Teachers As Life-Long Learners: Designing A Theory For Professional Development

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** I am requesting a 30 minute presentation**
Abstract

An examination of the current state of professional development for K-12 teachers shows the need for teacher development strategies that promote the role of teacher as a life-long learner. This paper describes a new theory for the design of professional development in K-12 settings. Teachers as Life-Long Learners (T3L), is comprised of five design criteria: personal plan, authentic context, reflective and collegial dialogue, ongoing assessment, and system supports. T3L is tested using formative research methodology. T3L was juxtaposed to an existing professional development program to test the preferability of the theory components. The results of the research are presented including revisions to the T3L, which has six design criteria in its second iteration. Possibilities for research on professional development and for the continued refinement of the T3L theory conclude the paper.
Outline of Presentation: This presentation is divided into five sections. First, the current state of professional development in K-12 schools is briefly described. The second section of the presentation reveals the goals and values that guide the T3L theory. Additionally, the central design criteria of T3L (personal plan, authentic context, reflective and collegial dialogue, ongoing assessment, and system supports) are elaborated in light of the relevant literature. After the explanation of the TL3 theory, the third section outlines the research design including the case study context, description, and participants as well as the data collection methods and process. The fourth section offers a reformulation of the theory based on the study results. The fifth and final section suggests possibilities for research on professional development and for the continued refinement of the T3L theory.

Questions for Presentation

1. What are some ways that the university could address the need for life-long learning for the teaching profession through the pre-service training of teachers?

2. How is the documented fact that teachers are unlikely to read or implement research findings connected to the lack of an expectation that contributing to the craft of teaching is a professional responsibility?
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Professional development is a normal part of school culture. Professional development is required in order to maintain certification. School corporations mandate that teachers participate in staff development opportunities offered by the school district throughout the year. Teachers may also be expected to draft growth plans to give direction to their ongoing learning. Salary schedules also encourage teacher learning by offering higher salaries to individuals with more training, degrees or credits. Occasionally teachers are permitted to attend workshops and conferences outside the school system. Teachers are expected to grow as professionals and need to learn while they are teaching if students are to receive an optimal education. While schools do allocate limited monies and release time to professional development, a view of teachers as life-long learners is a perspective that is missing in most schools given the limited scope, quantity, and quality of professional development available to teachers.

It is not uncommon to hear the phrases “life-long learning” or “life-long learner.” These terms adorn school mission and goal statements. Few people would malign the importance of developing life-long learners, but fewer suggest ways in which such an ideal may be accomplished. Such a goal need not remain illusory. It is crucial that schools and communities recognize the importance of developing teachers as life-long learners. It seems foolish to hope to engender life-long learning skills and attitudes in children without paying attention to those same skills and attitudes in developing the teachers of those children.
This paper offers Teachers as Life-Long Learners (T3L) as a theory for designing professional development that promotes the development of teachers as life-long learners. This paper is comprised of five sections. First, the current state of professional development is briefly described. Secondly, the goals, preconditions, values that guide this theory are presented and the design criteria are discussed along with the relevant literature supporting them. Following the explication of the theory, a research study designed to test and further elaborate the theory is explained and the results shared. The fourth section offers a reformulation of the theory based on the study results. The final section suggests future research directions for further developing this theory.

The Current State Of Professional Development for Teachers

A report from the U.S. Department of Education (2000) suggests that schools lack systematic approaches to professional development. This report also cites variations in the kinds of professional development a teacher may have from year to year and from school to school within a school system. Traditional professional development or the “inservice mode” (Lieberman, 1995) tends to model the inefficiencies of many classrooms as large groups of teachers are brought together and “professionally developed” in an afternoon. This type of professional development includes, “credit-for-seat time” (Darling-Hammond & McLaughlin, 1995), short, one-time sessions (Darling-Hammond, 1996; Nelson & Reigeluth, ; Shibley, 2001), training or workshops irrelevant to the teachers’ contexts, (Lieberman, 1995) and sessions led by experts with little follow-up (Shibley, 2001). Lieberman (1993) captures this mindset about professional development when she suggests that the traditional approach to teacher development may cause teachers to think of themselves as targets of change rather than agents of change.
Figure 1.1. A Learning System.

The researcher’s own professional development experience in public school settings verifies the above characterizations as the prevailing modus operandi of professional development. The “dailiness of work,” as Lieberman (1995, p. 593) represents a teacher’s daily routine, competes strongly against professional development experiences, which may be perceived as wastes of time. Current professional development guidelines and models must abandon traditional approaches and turn toward professional development models and theories that promote teachers as life-long learners.

**Teachers As Life-Long Learners (T3L)**

As demonstrated above, new approaches to teacher professional development are needed. These new approaches need to recognize the variables that sustained and encouraged the traditional approaches to professional development. The same thinking and mindsets characterizing traditional professional development approaches cannot sustain these new approaches to professional development (Darling-Hammond &
New approaches to teacher learning must develop in parallel to new conceptions of schools and student learning. Rather than school systems, one might expect learning systems to emerge as a necessary result of changes to traditional schooling approaches. Figure 1.1 illustrates the interdependence of parts of a learning system. While influences on each part of the system are various and many, the scope of this paper is primarily limited to the shaded area of the diagram. Important mindsets, resource issues and other variables beyond the school’s control certainly impact professional development within schools; those variables are not considered here.

Goals and Preconditions

This design theory for professional development provides guidance for school corporations desiring to implement teacher development that is consistent with the new paradigm (Reigeluth, 1999) of instruction. The criteria offered in this design theory have implications for planning professional development at the district level. When the goal is developing and supporting teachers as life-long learners, these criteria should be followed.

Values

The following values shape this model of professional development.

- Teachers should be excellent learners.
- Teachers should expect and be expected to learn in personalized contexts.
- Teachers should develop their skills in a collegial community.

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1 The word “school” will be used in this paper not to promote current ideas about what schooling is but rather as a word that is familiar and useful for discussing pre-college educational settings.
• Teacher learning should embrace the kinds of learning valued in student learning.

Design Criteria for T3L

The T3L theory is guided by six design criteria (Table 1.1) that are internally consistent with one another, that are based on a set of values, and that together function as a system.

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<th>Teachers As Life-Long Learners Design Criteria</th>
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Table 1.1. T3L Design Criteria.

An explanation of each of these criteria is presented below with supporting evidence from the literature. The explanations are not intended to be comprehensive and exhaustive. Elaboration and explication of each criterion and of the theory as a construct is the goal as the T3L theory is further designed and researched.

Personal Learning Plan. Teachers should expect and be expected to maintain a personal learning plan to guide their professional growth. This plan should take into account the needs and interests of the teacher and identify criteria for success (See Table 1.2)
T3L Criterion 1: Personal Learning Plan

- Address the identified needs and interests of the teacher
  - Needs:
    - Self-Identified growth areas including beliefs and behaviors
    - Peer-Identified growth areas including beliefs and behaviors
  - Interests:
    - Relevant content area expertise
    - Relevant process expertise
- Identify criteria for success for each activity or phase of the learning plan
  - Impact on teacher practice and
  - Impact on student learning

Table 1.2. Personal Learning Plan.

Just as student learning increases when attention is paid to their individual needs, so teachers will improve their practice given the support and opportunities to do so. Each teacher’s plan should include criteria which gauge the impact of their learning on their practice and on the learning of their students. There is wide agreement that effective professional development for teachers should achieve improved student learning (Archer, Hoff, & Manzo, 2001). Although some talk of improving teaching (Darling-Hammond & McLaughlin, 1995) or getting better tools into the hands of teachers (Slavin, 2001) it seems that better tools and improved teaching are ultimately determined to be “better” and “improved” by changes they bring to the quantity and quality of student learning.

**Authentic Learning Context.** To develop teachers as life-long learners, the context of their professional practice must be seen as one in which learning occurs. Two primary considerations guide the deployment of this design criteria; learning must be relevant to the context in which the teacher is serving and that learning should be active.
T3L Criterion 2: Authentic Context

- Learning is relevant to the context of the teacher’s practice
- Learning is active
  - Teachers create new products (knowledge, multimedia presentations, learning tools)
  - Teachers learn new skills (better performance, increased process expertise)

Table 1.3. Authentic Context.

Teacher learning should be situated in the context most relevant to the achievement of the goals in the personalized learning plan. The daily activities of professional practice should provide a context for a teacher’s professional development (Darling-Hammond, 1998). Professional development that fails to account for the unique nature of individual needs and the contexts of those needs will fail to empower teachers as learners (Gray, 2001). The context of the classroom, the school, the school system, and the community should all be considered in planning the professional development.

Learning activities should be experiential and active (Darling-Hammond & McLaughlin, 1995; Gray, 2001; Shibley, 2001; U.S. Department of Education, 2000; Torrance, 2001). In contrast to the passive role of the teacher in traditional professional development, teachers who are part of reform-oriented professional development are teaching, doing, researching, reflecting, discussing, producing, planning, learning, reading, writing, and designing.

The outcomes of active professional development should yield increased expertise as demonstrated by new and improved products and performances. These products and performances can take a number of forms such as learning journals, videotapes, computer files, presentations, publications, and improved day-to-day classroom practice.
**Reflective And Collegial Dialogue.** Professional development should promote reflection as part of the learning process. Teachers should take the time to reflect on their learning by answering the following kinds of questions. What am I learning? Is this working? What should I change? What is the next step? How are students responding? How have I changed? How am I behaving differently? How is what I am doing impacting me professionally and personally?

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### T3L Criterion 3: Reflective and Collegial Dialogue

- **Reflection**
  - Standard part of the learning process
  - A means for improving practice
- **Collaboration**
  - Opportunities for teacher interaction
    - Solving problems
    - Creating knowledge
    - Advancing the teaching craft
  - Opportunities for idea sharing
  - Opportunities for critique
  - Opportunities for reflection

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**Table 1.4. Reflective and Collegial Dialogue.**

Teachers should be encouraged to explore their beliefs, attitudes and mindsets about teaching as part of the change process (Senge et al., 2000). Teachers need to have the time to look back on and think about their classrooms, their teaching, and about how the new skills and understandings they are gaining may inform their practice. Wasley, Hampel, and Clarke (1997) encourage developing “analytic capacity.” Analytical capacity goes beyond reflection to deep questioning of motives and the self-evaluation of the results of one’s practice (Wasley, Hampel, & Clark, 1997). Although carving out
time for reflection from the busyness of teaching is difficult, excellent professional
development programs that support the teacher in their role as learner recognize this need
and provide such opportunities for teachers.

While reflective dialogue emphasizes self-examination of teacher practice,
collegial dialogue promotes peer learning which can be an important stimulus for
“collegiality” as an essential feature of teacher learning:

Teachers need the opportunity and the expectation that they will work together to
build the repertoire of skills that their students need. Still, despite the fact that we
have understood the importance of collegiality for a number of years, most
schools maintain a strong culture of individuality and isolation. It must be made
explicit that collegial work will focus not just on school structures but also on
helping individuals learn about teaching techniques and practices (p. 64).

Despite the proximity of teachers to other professionals in their schools,
collaboration is not a given. The isolation of the one-room schoolhouse continues to
pervade modern practice. In the one-room schoolhouses of early America, the teacher
reigned supreme in the classroom and was the final arbiter of knowledge. The one-room
schoolhouse is still in use today only these schoolhouses have been collected into groups
of classrooms under one roof with each functioning as a self-contained unit. Educational
reformers urge an important shift in the conception of the teacher’s role from one of
transmitter of knowledge to one of learner (Darling-Hammond, 1997; Darling-Hammond
& McLaughlin, 1995). As constructivist notions about teaching and learning begin to
pervade discussions of classroom practice, the shared understandings, meaning making
and social construction of knowledge are beginning to shape the thinking about professional development for teachers.

**Ongoing Assessment.** T3L must assess various levels of attainment such as the growth of individual teachers in relation to their personal goals, and the effectiveness of staff development programs in achieving their ends, but ultimately must assess the attainment of students and the effect of professional development on student learning. Good scores on tests have often defined success for students, but there are many other outcomes that can be indicators of success. Identifying the goals and desired outcomes for all learners, including teachers and students, will help to create a unified direction for the learning community and assessment practices that yield helpful and welcome formative and summative evaluation (See Figure 1.5). It is important that these goals be co-generated by all who have a stake in achieving them.

Assessment of teacher learning should be continuous. The evaluation should encourage improvement in teacher practice, should inform of necessary changes, and should provide the input for the next step in the learning process. Evaluation should
reveal improvements in practice and in student outcomes so that teacher-learning contributing to improvements in practice and outcomes can be encouraged on a broader scale.

Traditionally, assessment is administered by one individual to another individual or group. The T3L design theory stresses that assessment happens at the individual level through reflection and at the peer level through collegial dialogue and observation. Other types of assessment are appropriate as well as long as the goal is to gain information that can be used constructively to improve learning.

**System Supports.** The final design criterion identifies supports from the school system that are necessary to advance the role of teacher as life-long learner. Designing professional development is impossible without the necessary supports from the system in which the professional development will take place. If system supports are not in place, developing teachers as life-long learners is not a realistic goal. T3L identifies four major supports for professional development provided by the system (See Table 1.6).

The school system plays a major motivational role in the professional development of its staff. Making learning a priority for all in the system is a difficult but absolutely necessary step in creating a culture of life-long learning for both teachers and students. This requires much more than lip service to learning and may require major re-design of schools to truly make learning the focus for all denizens of the school.

Part of making learning a priority for all in the system entails identifying learning barriers for teachers. Barriers include lack of time for learning and lack of access to excellent training as well as, school initiatives, practices, and programs that contradict the learning focus. One of the barriers that is receiving renewed attention from reform-
oriented professional developers is the barrier of time. In contrast to the short duration and isolated nature of traditional

<table>
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<tr>
<td>• Makes learning a priority</td>
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<tr>
<td>o For students</td>
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<tr>
<td>o For teachers</td>
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<tr>
<td>▪ Helps teachers establish plans</td>
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<tr>
<td>▪ Identifies and develops expertise</td>
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<td>▪ Creates linkages between teachers</td>
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<tr>
<td>▪ Provides necessary resources and conditions</td>
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<td>• Addresses Barriers</td>
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<tr>
<td>o Identifies competing forces</td>
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<tr>
<td>o Provides local learning opportunities</td>
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<tr>
<td>▪ Utilizes local expertise</td>
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<tr>
<td>▪ Designs high-quality learning opportunities with follow-up</td>
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<td>o Provides time for learning during the school day</td>
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<tr>
<td>▪ As an activity that is a standard part of daily professional practice</td>
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<tr>
<td>▪ As a continued and connected experience spanning a professional career</td>
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Table 1.6. System Supports.

Reigeluth and Frick (1999) outline a research methodology for testing theories of instructional design. Even though the theory under consideration is a professional development theory rather than an instructional design theory, Reigeluth and Frick present their methodology as useful for testing design theories involving a wide range of educational concerns. Professional development for teachers is certainly an educational concern and this research methodology is appropriate for testing the ideas in this proposed theory of professional development.

Research methodologies are largely concerned with measures of validity. Formative research methodology, however, is primarily concerned with the idea of preferability—that is, from a practical standpoint, what makes the theory under scrutiny the theory of choice by practitioners. Do people prefer or subscribe to the ideas bound together in the theory? Reigeluth and Frick (1999) suggest that the purpose of formative research is to improve the preferability of a theory.

One way of testing a design theory is to select an instance in the real world that is currently instantiating as many of the design variables as possible (Reigeluth & Frick, 1999). Such a case, called an in vivo naturalistic case, allows the researcher to observe

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2 Reigeluth and Frick use the term formative research although their explication of formative research methodology draws from the literature of usability testing, field-testing, and action research.

3 Reigeluth and Frick outline three contexts for testing design theory: designed cases where all of the variables in the theory are implemented in the case; in vivo naturalistic cases where an event or process that encapsulates many of design variables; and lastly, post facto naturalistic cases which examine cases that match many of the criteria in the design theory but the instance occurred in the past. This study is an in vivo naturalistic case.
the case in progress and to interview individuals involved in the case while they are engaged in the processes or with content of the case.

After data collection, the analysis of the data can be divided into three major areas (Reigeluth & Frick, 1999). These areas are defined by design variables and their presence or absence in the case in question.

1. Design variables occur in the theory and in the case. How did these variables affect the work, product or outcome? Was implementation a problem? Does the theory need to be changed to reflect results of the study?

2. Design variables occur in the theory but not in the case. Does the absence of the variable in the case reflect a situationality or an area for improvement? What conclusions can be drawn about how unimplemented variables may have affected the final results?

3. Design variables occur in the case but not in the theory. The presence of such variables can be a source of insight into restructuring or altering the design theory.

After the data have been analyzed, alterations supported by the evidence in the case are made to the theory. Even though the findings are specific to the case under analysis, these alterations and refinements are an important step in advancing the evolution of the design

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4 A situationality is a fork in the road for a design theory. Such a fork in the road requires the design theory to provide guidance to the user about which way to go under certain contexts. In terms of a flow chart, decision points represented by a diamond represents a situationality. Situationalities in design theory may be as simple as yes-no dichotomies but are rarely so simple given that the variations of educational contexts.
theory. As with other forms of research, a formative study concludes by suggesting possible future directions for research in the field and for the development of the theory.

Case Context

Dryden Community Schools, located in a small mid-western town of approximately 14,000, is piloting a new staff development program called Technology Integration Projects (TIPs). The town and its outlying communities are served by 10 elementary schools, two middle schools, and one high school. Certified staff for the corporation number approximately 330. While $50,000 (non-salary money) is budgeted for professional development, grant monies significantly augment this line item.

Also important to understanding the context is the district’s media fair called Great Expectations. School administrators, staff developers and teachers designed this event as a venue for celebrating student work on long-term projects. In its first year, Great Expectations drew over 1000 people.

Case Description

The TIPs program described below fits the definition of the in vivo naturalistic case as described by Reigeluth and Frick (1999) even though this study did not utilize the possibility of observation due to time constraints. The program was selected to test the T3L theory based on the researcher’s access to the administrators and teachers in the TIPs program.

Recently, several technology grants totaling $800,000 have been awarded to the school system. These funds are being leveraged for professional development. The TIPs program, funded by these grant monies, is designed to encourage project-based teaching and learning through the application of technology. Teachers voluntarily enlist in the
program, and with the help of the staff developer, design a technology-oriented, project-based instructional unit. As a way for teachers to become comfortable with the technology before implementing the project with their classes, teachers are assisted in developing and producing the same end products as their students. Teachers who participate in TIPs are encouraged to develop projects that can be presented at Great Expectations in the spring of the year.

TIPs teachers received approximately three days of release time during the school year. These release days were arranged with several weeks between them to allow for teacher work time and project design. Groups of teachers met at the staff development center on these workdays to discuss project planning, to work on their projects, and to learn and share technology knowledge and tips. They worked on projects that required mastery of technology skills ranging from digital cameras to HyperStudio and iMovie. During these workdays, Don, the staff developer worked shoulder to shoulder with the teachers monitoring, encouraging, and brainstorming to provide guidance as they designed, developed, and produced their project-based lessons.

Complementing the release time were a number of informal dinner meetings that convened at local restaurants. During these sessions, the teachers shared a meal and chatted about their projects. At the close of the first year, the teachers convened at the staff development center and shared their projects with one another during an evening of reflection and celebration.

Participants

In the first year of the TIPs program, ten teachers participated. These teachers filled paid “tech encourager” positions in their schools. Teachers in a variety of grade
levels and from 9 of the 10 elementary schools along with one middle school teacher comprised the first cadre of teachers in the program. Their responsibilities as technology encouragers included participating in the trial run of the TIPS model, encouraging other teachers in their building to implement similar projects, and assisting colleagues with various technology questions or problems.

The TIPS teachers have continued into their second year of service and another cadre of teachers numbering 20-30 have joined the program. The teachers from the pilot group continue in their role as technology encouragers and are implementing their technology skills and units in their classrooms.

**Data Collection**

A preliminary survey was distributed to the teachers in the pilot cadre of the TIPS program. This survey, comprised primarily of open-ended questions, was used to help the researcher understand the dispositions and viewpoints of the teachers toward the program. Most of the data for this study was gathered through seven 60 to 90 minute semi-structured interviews with the staff developer, the technology coordinator, and five teachers. Following transcription of the interviews, the researcher’s initial reflections and interpretations of the interview along with a full transcript of the interview were e-mailed to each of the respondents who were encouraged to respond with comments and corrections.

Listening to the tapes and analyzing the transcripts revealed common responses across the interviews. While respondents maintained unique perspectives regarding the TIPS program, there were common themes and observations that linked them.
Comparing The Theory And The Case

As Reigeluth and Frick (1999) point out, a single study is not sufficient to test a theory. However, building and developing design theory is only advanced through research involving cases where the theory has been applied in part or in whole. In an emerging theory such as T3L, there are many opportunities for revision. In order to discover areas for revision to the theory, the researcher juxtaposed T3L and the TIPs program searching for evidence confirming or disconfirming the importance, relevance, strength and exhaustiveness of the six design criteria. The major interest in this effort is to further explicate each of the design criteria to provide a more robust and useful theory to those interested in the professional development of teachers as life-long learners.

In the following sections, each design criteria will be discussed in terms of the TIPs program. Each section will begin with general comments about the instantiation of the design criterion in the program. Next, specific evidence from the case will be shared. Each section will conclude with implications for the design theory.

Personal Plan. In the case of the TIPs teachers, there was personalization evident in the professional development program but no evidence a long-term plan. All the teachers praised the program, which seems to indicate that at least some needs were being met by their participation in the program. The TIPs program is partially addressing both of the key elements in Table 1.2. The needs and interests being developed are primarily technology skills along with some techniques for managing project-based learning. Criteria for success were not established prior to the professional development experience but the de facto criteria for success in the program was that all teachers accomplish a technology project which all have done.
Evidence from the interviews does suggest that self-identification of a learning interests can lead a teacher to take advantage of a professional development opportunity. Carol, a primary teacher who said she was afraid of technology prior to her participation in TIPs said, “When [the principal] said that we’d have meetings and we’d talk about different types of technology—I wanted that.” Irene mentioned that her participation in the program filled a personal need--a need to take advantage of a good opportunity after experiencing some health problems.

In addition to identifying personal needs and interests, it seems important that the simple factor of having a choice to participate in professional development is important. When asked how she might convince others to be part of the TIPs program Carol said:

I would say by taking them through a project or showing—showing the end project—this is what you can accomplish. I think seeing is believing in some cases. . .and if you don’t put the “you have to do this” anywhere in that phrase in your conversation.

John: They feel like they’re getting a chance to decide.

Carol: Because I think that that takes a lot. . .I wouldn’t be able to do it

John: If someone else says, “You’ll be doing this. . .”

Carol: Yeah. . I would struggle with it a little bit more than say, “Hey let’s look what I’m doing, can we come down and show you how?”

Teachers who participate in professional development voluntarily and who are also able to choose the content of their learning will be more motivated to learn.

There was no evidence in the interviews that a clear set of criteria were established to measure the success of the TIPs program. Neither the leadership nor the
teachers mentioned clear benchmarks for success. It seems that increased participation in the TIPs program and in the district-sponsored media fair are serving as the criteria for success.

Several teachers mentioned workshops that they had attended outside of the district as being useful for them. Carol’s desire to learn about technology began at a technology fair a year or two before the TIPs program began. Todd, another primary teacher, mentioned the benefits of attending a workshop in which he could see what high school people were doing in their classrooms. This seems to indicate there is value in professional development that expands horizons—that gives teachers a different look or another angle on their profession.

What are the implications for T3L and the personal learning plan? Three areas for elaborating the theory include:

1. Increase the emphasis on self-identification of the substance of professional development.

2. Urge the overall teacher-learning plan to include opportunities for diverse perspectives on the profession.

3. Explore how the substance of the professional development, in this case technology and project-based learning skills, affects the identification of needs and interests for inclusion in the personal learning plan.

**Authentic Learning Context.** The TIPs program does emphasize authentic learning contexts. Teachers are developing skills and lessons involving their curricular content and their students. Teachers are working on projects to use in their classrooms.
Learning that was useful received high marks from the TIPs teachers. “It’s nice to be able to get good information you can actually use in the classroom,” commented Connie, an intermediate teacher, “because some of the staff developments that you go to are not useful. So I like something that you can actually implement right then.” Connie, later commenting about another workshop she attended said, “I was in here talking to the students about it the next day and even they were really excited about it.” Carol corroborated Connie’s sentiment:

You come out feeling like you’ve actually accomplished something and learned something and feel good when you come out rather than, “I just wasted three hours.” It was like “I’m going to go home and I’m going to do this,”—rather than “Okay, when are we going to use that?” I think that’s really important to teachers today. If you’re going to be developing, they have to be useful and something that they’re excited about.

As Carol later pointed out, the usefulness of professional development should not only be judged on its immediacy but also on its enduring quality, “I feel like I’m going to use this years on down the line,” she predicted, “and its not going to go away.” Putting professional development to the usefulness test seems to be a simple way to predict teacher dispositions to the development opportunity.

Talking about usefulness and applicability in different terms, Karen said she had more questions than answers after some ineffective workshops:

Cause a lot of times they want to tell you about everything, but then you run out of time and its not “How do we do it now?” “How do we implement it?” “How do we show our students how to do it?” “What kind of projects could we do with
them?” but I think that’s why TIPs seemed a little different than some of the others.

Clearly, the TIPs teachers found answers to their questions by participating in the program. In fact, according to the features listed under the authentic context criterion in Table 1.3, the TIPs program compares favorably. However, more evidence needs to be explored.

Although Irene was excited about what she was learning and was confident that she was making strides in her own technology learning, she expressed some concern about translating her learning to the computer lab with her students:

Interestingly where I’m having some trouble—and it’s just a matter of jumping in and doing it—it has to do with transferring things—my learnings to the kids, I think.

This seems to show that even though the professional development can be hands-on and help teachers grow in skills, knowledge, and understandings there may still be a lag in implementation of those skills, knowledge, and understandings with students. Special attention to transfer is a necessary addition to the design theory.

Another observation is that teacher learning in this program took place outside the classroom. Does learning have to take place in the classroom to be authentic and useful? No. In fact, a classroom full of students may be a poor choice of learning environments depending on the situation. However, it is important that the personal learning plan for each teacher includes some learning that occurs in the classroom in front of children who can see the modeling of the expert learner. It is true that teachers learn everyday—it is imperative that they do, but teacher learning is frequently relegated to conference halls or
staff development centers. Some of the professional development for teachers must occur where teachers spend most of their time—the classroom.

What are the implications for T3L and the authentic context criterion? Three areas for elaborating the theory include:

1. Change the word “relevance” to “useful” and include the aspects of immediate and long-term applicability.
2. Include special attention to issues of transfer to the classroom.
3. Reiterate that while authentic context does not always mean “in the classroom” it should include professional development opportunities and learning that take place largely in the classroom.

Reflective and Collegial Dialogue. While there is strong evidence from the interviews with the TIPs teachers that collegial interactions are a necessary part of professional development, there is less evidence that the TIPs program supported reflective dialogue. During the interviews teachers shared readily about the importance of collaboration and how it had been a welcome part of their experience. Reactions to the idea of reflection were less enthusiastic although teachers and staff developers voiced support for possible inclusion of a reflective component in future iterations of the TIPs program.

An initial problem with the reflective and collegial dialogue criterion is a problem of language clarity. “Dialogue” implies conversation and does not convey the full meaning intended. Reflection can mean “self-evaluation” or simply thinking back on what happened depending on one’s familiarity with the concept. A word that seems to
include “collegial” and is more widely recognized is “collaboration.” These issues of wording need attention in the next iteration of the theory.

The benefit of collaboration is one of the strongest themes from the interviews. A fascinating excerpt from Carol’s interview is one of many in support of collaboration:

I like to get as much information from other people as I can and I think that doesn’t—that doesn’t mean you’re weak in any area—it’s just, you want to broaden your knowledge of interesting—and I know that there are a lot of really [neat] things that go on in this building that I have no idea about.

Several aspects of Carol’s quote deserve comment. First, it is interesting to note that asking others for help could be construed as a sign of weakness. Carol did not elaborate on this in the remainder of the interview but the comment, even in passing, may indicate a tacit understanding that is shared among teachers. A second point of interest is that proximity to other teachers does not guarantee collaboration. An important aspect of collaboration is bringing people together but if that were all that is required collaboration would be viral. Opportunities for collaboration in professional development need common ground, concerns, and interests if true benefits are to be realized. Providing such opportunities will not guarantee access to the great ideas across the hall but will create a network of support from like-minded people.

Karen was particularly grateful for the new relationships that were possible through the TIPs program. “To get to know and make relationships with other staff members, you know,” she began, “. . . just developing other relationships with other staff members that can help give you some more support and help you with questions,” she

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5 Collaboration will be used instead of collegial in this discussion.
finished. Even within this small sample of five teachers, the diversity of needs that can be fulfilled and possibilities that can be generated through opportunities for collaboration is impressive. The list includes:

1. Working with someone on the same skill level
2. Finding a connection with another teacher
3. Getting feedback on your ideas
4. Getting ideas from other people’s ideas
5. Learning from each other
6. Gaining access to the resources of the group
7. Obtaining a set of fresh eyes for seeing a problem

Little formal reflection was incorporated into the TIPs program, the teachers reported. Although one teacher reported that the dinner meetings were reflective, the nature of the discussions seemed to be a more collaborative one. The only formal reflection piece was required at the end of the first year. Don, the staff developer, blamed himself for not having followed through on the reflective aspect of the program.

What are the implications for T3L and the reflective and collegial dialogue criterion? There are several areas for elaborating and refining the theory:

1. Make two criteria out of this one and name them simply “Reflection” and “Collaboration.”
2. Add more explanation to the reflection criterion to make it easier to differentiate from collaboration.
3. Add levels of detail to the collaboration hierarchy.
4. Explore ways in which collaboration can be encouraged and add this information to the theory.

**Ongoing Assessment.** There is little evidence that this design criterion was instantiated in the TIPs program. This is not to say that teachers did not assess the learning of their students when implementing the unit or project that they had designed. Rather, the de facto measurement of success was teacher completion of the program and participation in the media fair. Despite the lack of any type of formal assessment, the teachers’ responses on the survey and in the interviews gave glowing praise to the program making TIPs a successful staff development program if teacher satisfaction is the unit of analysis.

Interviews with the staff developer, Don, and the technology coordinator, Steve, point beyond teacher satisfaction. Both of these gentlemen were generally pleased with the progress of the program but were disappointed by some of the responses to the survey. Both men wanted the TIPs project to change teaching and learning for Dryden teachers and students. Steve related that he felt the whole theme of the TIPs program was, “How do we get kids to do better in school by having them practice and apply the things that we want them to learn and know and be able to do?” His examination of the survey responses revealed answers ranging around this statement but none of them were entirely satisfactory in their scope and direction. Steve also pointed to changes in classroom practice as a goal of the TIPs program. “We want you to teach in a different way, at least for this unit or at least for this part so that we can reach kids in a different and maybe a more effective way.”
Don’s comments harmonized with Steve’s. He too, hoped that the TIPs projects would be able to transform teaching:

A bit of a disappointment is, I don’t see much emphasis in changing our approach to education, changing how kids learn and perhaps how they can learn better, retain longer. I think everything down here⁶ is accurate and is certainly part of it. “To educate teachers in computer technology.” That’s a huge part of it—it’s a staff development program. But it’s also a different approach; it’s also a different approach to teaching than most teachers are currently doing.

These administrators seemed to hold goals for the program that teachers in the program did not necessarily share. The teachers seemed to be more excited about the technology and the support that they were getting. Several explanations can be offered for this disconnect between the teachers and the administrators:

1. Some of the teachers were already very project-oriented particularly Connie and Irene. Todd and Karen did not report large changes in their teaching styles. Carol, however, was successful in gaining technology skills and in changing her teaching practice.

2. Additional explanations for this goal discrepancy include a sharp focus on technology. The name of the program proclaims technology as do the venue for the staff development (a large room with various technologies available) and the very successful district media fair.

More instructive, however, than the actual reasons for the problem is that the situation exists in the first place. The teachers and administrators are very happy with the

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⁶ Interviews with the staff developer and the technology coordinator began with a review of the results from the preliminary survey.
program but the administrators are hoping that the TIPs program will effect large-scale changes. This situation shows that a program can be successful on more than one level. As a technology integration program, TIPs seems to be doing quite well. As a staff development program that seeks to change the way people teach by introducing them to project-based teaching and learning that is computer and technology intensive, the results are not as encouraging.

Assessment (Table 1.5) is a key component in the T3L theory. The focus of assessment is to gather information for improvement of learning for both adults and children. Good assessment begins with a goal in mind. Good assessments are not surprises to those being assessed because they are aware of the learning goals. In the T3L theory the key to assessment is establishing mutually agreeable measures of success—in other words making sure each knows where the goal is and has a hand in establishing the goal.

What are the implications for T3L and the ongoing assessment criterion? There are several areas for elaborating the theory:

1. Explore ways to go about arriving at goals developed by all concerned parties.

2. Emphasize the importance of mutually arrived goals as a basis for assessment

**System Support.** In addition to the important assessment feature, the system support criterion helps to create conditions that promote learning. In the TIPs program, some important system supports are in place. Dryden Community Schools are using the
TIPs program to foster expertise in its teachers. Time and access barriers are also being addressed and high-quality learning opportunities are being provided.

While each teacher was given approximately three release days to accomplish project work, several teachers devoted many more hours to the program than they could calculate. The teachers at Dryden were certainly grateful for the release time they were given to work on their projects. Irene marveled, “The time release has been again, I’ve just been amazed that that has been there.” Karen noted the welcome release time as well as the quality of the support she received:

. . . just having some time away from the pressures of, you know, you’ve got a class coming back in 10 minutes, you don’t have much time to play around—having someone there to say, you know, “How do I do this?” or “I’m not getting that to work.” And there was someone there. . .

Karen was not alone in her praise for Don’s support. Carol, who said she was afraid of technology before beginning the program, was comfortable asking Don her questions. Todd appreciated Don’s ability to generate ideas as they worked together. Irene seemed to summarize the sentiments of the group, “They [the leadership] know what excellence is, the leadership here knows what excellence is—what the goals are—they are very knowledgeable.”

A final area of evidence in the interviews suggests that there are some competing forces in Dryden Community Schools, which need to be addressed. A competing and complicating program at Dryden is the media fair. While it is a positive experience and is receiving increasing attention and participation, some teachers are feeling pressure to participate. For instance, in Todd’s school, participation in the media fair has been
dramatic. The principal has strongly encouraged 100% involvement and Todd suspects some teachers have joined TIPs mostly to get technology support for the projects they are attempting with their classes.

Steve identified the current emphasis on test scores as a potential threat to TIPs enrollment. Not all teachers see the connection between what needs to be taught and the project-based learning that the TIPs project emphasizes. Teachers who think this way are unlikely to attempt the TIPs program.

What are the implications for T3L and the system support criterion? There are several suggestions for elaborating the theory:

1. Identify system supports that are standard regardless of the professional development context.

2. Identify system supports that vary with the topic or structure of the professional development being offered.

3. Emphasize the importance of identifying competing forces within a school or learning system. Connect this idea to establishing goals.

Case Summary

The TIPs program instantiated some of the design criteria and sub-criteria (See Table 1.7). The case comparison between the T3L theory and the TIPs program was not able to shed light on each aspect and sub point of the theory. When such was the case and no disconfirming evidence surfaced those features were kept as part of the theory.

An important design criteria, assessment, was lacking almost entirely from the TIPs case and helped to establish the importance of mutually defined goals as a starting point for meaningful assessment.
The TIPs case also informs the T3L theory since it was concerned primarily with technology learning, although this information is not discussed here. As the content and focus of professional development varies, it is important to elaborate the T3L theory to be as useful and applicable in as many situationalities as possible.

### T3L Design Variable

<table>
<thead>
<tr>
<th>T3L Design Variable</th>
<th>Theory</th>
<th>TIPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Plan</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Authentic Learning Context</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Reflective and Collegial Dialogue</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Ongoing Assessment</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>System Support</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

Table 1.7. T3L Design Criteria And Their Occurrence in the TIPs Program.

### Changes For T3L

Table 1.8 summarizes the T3L theory and the changes that have been made as a result of this study. Italicized type in the right column represents a change to the theory.

<table>
<thead>
<tr>
<th>Teachers as Life-Long Learners v 1.0</th>
<th>Teachers as Life-Long Learners v 1.1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Personal Learning Plan</strong></td>
<td><strong>Personal Learning Plan</strong></td>
</tr>
<tr>
<td>• Address the identified needs and interests of the teacher</td>
<td>• Address the identified needs and interests of the teacher (<em>Voluntary participation is important</em>)</td>
</tr>
<tr>
<td>▪ Needs:</td>
<td>▪ Needs:</td>
</tr>
<tr>
<td>▪ Self-Identified growth areas including beliefs and behaviors</td>
<td>▪ Self-Identified growth areas including beliefs and behaviors</td>
</tr>
<tr>
<td>▪ Peer-Identified growth areas including beliefs and behaviors</td>
<td>▪ Peer-Identified growth areas including beliefs and behaviors</td>
</tr>
<tr>
<td>▪ Interests:</td>
<td>▪ Interests:</td>
</tr>
<tr>
<td>▪ Relevant content area expertise</td>
<td>▪ Relevant content area expertise</td>
</tr>
<tr>
<td>▪ Relevant process expertise</td>
<td>▪ Relevant process expertise</td>
</tr>
<tr>
<td>• Identify criteria for success for each activity or phase of the learning plan including both:</td>
<td>• Identify criteria for success for each activity or phase of the learning plan including both:</td>
</tr>
<tr>
<td>▪ Impact on teacher practice and</td>
<td>▪ Impact on teacher practice and</td>
</tr>
<tr>
<td>▪ Impact on student learning</td>
<td>▪ Impact on student learning</td>
</tr>
<tr>
<td><strong>Authentic Context</strong></td>
<td><strong>Authentic Context</strong></td>
</tr>
<tr>
<td>• Learning is relevant to the content of the teacher’s practice</td>
<td>• Learning is <em>useful</em> to the content of the teacher’s practice</td>
</tr>
<tr>
<td>• Learning is active</td>
<td>• Learning is active</td>
</tr>
<tr>
<td>Teachers as Life-Long Learners v 1.0</td>
<td>Teachers as Life-Long Learners v 1.1</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>-------------------------------------</td>
</tr>
<tr>
<td>• Teachers create new products (knowledge, multimedia presentations, learning tools)</td>
<td>practice</td>
</tr>
<tr>
<td>• Teachers learn new skills (better performance, increased process expertise)</td>
<td>• Is it useful now?</td>
</tr>
<tr>
<td>Reflective and Collegial Dialogue</td>
<td>• Will it be useful later?</td>
</tr>
<tr>
<td>• Reflection</td>
<td>• Some experiences should involve learning in the context of the teacher’s classroom.</td>
</tr>
<tr>
<td>• Standard part of the learning process</td>
<td>• Learning is active (This includes transfer to the exigencies of a teacher’s classroom)</td>
</tr>
<tr>
<td>• A means for improving practice</td>
<td>• Teachers create new products (knowledge, multimedia presentations, learning tools)</td>
</tr>
<tr>
<td>• Collaboration</td>
<td>• Teachers learn new skills (better performance, increased process expertise)</td>
</tr>
<tr>
<td>• Opportunities for teacher interaction</td>
<td>Reflective and Collegial Dialogue</td>
</tr>
<tr>
<td>• Solving problems</td>
<td>• Reflection</td>
</tr>
<tr>
<td>• Creating knowledge</td>
<td>• Standard part of the learning process</td>
</tr>
<tr>
<td>• Advancing teaching craft</td>
<td>• Introspection and Metacognitive activities</td>
</tr>
<tr>
<td>• Opportunities for idea sharing</td>
<td>• Process diaries and other written artifacts</td>
</tr>
<tr>
<td>• Opportunities for critique</td>
<td>• Goal of understanding self as learner</td>
</tr>
<tr>
<td>• Opportunities for reflection</td>
<td>• Self-Evaluation</td>
</tr>
<tr>
<td>Ongoing Assessment</td>
<td>• Goal Setting</td>
</tr>
<tr>
<td>• Based on common goals</td>
<td>Collaboration</td>
</tr>
<tr>
<td>• Everyone knows the goals and criteria for success</td>
<td>• Opportunities for teacher interaction</td>
</tr>
<tr>
<td>• Goals are established collaboratively</td>
<td>• Solving problems</td>
</tr>
<tr>
<td>• Is performed consistently and continuously</td>
<td>• Creating knowledge</td>
</tr>
<tr>
<td>• Assessment processes are frequently reviewed for improvement</td>
<td>• Advancing teaching craft</td>
</tr>
<tr>
<td>• Assessment is conducted to improve rather than judge</td>
<td>• Opportunities for idea sharing</td>
</tr>
<tr>
<td>• Performed by many people at various levels</td>
<td>• Heterogeneous or Homogeneous Grouping</td>
</tr>
<tr>
<td>• All parts of the system assess and are assessed</td>
<td>• Opportunities for critique</td>
</tr>
<tr>
<td>System Supports</td>
<td>• Feedback</td>
</tr>
<tr>
<td>• Makes learning a priority</td>
<td>• Multiple perspectives</td>
</tr>
<tr>
<td>• For students</td>
<td>• Opportunities for reflection</td>
</tr>
<tr>
<td>• For teachers</td>
<td>• Especially if the learning was done as a group</td>
</tr>
<tr>
<td>• Helps teachers establish plans</td>
<td>Ongoing Assessment</td>
</tr>
<tr>
<td>• Identifies and develops expertise</td>
<td>• Based on common goals (Very Important)</td>
</tr>
<tr>
<td>• Creates linkages between teachers</td>
<td>• Everyone knows the goals and criteria for success</td>
</tr>
<tr>
<td>• Provides necessary resources and conditions</td>
<td>• Goals are established collaboratively</td>
</tr>
<tr>
<td>• Addresses barriers</td>
<td>• Is performed consistently and continuously</td>
</tr>
<tr>
<td>• Identifies competing forces</td>
<td>• Assessment processes are frequently reviewed for improvement</td>
</tr>
<tr>
<td>• Provides local learning opportunities</td>
<td>• Assessment is conducted to improve rather than judge</td>
</tr>
<tr>
<td>• Utilizes local expertise</td>
<td>• Performed by many people at various levels</td>
</tr>
<tr>
<td>• Designs high-quality learning opportunities with follow up</td>
<td>• All parts of the system assess and are assessed</td>
</tr>
<tr>
<td>• Provides time during the school day</td>
<td>System Supports</td>
</tr>
<tr>
<td>• A standard part of daily practice</td>
<td>• Makes learning a priority</td>
</tr>
</tbody>
</table>

Table 1.8. T3L v.1.0--v.2.0.
Future Research on T3L

This research illuminates the importance of time for teacher learning, the need for excellent local trainers and training, the value of useful information for teachers, and the vast spectrum of needs that can be met when a collaborative environment defines the learning context.

Notably lacking in the case were long-term plans for teacher learning—plans which connect the professional development of teachers into a coherent story of professional growth. Research about how to develop such plans with faculty could provide important strategies and understandings for developing teachers as life-long learners.

Also absent from the case was any serious attention to assessment. Research elaborating the assessment criterion will prove to be a valuable contribution to the field of professional development. Such elaboration should provide guidance for a learning community interested in pursuing and assessing ambitions learning goals.

Finally, conceptions of professional development in schools where learning is truly the focus must be translated into realities through systemic re-design so that systems can truly empower and support their learners.
References


