly by providing detailed letters of recommendation, citing their achievements, to school principals would tighten the bonds of the district and PTI.

- **Enhance university buy-in by helping them cast their PTI work as community outreach**

Our university has been questioned about the extent of our community involvement, but we don’t seem to connect it with our actual performance with community members like teachers in the PTI. – *University Seminar Leader*

To build university buy-in, PTI should send letters to the deans and presidents of universities that recognize the specific seminar leaders for their seminars, their work with the teachers, etc. I’m willing to bet that the PTI seminars are below the university radar screen, and these letters would remind them that a number of their people are involved with PTI; they can do the rest with spinning that information into the university’s commitment to community involvement. – *University Advisory Group Member*

- **Enhance PPS buy-in with letters of recognition from PTI**

To build PPS buy-in, PTI should send school principals a specific and detailed letter of recognition for every teacher participating successfully in the seminar program. – *University Advisory Group Member*

Teachers could certainly use letters of recognition for PTI participation as part of their yearly evaluation. – *PPS Curriculum Leader*

FINDINGS—STUDENT INFORMATION

Responding to the Yale National Initiative’s desire to learn more about the Institute’s accomplishments and impact on students, this Student Information section focuses on the following topics...

- Student opinion/attitudinal information—student discussion group
- Student performance information—pre-post assessment study

Student attitudinal and performance information were gained through two distinct pieces of research. With regard to attitudinal data, Cornerstone conducted a student discussion group to capture student reactions to and perceptions of learning with PTI-created curriculum units. To gain performance information for students being taught with PTI curriculum units, Dr. Janet Stocks, an associate from Carnegie Mellon University, guided classroom teachers in carrying out a series of pre-post assessments focused on student learning.

These two parts of the Student Information section embellish the teachers’ and principals’ observational data on student impact presented in the third part of Stakeholder Views.

STUDENT ATTITUDINAL INFORMATION—Student Discussion Group

“My favorite part was looking up information about subjects I didn’t know about.”

Cornerstone conducted a student discussion with a group of 16 students who had participated in a PTI Reading and Communication unit when they were in the fifth grade. This unit, entitled “Defining Decades with Media Events,” had been developed and taught by a PTI Fellow during the school year 2001-2002.

In this PTI unit, students chose a personality, event and invention from a twentieth century decade. They then interviewed a person living during that decade and prepared a class presentation of their work.

In January 2003, Cornerstone met with the students, now sixth graders, and their former teacher, the PTI Fellow, to discuss the students’ involvement with the PTI unit the year before. The students were asked to describe what they liked and disliked about the unit, how it differed from other work they did in school, what were the pros and cons of working alone vs. in pairs and how the teacher’s instructional style was different from usual.

Background

Selected decades—In a warm-up discussion, students first talked about the decades they had chosen and about people and events during those times. Some of the students identified their specific choices...

- 1950s—for invention of television and for research on birth control
- 1970s—with projects on hippies, Richard Nixon and the Pittsburgh Steelers football team
- 1980s—reflected students' interest in Ronald Reagan, George Bush and Rubik's Cube

Student research approaches—The students described how they worked and what methodologies they used in gathering data. Generally speaking, the students worked in pairs or individually in conducting interviews, using online information sources and reading printed material...

- Work style—students elected whether to work individually or with a partner
- Data collection methods—personal interviews (sometimes taped, sometimes notes were taken), Internet and Encarta online sources at school and at home, and books from the school library and from home

Student project outcomes—Students discussed turning their research into finished products, which included posters, PowerPoint presentations and books, for presentation to the class...

- Posters
- PowerPoint presentations
- Books

What Students Liked About the Unit

We asked students to tell us what they liked about working on the PTI unit, and they identified three types of activities—learning, research and art. Students briefly described these activities, but mostly kept their comments fairly general.

- **Learning activities—acquiring knowledge**

One student mentioned that his favorite part of the project was to look up information about subjects that he had previously known nothing about.

A male student stated that it was interesting to learn about the Pittsburgh Steelers in the 1970s.

- **Research activities—gathering information and graphic data**

One student said he liked interviewing his grandfather and finding out things that he didn't know before.

One pupil liked the process of getting bar graphs online and then using them.

Another student enjoyed learning about research and how it was done.

- **Art activities—creating posters**

Several students spoke of how much they enjoyed decorating the posters

A female student liked cutting out pictures from a book of her mother's for this unit.

Another student described working on the computer and then using the printouts to create her poster.

What Students Didn't Like About the Unit

In describing some issues they'd had in working on the PTI unit, students spoke in rather specific terms about interviewing difficulties, computer obstacles and writing troubles they'd encountered.

- **Interviewing issues—finding appropriate people was difficult**

A student said that it was hard to find someone who could remember the decade.

Another student found that she had to use the same neighbor that she had used on a previous project because no one else would agree to be interviewed.

- **Computer issues—accessing and using computers created some obstacles**

Some students explained that research information was stored in files on school computers, but that access to these files was not secured, and often other students would delete or move the information they needed for this unit. [**Note:** *School security has been updated since then, and each student now uses a personal password.*]

Several students reported that sometimes information was not available on Encarta, and they had to dig further for what they needed. They felt that was hard.

One pupil found that it was hard to do so much typing.

Another student complained about Internet advertisements popping up whenever he was doing research on the computer. Other students agreed that this was annoying.

- **Writing issues—preparing the report was tricky**

One student noted that it was hard to put information into her own words and not copy [plagiarize] what was already written in the resource material.

Difference Between the PTI Unit and Other Schoolwork

Cornerstone asked students to explain how the Decades unit was different from other learning experiences. They particularly liked the freedom they had to choose what to work on, but most students felt that the Decades unit required more of everything—more effort to get data, more writing, more reliance on others, more work at home...

- **Freedom to choose topic and decade**

Most students were pleased that they could choose a decade and then topics within that decade—unlike other projects where they were specifically assigned the research area.

- **More effort needed to obtain data**

Nearly all of the students reported that much more research was needed to find information for the Decades project.

One student noted that this project was “a lot of work,” and other students agreed.

- **More writing since interview responses had to be written**

Students mentioned that on another project they had to ask their grandparents questions, but they were permitted to use tape recorders and did not have to write the responses. Most students indicated that they liked the writing better than taping.

- **Greater dependence on availability of others for scheduling interviews**

Some students had difficulty in finding and scheduling interviewees for the Decades project. It was easier for other projects.

- **More work had to be done at home**

One student mentioned a science project that also involved Internet research, but in that project all of the work was done at school.

Choice of Working Individually or in Pairs

Students were free to choose working individually or working with a partner. In the discussion group, they talked about the advantages of each approach...

- **Working with a partner was better**

There is someone else to share the work with.

It's helpful to have someone else to talk to about the project.

Sometimes one person has access to information [like a computer] and the other one doesn't, so the work could be split up without causing a hardship to either one.

- **Working individually was better**

You don't have to negotiate or compromise to decide who does what.

There aren't any arguments with the other person

You don't have to worry about the other person doing work on time—in one situation, one of the partners didn't do her part until the very last day.

Instructional Style Used During the PTI Unit

With just one more question about their teacher's instructional style, students overwhelming voted for her to stay in the room during the discussion. One student joked that we should "let her stay and take the heat." While students were asked questions about the teacher's teaching style during the Decades unit, they nearly always responded with comments about the teacher personally. It is possible that students of this age are unable to differentiate teaching styles.

What the teacher did well—When asked about how she was an especially good teacher during the Decades unit, the students offered comments about her flexibility, clarity, leniency and sensitivity, in addition to her positive personality traits...

- **The teacher was always flexible**

She allowed us to spend time on the research project if our other class work was complete.

She let us bring in additional items relating to the project.

- **The teacher provided clear explanations**

She explained "stuff" so that you could understand.

- **The teacher demonstrated leniency**

She didn't "freak out" if homework wasn't turned in—she'd give you an extra day to work on it and hand it in.

If it was close to the deadline and we were stuck, she would help us meet the goal.

- **The teacher was sensitive to timing needs**

She gave us enough time to do a project and didn't rush you.

- **The teacher has positive personal characteristics**

She never yelled or screamed.

She is really nice and some other teachers are mean.

What the teacher could improve—There was only one area where students felt that their teacher could have done better. They believed that she should reduce the amount of work that students had to do in the Decades unit. Students didn't elaborate on this comment, but it is seemingly at odds with their enthusiasm in discussing the work on the unit. They were animated and participated willingly in the discussion. It was clear that the students enjoyed the Decades unit, even though they were required to work harder than they do on other projects.

STUDENT PERFORMANCE INFORMATION—Pre-Post Assessment Study

“Students’ content knowledge is increasing as a result of exposure to these units...their answers become more complex and sophisticated...their comfort with making oral presentations is increased...their interest in studying is sparked”

Dr. Janet Stocks, Carnegie Mellon University's Director of Undergraduate Resources Initiative, guided volunteer Fellows from the Institute in developing and administering curriculum-based assessment tools for measuring student performance. Teachers were asked specifically to examine pre-post changes in their students' knowledge of the PTI unit information.

The result of this effort was a richly diverse set of instruments and methods for tapping student performance—their knowledge, learning, attitudes and opinions. Dr. Stock's write-up of this experience makes up the remainder of this section.

No attempt has been made to force her research study into the format of the report as it appears so far. Her piece stands alone but also serves as a companion to all the information that has gone before.

**Pittsburgh Teachers Institute
Unit Assessments
January 2003**

Janet Stocks

Background

In order to assess the effects of the Pittsburgh Teachers Institute curriculum units on student learning, a unit assessment was conducted in seven classrooms during late 2002 and early 2003. These classrooms included one Head Start (preschool) classroom, three elementary classrooms, one middle school classroom, and two high school classrooms.

On October 29, 2002, ten teachers who had participated in the Pittsburgh Teachers Institute during the spring of 2002 attended a “Unit Assessment Workshop” offered by Dr. Janet Stocks, a sociologist who has conducted numerous educational assessments and who has been a PTI seminar leader for the past three years. The workshop was planned so that these teachers could design and conduct assessments of their curriculum units in their own classrooms. Because the grade levels and the subject matter were so different for each of these teachers, and the resources limited, it was determined that each teacher would design an assessment that made the most sense for his or her particular situation. In the end, seven teachers conducted assessments.

During the workshop the teachers were led through an exercise to aid them in specifying the learning and attitude goals they had for their students in relation to the curriculum unit they had designed. Teachers were asked to consider not only the content knowledge they wanted their students to learn, but the skills they wished the students to develop, and any attitude changes they might be seeking in their students. Teachers were informed about ideal measures (pre-and post-testing, use of “control” groups, and including a mix of objective and subjective measures) and encouraged to design an assessment that came as close to the ideal as possible given the practical limitations that they faced.

In the weeks following the workshop, teachers sent draft assessments to Stocks, who suggested revisions until a final version of the assessment was constructed. These assessments were then conducted in these classrooms during December 2002 and January 2003.

In this report there are very few overarching conclusions because grade levels, curriculum content and ability to compare to a control group in each case was different. In most cases it was not possible or practical to conduct a comparative assessment in a “control” classroom (many times there were no other classes in which the same content was being taught). In some cases a pre-and post-test design was not feasible. The numbers of students being assessed were relatively small in most cases, so tests of statistical significance were not performed. Much of the data is qualitative. In the next pages, a brief description of each assessment will be offered, with some general conclusions at the end.

Preschool Head Start

Construct – Scientifically Playing With A Purpose

One preschool teacher, Ms. Johnson, participated in the unit assessment. Her unit *Construct – Scientifically Playing With A Purpose* created seven activities, or “mission cards” in which students can choose to participate that involve constructing with building blocks and other materials.

Abstract: Most students in the early childhood age group enjoy making things with their hands. This creativity is often seen through the work of engineers. This unit has incorporated basic skills appropriate for young students. Science will be used in a non-traditional way. I will use lessons to introduce task-oriented “missions”. The missions are exciting and imaginative. They provide a template for the pre-kindergarten student to build and construct objects. The missions are made interesting by having characters that the students interact with and who the students will name. They are accompanied by age appropriate lessons and activities. This unit has addressed the Science and Technology standards in a way in which the very young student can build critical thinking skills. These skills can be built upon as the student moves through their education. The skills and objectives are approached in an interdisciplinary way. This unit can be adapted to your early childhood classroom. It is flexible and teachable. Parent involvement has been considered and with material that can be found in the home. You will find this unit to be formal and flexible.

Ms. Johnson sought to assess the development of the following skills...

Visual/motor adaptation

- Build simple structures
- Build elaborate or difficult structures

Social/emotional

- Concentrate on task and activity for increasing periods of time
- Play with cooperation and interaction
- Show respect for others’ work
- Contribute original ideas with creation of design

Language development

- Follow simple directions
- Ask questions appropriate to situation
- Use imagination to create a logical verbal description

Cognitive development

- Make comparisons, similarities and differences
- Distinguish between fantasy and reality
- Become aware of the relationship between an action and its cause
- Solve problems related to the initial building design

Motor skills

- Explore space through changing objects and their positions
- Use gross and fine motor skills in construction

Self-help skills

- Exhibit proper judgment and understand safety principles
- Build without teacher supervision

Ms. Johnson assessed this skill development through...

- work sampling
- an observation checklist (that included all of the desired skills listed above), and
- a portfolio of student work.

Results—She began the assessment after introducing the students to the unit including the principles of engineering and design and the characters she had developed to help the students feel more familiar with and interested in the activity. One of Ms. Johnson’s objectives was to engage the girls in the class in the construction activity as much as the boys. Each day students have “free play” for 1 ½ hours. Students can choose between six different work stations during this time. Ms. Johnson had noted that, in the past, the construction area of her classroom was used exclusively by boys (the PTI seminar that Ms. Johnson attended last spring had an emphasis on involving girls as well as boys in science and engineering activities in the classroom). Girls would often choose the “dramatic play” area where there are dolls and a kitchen but never the construction area. Now they choose to go to the construction area two to three times per week.

Through the observational assessment that she conducted, Ms Johnson states, “Commonly, the girls would not play in the building area, but this has changed. Now, they show more interest and initiate their own involvement with building. The boys are building more elaborately and tend to enjoy having the girls work beside them. The results have been positive.” Ms Johnson feels that the addition of characters to the cards she used to introduce this activity to the students (using female as well as male characters) helped make the difference. This indicated development of the social and emotional skills she had specified as a goal of the curriculum unit. Through work-sampling and observation, Ms. Johnson noted that students were slowly developing the motor skills and self-help skills that she had articulated in her goals.

Elementary Classrooms

Three elementary school teachers participated in the unit assessments.

Citiology: An Everyday Science Curriculum

Ms. Kengor, a teacher at the elementary gifted center, developed a curriculum unit called *Citiology: An Everyday Science Curriculum* in which students, during the course of the school year, would be introduced to the science principles involved in many aspects of their daily lives.

Abstract: This curriculum deals with the science behind the infrastructure of a city. Information specific to Pittsburgh is included in the lessons, however the science activities and experiments relate to most cities. The curriculum is designed for third and fourth grade students in the gifted program as an enrichment component to the mainstream science class. All the major branches of science are integrated into the unit and the scientific method is taught and used to conduct experiments related to each topic. Topics include the fire department, police bureau, water authority, transportation, housing, health care, communications, green spaces and employment. Each topic covered includes background or historical information, hands-on activities and experiments and a technology component. The aim of this curriculum is to take science out of the classroom and allow students to discover the laws and theories of science that apply to everyday life in the city. The lessons and activities in the curriculum are meant

to foster an awareness of how things work in the real world and what it takes to make them work.

Ms Kengor's learning objectives fall into three categories...

- Action—Are students able to identify things that they do out of the classroom as science or related to science?
- Opinion/attitude—How do students feel about science?
- Knowledge—What science concepts are being learned in class? Do students understand the scientific method?

Ms Kengor surveyed 72 students who are participating in her curriculum, and, as a control group, 25 students participating in the “regular” gifted science curriculum.

Questions on the survey she administered to her classrooms and the control classroom fell into the three of her learning objectives categories. The action questions and the opinion/attitude questions were scored according to positive responses (e.g. “Do you ever use the science learned in class at home?” is a yes/no question relating to action).

This question was then followed up with the question “If yes, how so?” which was a knowledge question. Knowledge questions were scored using the following rubric...

- 4=The student answered the question completely and the facts were correct
- 3=The student answered the question completely but with incorrect or faulty information
- 2=The student did not answer the question completely but what was done was correct
- 1=The student was unable to answer the question correctly.

Results—The results indicate that students in the Citiology classroom are more comfortable than students in the control classroom in applying outside the classroom what they are learning in their science classes and are better able to relate what they are learning in the classroom to everyday settings. A higher percentage of students in the Citiology classrooms (81%) are planning to enter a science fair this year, as compared with the control classroom (44%).

The results of the opinion/attitude questions indicate that students using the Citiology curriculum recognize it as a different approach to learning science and that they do see themselves as scientists more than do students in the control classroom. The results of the knowledge questions indicate that the Citiology students are learning to see the science in everyday items and situations.

One area in which there was no difference between the Citiology students and the control classroom was in being able to list the steps of the scientific method. In both types of classrooms, 40% of the students scored a “2” (The student did not answer the question completely but what was done was correct). Slightly more students in the Citiology classroom scored a 3 or a 4 compared with students in the control classroom, but there was not enough of a difference to make it significant.

Decades of Rebellion

At Martin Luther King Jr. Elementary School, Ms. Gray has developed an interdisciplinary arts curriculum unit entitled *Decades of Rebellion* that focuses on the decades of the 1920s and the 1950s as times of social change.

Abstract: By studying great works of art from the 1920's and the 1950's, students will become familiar with these two decades and be able to relate them to their own time frame. My goal is to introduce students to cultural artistic expressions of those times and to make these decades come alive for them. They will be seeing and hearing many masterpieces for the first time. I would like to demonstrate for them the cross- pollinating of the European and American artistic styles, as well as the merging of the high art of the decades with the popular culture. Lastly, I would like to show the immense contribution that African-Americans have made to both decades of rebellion.

Ms. Gray has the following learning objectives for her students...

- Become familiar with famous persons of the 1920's and the 1950's
- Identify several features of the 1920's and the 1950's
- Be able to do research and present an oral report to fellow students on a famous person of the 1920's
- Become familiar with important masterworks of the 1920's and the 1950's in music, arts, and children's literature
- Meet the Communications and Arts and Humanities Standards

Results—Ms Gray used two instruments to assess her students' learning. The first was a pre- and post-test in which they were asked to indicate whether they knew, had heard of, or had never heard of twenty important people from the 1920s. In the post-survey she found that 22 students, out of 51, showed an increase in the number of people they knew from the 1920s and 16 students had an increase in the numbers of people on this list they had heard of.

The other assessment instrument consisted of five open-ended questions regarding their experience with the unit such as "What have you learned from being part of this project?" and "What does Decades of Rebellion mean to you?" Through answers to these questions, Ms. Gray found that her students have a great deal more interest in these historical periods, and the people in them, than she had anticipated. For instance, one student replied "I would like to learn more about people in the past." Another student, commenting on the times during these decades stated, "At that period, everyone was suffering in some way." Students also indicated a great deal of interest in the Charlie Chaplin film "Modern Times" that was shown as part of this unit. Some students wanted to be able to make films in the old fashioned way of this film.

Laugh and Learn

Ms. Braun developed a curriculum unit entitled *Laugh and Learn* for her fifth grade students at Mifflin Elementary.

Abstract: The purpose of this unit is to acquaint fifth graders with elements of comedy. I plan to introduce the historical aspect of comedy as well as introducing some forms of comedy writing such as parodies, limericks and cartoons. Also, those students with an artistic bent may choose to design a comic mask or clown costume. Fifth graders are already quite adept at stand-up joke telling, so adding to their comic repertoire can only make the classroom a happier place. I am currently teaching Communications and Science to Grade 5 at Mifflin Elementary School. I feel that this unit will enable the students to meet the portfolio requirements of two personal narratives, a response to literature, and a report. Each student will write a personal narrative about the funniest thing that ever happened to him/her or the funniest person that he/she knows. In addition, each student will research a famous comedian or comic author. Also, each student will present a book report about one of the funny books that he/she read. This will contribute to the twenty-five-book requirement of the Pittsburgh Public Schools. These activities will help the students meet all of the communication standards.

Ms. Braun has the following learning objectives for her students...

- Able to do independent research using the library and the computer
- Able to write a personal narrative
- Define various terms that pertain to comedy
- Compare and contrast various forms of comedy
- The students will reach conclusions about “what is funny?”

Results—Ms. Braun developed a pre- and post-test for her class and a control classroom in the same school that was not exposed to the same unit. This test was made up of multiple-choice identification questions, matching of terms with definitions, and short-answer definition questions. In addition, her students wrote essays entitled “The funniest thing that ever happened to me” which they presented orally to the class, they designed comic strips, and they will be conducting research about a famous comedian.

The pre- and post-test showed significant gains in Ms Braun’s classroom (an average gain per student of 43 points out of 100) as compared with the comparison classroom (which had an average gain of 7 points per student).

This unit is still ongoing as this report is being written, but as a result of the essays and class presentations, Ms Braun stated: “I feel that so far the students have learned that there are more forms of comedy than they were previously aware of. The children have been able to compare various forms of comedy. They also realize that what is funny to one person is not so funny to another. We have also compared comedy from an earlier time period to current comedy. They have noticed that much of today’s humor is quite sarcastic. The children read their personal narratives to the class, and one day we had a joke telling period so many of them are learning to be more at ease when presenting their work in front of the entire group. They particularly enjoyed working on the comic strips and booklets, which surprised me, because most of them do not read the funnies in the newspaper, and they are more into Harry Potter than comic books. When I read their definitions of comedy on the posttest, they were more comprehensive than on the first. We are now getting ready to do the research part.”

Middle School Classroom

Burnt Earth: The Science of Ceramics

Ms. Gaser is a teacher at the Pittsburgh Gifted Center teaching middle-school art. Her curriculum unit, *Burnt Earth: The Science of Ceramics*, focuses on the scientific processes that take place in the making of ceramics.

Abstract: Burnt Earth: The Science of Ceramics with an emphasis upon science that is specifically designed for gifted middle school students. The goal of the curriculum is to have the student realize that there is an essential scientific basis for many art projects and activities. This is especially true of ceramics. I have expanded my ceramics curriculum to include some of the everyday applications of scientific principles to artistic expression. The curriculum is three pronged. It first addresses the historical and cultural relevance of ceramics. Next, it challenges the students to do research on the scientific aspects of ceramics. It then suggests studio activities that allow them to use what they have learned. These activities include working with clay to make sculpture and pottery as well as designing signage to illustrate the science of ceramics.

Ms Gaser has the following objectives for student learning...

- The student and their parents will gain a broader appreciation of science and for themselves as scientists as well as artists by learning the scientific processes that take place in the creation of a piece of sculpture or a piece of pottery from clay.
- The student will also become aware of the history of ceramics.
- The student will become aware of the intricate part ceramics has played in the development of civilization by looking at slides, posters, videos and artifacts.
- The student will list the many uses of ceramics in everyday life then create a display of ceramic artifacts that are utilitarian in nature.
- The students will create pottery and ceramic artwork as well as look at pieces of pottery and ceramic artwork created by others.
- The student will discover the importance of ceramics in the development of the future by researching the use of advanced ceramics in the space program, in medicine, and technology.
- The students will be challenged to create signage that explains one of the facts he/she has learned about the science of ceramics.

Ms. Gaser will conduct a pre-and post-test of her students that asks questions about the students' interest in working with clay and their knowledge of the processes that take place when clay is fired and glazed. This assessment is not yet completed as the curriculum will be taught during the second semester.

High School Classrooms

Quinceañera

Ms. Swazuk developed a curriculum unit for her upper-level Spanish class at Taylor-Allerdice High School to plan and celebrate a “Quinceañera”, a fifteenth birthday party celebrated in some parts of Latin America. The Quinceañera was planned and celebrated for a student in the class from Argentina who was about to turn 15.

Abstract: The two things that my high school Spanish students crave most are food and fiestas. At all levels, from middle school “Adventures” classes through PSP (Pittsburgh Scholars Program) Spanish 5, the questions continually asked include: “Can we make/eat/learn about food?” and “Can we have a Spanish/Mexican/Cinco de Mayo party?” Although many times the students use questions like these to distract from other, less interesting topics or activities, it seems like missed opportunities to completely refuse to honor their requests, particularly when so much functional grammar, interpersonal skills, and cultural information can be interwoven within the context of food and family celebrations. The purpose of this curriculum is to provide a framework in which rigorous objectives can be designed and met while still giving students the chance to enjoy learning about the target culture. I will explore and offer activities related to three popular Latin American celebrations and a Latin American Food Festival. Researching, preparing, and participating in activities developed around the themes of the Day of the Dead, Quinceañera, Weddings and the Feria de Comida Latinoamericana offer a perfect chance for students to experience the “5C’s” which comprise language learning: Communication, Connections, Comparisons, Communities, and Cultures.

Ms. Swazuk’s learning goals were...

- To allow upper-level high school Spanish students the opportunity to research, plan and experience a Quinceañera as authentically as possible, given the constraints of the classroom
- Provide an opportunity for her students to use Spanish in a functional way for a purpose, as opposed to doing book exercises
- Develop an appreciation for this aspect of Hispanic culture and be able to reflect on similarities in their own cultures
- Use electronic media to research different aspects of the Quinceañera celebration

In order to assess these learning goals, Ms. Swazuk...

- Administered a pre-and post test to her students, asking basic questions about the Quinceañera (e.g. What is a Quinceañera? Who celebrates it? Who are the important people?)
- Had students write journal entries about their experiences planning and carrying out the celebration
- Conducted in-class discussions during the planning phase of the celebration and during the celebration itself (during which each student was required to offer a toast to the “Quince”) in which she was able to assess Spanish fluency
- Evaluated student ability to find appropriate information using electronic resources (e.g. the internet)

Results—The students improved significantly on their scores between the pre- and post-test (an average gain of 3.2 points out of 10). All 11 students scored either a 9 or a 10 out of 10 on the post-test. Pre-test scores ranged from 1 to 10 with the average being a 7. In addition to

greater accuracy in answering these questions in the post-test, student answers were more complex and complete and their Spanish vocabulary was richer.

Journal entries also displayed a richer use of vocabulary and an appreciation for the celebration. One student wrote (translated by Ms. Swazuk), "I thought that it was very similar to my Bat Mitzvah. Both include a candle-lighting ceremony to honor the people who had an impact on you. And there is also a traditional dance with your father. I think we all had a great time." Another student said, "Usually I don't like parties that are "corny" but I really enjoyed this. I learned what a Quinceañera means in Latin American culture."

Civil Rights

Ms. Morgan developed a unit about the civil rights movement for her learning support English class at Schenley High School.

Abstract: This curriculum unit focuses on the civil rights movement in America and how it was reported and interpreted to the American people, using the Montgomery bus boycott as a starting point. Students will access print and non-print media to learn about the civil rights movement. They will interview people who were witnesses to the civil rights movement, and compare their stories with what they have learned through various media accounts. This unit has been designed to be used with secondary Learning Support students, but suggestions for adaptation for mainstream classes and other educational settings are included. An extensive bibliography is included to help both teachers and students in their research into this important era in American history.

Ms. Morgan had the following learning goals for her students...

- The learners will develop an understanding of the major issues, events, groups and individuals involved in the Montgomery bus boycott through examination of and interaction with a variety of primary, secondary and interpretive resources.
- The learners will use a questioning strategy to analyze a source of historical information for accuracy and validity.
- The learners will compare first-hand accounts of important events in the civil rights movement with later histories and fictionalized versions of the events.
- The learners will interview a person who had some first-hand experience with the civil rights movement, and compare the interview subject's account with other information available about the event.
- The learners will work cooperatively to produce a newsletter that summarizes the information and insights acquired through their study of this curriculum unit.

In order to assess these goals, Ms. Morgan...

- Administered a pre- and post-test that asked short-answer identification questions about the civil rights movement of the 1950s through the 1970s
- Administered a pre- and post- learner attitude survey, and
- Conducted a structured classroom discussion (K-W-L chart) before and after the unit asking the questions, What do you know? What do you want to learn? and (after the unit) What have you learned?

Results—Out of sixteen students in the class, eleven completed both the pre- and the post-content knowledge test and the learner attitude survey. Nine of the ten students improved significantly on the post-test (average gain of 3.6 out of 10 points per student). Many of the students left questions blank on the pre-test, or answered incompletely. Answers on the post-test were more complete and more complex.

The learner attitude survey did not show any consistent results. One interesting change, though, was that four out of the ten students changed from “disagree” on the pre-test to “agree” on the post test on the statement “Everyone is a learner.”

On the “K-W-L” chart, it was clear that the students were very interested in Rosa Parks and the Montgomery bus boycott.

Conclusions

Because of the many differences between classrooms and curricular content, it is impossible to tell a simple story about the effect that the Pittsburgh Teachers Institute curriculum units have on student learning. It is clear that student content knowledge is increasing as a result of exposure to these units. It is also clear that, in addition to getting a greater number of right answers on tests, these answers become more complex and sophisticated.

There are other skills that these students are developing as a result of participating in these classrooms that are not as easy to capture with simple objective measures. Student comfort with making oral presentations in front of the class is increased, their interest in studying history and other cultures is sparked, and their understanding of how their classroom learning connects with everyday objects in the world outside of school is improved.

Whether or not students in Pittsburgh Teachers Institute-developed classes are learning more than those in other classes is hard to determine. When PTI classrooms were compared with non-PTI classrooms, the PTI classrooms did show greater gains in knowledge. The numbers are small, though, so it would be imprudent to make large claims about this. Students are learning different things, and in different ways. They are taking classes from teachers who are excited about teaching these units (this was evident during the Unit Assessment Workshop) and who have had the time to gain confidence in the subject matter. It is clear that the teachers themselves feel that these units have been a success and have resulted in gains in student learning, of content knowledge, but also of a variety of other skills and attitudes.

FINDINGS—WEBSITE USABILITY REPORT

To address the Yale National Initiative interest in learning more about the Institute’s systemic impact and evidence of dissemination, this Website Usability Report section describes an important aspect of a program’s sustainability—the accessibility and usability of its website—in terms of the...

- Ability to find the site and URL memorability
- Site structure
- Navigation
- Accessibility
- Animation
- Home page
- Curriculum units page

The Website Usability Report augments the focus group participants’ perceptions presented in the fourth part of the Stakeholder Views.

Dr. Christine Neuwirth, an associate professor of English, Human-Computer Interaction and Computer Science at Carnegie Mellon University, conducted this website review. No attempt has been made to force her research study into the format of this report as it appears so far. Her piece stands alone but also serves as a companion piece to all the information that has gone before.

Usability Report for the Pittsburgh Teachers Institute Web Site

Christine M. Neuwirth
October 30, 2002

Introduction

The Pittsburgh Teachers Institute (PTI), a joint project of Carnegie Mellon University, Chatham College, and the Pittsburgh Public Schools, maintains a Web site,

<http://www.chatham.edu/pti/>

to provide teachers with information about the Institute, to inform them about available seminars, and to disseminate the curriculum units that seminar participants have developed.

This report provides a usability review of the site. The following were the purposes of the review:

1. To assess the usability of the Web site for its intended purposes, and
2. To develop suggestions for improvements.

Review Methodology

The review methodology was “usability inspection,” in which a usability expert examines the site and judges its compliance with usability principles (Nielsen & Mack, 1994). Although inspection methods have their limitations, they have the advantage of being relatively inexpensive and they can uncover major problems that can be fixed before more expensive methods (e.g., focus groups, user-tests with members of the intended audience) are employed.

The sections were reviewed to assess the following:

1. Ways in which they conform/depart from Web design standards and interface guidelines.
2. Ways in which the interfaces could be improved.

Overall Site Findings

Ability to find the site and URL memorability

The site is easy to find via Google. Searching for “Pittsburgh Teachers Institute” in Google results in the site being first in the list of results. The site is also easy to find

from the Chatham College home page, because the label “Centers & Institutes” is likely to provide a good cue to anyone looking for the Pittsburgh Teachers Institute. The URL for the site, <http://www.chatham.edu/pti>, seems reasonably mnemonic.

Site structure

The PTI site is a small-scale site, with a shallow structure.

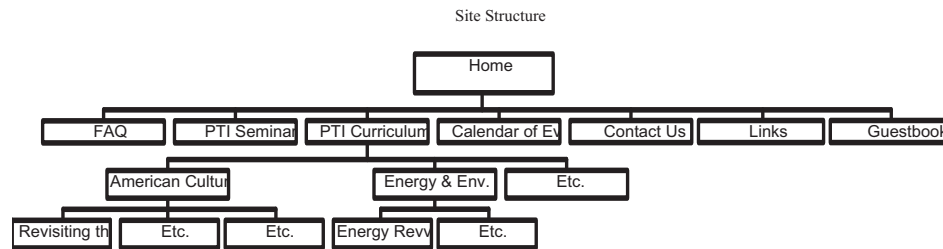


Figure 1. PTI site schematic

Most of the subsections (FAQs, PTI Seminars, etc.) are only one page. The exception is “PTI Curriculum Units Online,” which has 17 sub-pages containing curriculum units developed in previous PTI seminars (e.g., American Culture in the 1950s, Energy and Environmental Issues, etc.) and those sub-pages lead to the actual curriculum units (e.g., Revisiting the Fabulous 50s, The Emergence of the Anti-Hero in the 1950s, etc.). The curriculum units are Adobe PDF files.

All things being equal, a broad, shallow structure, like that of the PTI site, enhances usability (Norman, 1991).

Navigation

Wright & Lickorish (1989) identified the following as key navigational questions users of hypertexts have:

- Where am I?
- Where can I go?
- Can I go where I want to go next? Do what I want to do next? Easily?
- How will I get there?
- How can I get back to where I was?

Helping users answer these questions is “generative” of most navigation design principles.

Site and section identification

Users may arrive at the page from a search engine such as Google, Lycos, AltaVista, etc. Providing site identity and section information at the top of each page helps them

answer, “Where am I?” (e.g., At the Pittsburgh Teachers Institute, PTI Curriculum Units Online, etc.).

The site does this well, with a couple minor problems. The PDF files that I examined have no information to associate them with the Pittsburgh Teachers Institute. It would be useful to have this information on the first page, or even, perhaps, at the bottom of each page (e.g., Pittsburgh Teachers Institute, Chatham College, <http://www.chatham.edu/pti/>). Printouts of pages might be circulated among administrators, teachers, etc. and the information could provide the reader with a sense of the origin of the material, reinforce the mnemonic for the URL, etc.). The date the unit was developed would also presumably be of interest in some cases.

The guestbook page (<http://www.chatham.edu/pti/guestbook.htm>) is missing a header.

Global navigation

Global navigation elements are typically hypotheses about which parts of a site a site visitor would like to access from any other point in the site.

Candidates for such global navigation menu elements are the following:

1. Home page
2. Table of contents
3. Site search
4. Feedback
5. What's new

The PTI site appropriately has a home page and feedback element on each page. The feedback element, however, is misleadingly labeled (many users might not realize that they should click on guestbook in order to provide comments because the word “guestbook” is frequently used for another purpose on Web sites).

In such a small site, it does not seem necessary to have a table of contents and a search function.

For a Web site that adds new material, it is often good to have a “What’s New” section, so that return visitors can see whether there has been anything new added since the last time they visited. For an example of a Web site that does this, see <http://eserver.org/about/recent.lasso>).

Because teachers are very busy, however, it is less likely that they will go to the Web site simply to see whether there is anything interesting that is new. If you have LISTSERV software, you might consider setting up a "What's New" LISTSERV as well,

so teachers can sign up to receive notices when you add something new. Email notification of new content for those who are interested enough in the content to subscribe to the service promotes return visits.

Navigation Link Labels

Link labels should match <TITLE>s and page headers. In the current site, every <TITLE> is simply "Pittsburgh Teachers Institute." This makes the history menu in the browser unusable. I recommend that the home page <TITLE> be "Pittsburgh Teachers Institute (PTI)" and sub pages use the PTI abbreviation and the global navigation labels (e.g., "PTI: Frequently Asked Questions"). The labels in the global navigation should also match the page headers as closely as possible. For example, the global navigation label, "Calendar of Events," does not match the page header, "2001-2002 Schedule for Fellows" (<http://www.chatham.edu/pti/calendar2002.htm>) and "Guestbook" does not match the page header, "Add Your Comments." Although a tiny problem, the mismatch will confuse some users, if only momentarily.

It is extremely useful to provide a short site and section identifier in the <TITLE> tag (e.g., PTI: Curriculum Units: American Culture), so the user who uses the History mechanism in the browser can scan the history list.

Accessibility

More than 30 million people in the U.S. have limitations that make interacting with Web pages difficult, even with state-of-the art "assistive" technologies. When a Web site is used in a job, accessibility becomes an issue that may involve the Americans with Disabilities Act (ADA). A service provided to the public to users with disabilities may be subject to an ADA claim and the service may lose "market share" because a subset of potential users is unable to access the service.

There are excellent sites that provide information on how to make an accessible Web site. A very useful site is hosted by the Trace Research and Development Center at University of Wisconsin, <http://trace.wisc.edu/world/web/>, and the World Wide Web Consortium's Web Access Initiative offers extensive and up-to-date guidelines (<http://www.w3.org/WAI/>).

There is a program that tests Web pages for accessibility and highlights problems called "Bobby," created by the Center for Applied Special Technology (CAST) (<http://www.cast.org/bobby/>) that I recommend. I've included a Bobby analysis of the home page in Appendix A. Although it may seem like there are many problems, the problems are confined to a few types and it would be possible to fix them using a text-editing tool such as Bbedit that supports global search and replace across all files in a folder.

Animation

Motion is one of the most powerful attention attractors. The animated images on the home page and the FAQ distract from the text. Animated blinking should be used for emergency conditions or special exceptions (Tullis, 1988).

Findings for Particular Parts of the Site

The home page

Visitors to the home page should be able to get answers— easily and, if possible, at a glance—to the following questions:

1. Where am I? What does this site do?
2. Do I want to be here? (i.e., Is there information I'm interested in here?)
3. Appropriate for me (or my students)? Is the information going to be reliable? up-to-date? Is the site easy to use? Will it be enjoyable? etc.)
4. How do I get to the information?

Given that schools have relatively slow Internet connections, graphics should be modest, and should establish a site identity that is maintained throughout all pages.

The current home page could do a better job of telling first-time visitors what the Pittsburgh Teachers Institute is and what is contained on the site. Although that information is available on the page, it is buried. Below is a draft of a front page (sans graphics) that attempts to answer first-time visitors' questions more thoroughly on the front page itself:

The Pittsburgh Teachers Institute (PTI) offers university seminars to public school teachers. The teachers suggest the topics of the seminars, and those who participate-- Institute Fellows--are treated as members of the university community. For a list of this year's seminars, see:

The PTI Seminars

Fellows prepare a curriculum unit that draws on the content of the seminar, then use this unit in their teaching in the next academic year. The Institute also makes these units available to other teachers in the district, so that the units will have the widest possible impact in the district. For a list of units that have been developed, see:

The PTI Curriculum Units Online

The Pittsburgh Institute was formed in December 1998, when Carnegie Mellon University, Chatham College, and the Pittsburgh Public Schools received a grant from the DeWitt Wallace-Reader's Digest Foundation. The Institute replicates, as closely as possible, the 20-year-old model developed by Yale University and the New Haven Public Schools. etc.

[continue with Dr. Helen S. Faison, etc.]

The Curriculum Units Page

There seem to be two pages for the list of Curriculum Units:

<http://www.chatham.edu/pti/curriculum-new%20page.htm>

and

<http://www.chatham.edu/pti/curriculum.htm>

The former is more up-to-date, as it contains 2002 units. The other pages in the Web site should be updated so that they all point to the latest page (it is quite confusing to have two versions).

The original page (<http://www.chatham.edu/pti/curriculum.htm>) has a much cleaner layout. The new page has a great deal of clutter and is more difficult to read.

A chronological order for the list of curriculum units is one reasonable ordering for this information. It would be better, however, to have the most recent units first, to facilitate a return visitor scanning the page looking for new information.

As the lists grow longer, chronological order will not be as useful for teachers are trying to answer the question, "Are there any lesson plans here that might be useful in my classes?"

To answer that question, an organization of the lesson plans (not the curriculum units) by subject area and grade level would probably prove more useful. Figure 2 depicts an example. NOTE: The grade-levels for the example are fictional. The titles of the lessons can be internal links to an abstract and PDF download, as on the current pages. Some lessons (e.g., American History through Art) could be classified under multiple subjects. The goal is to provide an easy to use, user-centered "at-a-glance" view of what is available. For example, a user might have the question, "I teach middle school. Is there anything here I can use?" Care needs to be taken with lesson titles to make them informative. The abstracts should contain a description of the intended grade levels.

Lessons by Subject	Suggested Grades		
	K-4	5-8	9-12
Art			
<u>American History through Art</u>		X	
<u>Global Concepts in Clothing - Creating Costumes from Folktales</u>		X	
English and Language Arts	K-4	5-8	9-12
<u>African and Creole Literature</u>	X		
<u>Newspapers: Yesterday, Today and Tomorrow</u>			X
<u>Mathematics and Science Fiction</u>		X	X
<u>Multicultural Literature: French African and Creole Writers</u>		X	
<u>Pittsburgh Stories: A Collection of Historical Fiction</u>		X	X
<u>Writing the Non-Fiction Narrative as Feature Story</u>			
Foreign Languages	K-4	5-8	9-12
<u>Multicultural Literature: French African and Creole Writers</u>		X	
<u>Négritude: A Theme for Improving Self-Image in the French Classroom for Black History Month</u>			X
<u>Pittsburgh: The French Accent</u>		X	X
<u>Speaking of Haiti</u>	X		
History	K-4	5-8	9-12
<u>American Culture in the 1950s</u>			X
<u>American History through Art</u>		X	
<u>Interdisciplinary Views of Pittsburgh History</u>		X	
<u>Newspapers: Yesterday, Today and Tomorrow</u>			X
<u>Pittsburgh's Immigrants and Migrants</u>		X	X
Math	K-4	5-8	9-12
<u>Learning About Pittsburgh in Algebra Class</u>			X
<u>Mathematics and Science Fiction</u>		X	
<u>Proof-What, Why and How?</u>			X
Science	K-4	5-8	9-12
<u>Energy and Environmental Issues</u>		X	
<u>Nuclear Energy: Friend or Foe?</u>		X	
Social Studies	K-4	5-8	9-12
<u>The Influence on the Arts and Culture of Latin America</u>		X	

Figure 2. Lessons by subject and suggested grade levels

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Appendix A: Bobby analysis

About this report

This page does not yet meet the requirements for Bobby AAA Approved status. To be Bobby AAA Approved, a page must pass all of the Priority 1,2 and 3 accessibility checkpoints established in W3C Web Content Accessibility Guidelines 1.0. For more information on the report, please read "How to Read the Bobby Report".

Priority 1 Accessibility

This page does not meet the requirements for Bobby A Approved status. Below is a list of 2 Priority 1 accessibility error(s) found:

Provide alternative text for all images. (5 instances)

Lines 20, 26, 35, 36, 71

Provide alternative text for all image map hot-spots (AREAs). (13 instances)

Lines 16, 17, 18, 19, 20, 22, 23, 24, 25, 26, 69, 70, 71

Priority 1 User Checks

User checks are triggered by something specific on the page; however, you need to determine manually whether they apply and, if applicable, whether your page meets the requirements. Bobby A Approval requires that all user checks pass. Even if your page does conform to these guidelines they appear in the report. Please review these 6 item(s):

If you can't make a page accessible, construct an alternate accessible version.

If style sheets are ignored or unsupported, are pages still readable and usable?

If you use color to convey information, make sure the information is also represented another way. (5 instances)

Lines 20, 26, 35, 36, 71

If this is a data table (not used for layout only), identify headers for the table rows and columns. (1 instance)

Line 11

If an image conveys important information beyond what is in its alternative text, provide an extended description. (5 instances)

Lines 20, 26, 35, 36, 71

If a table has two or more rows or columns that serve as headers, use structural markup to identify their hierarchy and relationship. (2 instances)

Lines 32-33, 11

The following 2 item(s) are not triggered by any specific feature on your page, but are still important for accessibility and are required for Bobby A Approved status.

Identify any changes in the document's language.

Use the simplest and most straightforward language that is possible.

Priority 2 Accessibility

This page does not meet the requirements for Bobby AA Approved status. Below is a list of 3 Priority 2 accessibility error(s) found:

Use relative sizing and positioning (% values) rather than absolute (pixels). (7 instances)

Lines 11, 27, 32-33, 72, 72-73, 75, 80

Use a public text identifier in a DOCTYPE statement. (1 instance)

Line 1

Avoid blinking text created with the BLINK element. (1 instance)

Line 72

Priority 2 User Checks

User checks are triggered by something specific on the page; however, you need to determine manually whether they apply and, if applicable, whether your page meets the requirements. Bobby AA Approval requires that all user checks pass. Even if your page does conform to these guidelines they appear in the report. Please review these 5 item(s):

Avoid use of obsolete language features if possible. (7 instances)

Lines 9, 27, 32, 72, 72-73, 75, 80

Add a descriptive title to links when needed.

Check that the foreground and background colors contrast sufficiently with each other. (6 instances)

Lines 8, 20, 26, 35, 36, 71

Mark up any quotations with the Q and BLOCKQUOTE elements.

If this gif image is animated, make sure it does not contain fast or distracting motion. (5 instances)

Lines 20, 26, 35, 36, 71

The following 7 item(s) are not triggered by any specific feature on your page, but are still important for accessibility and are required for Bobby AA Approved status.

Make sure that all link phrases make sense when read out of context.

Is there a site map or table of contents, a description of the general layout of the site, the access features used, and how to use them?

Make sure your document validates to formal published grammars.

Group related elements when possible.

Is there a clear, consistent navigation structure?

Use the latest technology specification available whenever possible.

Where it's possible to mark up content (for example mathematical equations) instead of using images, use a markup language (such as MathML).

Priority 3 Accessibility

This page does not meet the requirements for Bobby AAA Approved status. Below is a list of 4 Priority 3 accessibility error(s) found:

Provide a summary for tables. (2 instances)

Lines 32-33, 11

Identify the language of the text. (1 instance)

Line 1

Client-side image map contains a link not presented elsewhere on the page. (4 instances)

Lines 71, 69, 70, 26

Separate adjacent links with more than whitespace. (2 instances)

Lines 75, 80

Priority 3 User Checks

User checks are triggered by something specific on the page; however, you need to determine manually whether they apply and, if applicable, whether your page meets

the requirements. Bobby AAA Approval requires that all user checks pass. Even if your page does conform to these guidelines they appear in the report. Please review these 6 item(s):

If this document is part of a collection, provide metadata that identifies this document's location in the collection.

If this is a data table (not used for layout only), provide a caption. (2 instances)

Lines 32-33, 11

Consider specifying a logical tab order among form controls, links and objects.

Use the ABBR and ACRONYM elements to denote and expand any abbreviations and acronyms that are present.

Where appropriate, use icons or graphics (with accessible alternatives) to facilitate comprehension of the page.

Consider adding keyboard shortcuts to frequently used links.

The following 5 item(s) are not triggered by any specific feature on your page, but are still important for accessibility and are required for Bobby AAA Approved status.

Is there distinguishing information at the beginning of headings, paragraphs, lists, etc.?

If there is a search feature, are there different types of searches for different skill levels and preferences?

Are there navigation bars for easy access to the navigation structure?

Do you allow users to customize their experience of the web page?

Is there a consistent style of presentation between pages?

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