

# **Growth of Empowerment in Career Science Teachers: Implications for Professional Development**

Mary Hobbs, Ph.D.  
Coordinator for Science Initiatives  
The Texas Regional Collaboratives  
The University of Texas at Austin  
Center for Science and Mathematics Education

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**ABSTRACT** Teacher empowerment has long been a focus of reform in public schooling, yet existing research has failed to give much insight in regard to what empowerment means to individual teachers, how these meanings are constructed, what events change these meanings, and whether teachers can retain a sense of empowerment in the context of events and changes that occur within and beyond the school setting.

This study focuses on how fifty career science teachers' perceptions of their empowerment changed as a result of key events during their careers. A model emerged that conceptualized the teachers' experiences and shows empowerment as a developmental process with three phases of empowerment. The findings have implications for the implementation of tiered professional development in schools.

## **Purpose**

Much of the recent education research has focused on new teachers and why large numbers of teachers are leaving the profession. Few studies have focused on experienced teachers in an attempt to identify factors that may have contributed to their retention.

The researchers in this study used techniques of narrative inquiry as well as behavior over time (BOT) graphing to capture the experiences fifty teachers identified as having positively or negatively impacted their feelings of empowerment. The purpose of this research is to identify those pivotal experiences of career science teachers that have promoted their advancement along the teacher professional continuum and have helped them to persist in their careers. Professional growth, identified in the research as a critical dimension of empowerment, is a major focus of the research.

## **Perspectives**

What is empowerment and why is it important? Though the term empowerment is used frequently in contemporary educational discourse, no one accepted meaning is shared among all educators, but some common themes emerge in the literature. Empowerment is most often viewed as a process through which people become powerful enough to engage in, share control of, and influence events and institutions affecting their lives. In part, empowerment requires that people gain the knowledge, skills, and power necessary to influence their lives and the lives of those they care about.

Short (1992) presented six empirically derived dimensions underlying the construct of teacher empowerment. These dimensions were based on the definition of empowerment as “a process whereby school participants developed the competence to take charge of their own growth and resolve their own problems.” In this study empowerment was specifically defined as, “the opportunity and confidence to act upon one’s ideas and to influence the way one performs in one’s profession” (Melenyzer, 1990).

Recent research has attempted to link empowerment with both teacher retention and student achievement. The importance of teacher empowerment was summarized in the report *Teacher Working Conditions Toolkit*, by the Center for Teaching Quality (1995) as follows:

The importance of teacher empowerment in key education areas cannot be underestimated. A belief by teachers that their knowledge of teaching and learning (and the very students they teach) matters and is considered a valuable factor in decision-making, can connect them to their schools and districts in powerful ways. This connection can help improve the retention of those teachers in their classrooms and, ultimately, the success of the students they teach.

If teacher empowerment is vital to effective schools then it is important to know how it develops and how it can be nurtured. Short (1992) called empowerment a complex construct (p. 7). Vogt and Murrell (1990) described empowerment as a dynamic process, and Liden and Tewksbury (1995) discussed it as occurring on a theoretical continuum, yet researchers have not thoroughly examined empowerment to this level of complexity. To do so requires consideration of how the component parts that embody empowerment (its dimensions) interact within the environment of teachers' lives.

## Methodology

Initial data collection was accomplished through the use of one-on-one interviews (Clandinin & Connelly, 2000) in conjunction with the Systems Dynamics (Anderson & Johnson, 1997) technique of utilizing behavior over time (BOT) graphs. Fifty career science teachers, most with at least 12 years experience, demographically representative of Texas teachers as a whole, and identified by administrators, fellow teachers, parents, and community members as empowered teachers were selected by the researcher to participate in this study.

The teachers began by telling their stories (describing events) and constructing behavior over time graphs that chronicled their experiences of empowerment as defined by Melenyzer (1990) and Short (1992). The teachers described in detail the events they felt precipitated the highs and lows of their empowerment on all graphs as the interviews were tape-recorded for later transcription.

The teachers worked on graph paper marked with a vertical axis scale ranging from low to high empowerment and a horizontal axis marked off in increments for the length of the teacher's professional career in years. Teachers drew peaks and valleys that are indicative of their relative feelings of high and low empowerment. They were encouraged to label these features. See *Figure 1* on the following page for an example of a typical behavior over time graph showing one teacher's perceptions of her feelings of empowerment.



*Figure 1: Example of a behavior over time graph of teacher empowerment*

After an empowerment graph was completed, each teacher was read the definition and subsequently drew additional graphs illustrating high and low points they had experienced in terms of each of each of the six dimensions of empowerment as identified by Short, including:

- **decision making** (teachers' participation in important school-related decisions),
- **professional growth** (opportunities for teachers to develop and expand their perspectives and skills),
- **status** (respect and admiration from colleagues),
- **self-efficacy** (teachers' feelings of ability to be effective),
- **autonomy** (freedom to control professional life and decisions), and
- **impact** (ability to directly influence life in the school).

Teacher transcripts were read numerous times. A coding system was used to identify story-line themes taken from the oral interviews. These themes were compared with each individual's graphs and a comparison of graphs was completed.

During the initial coding process a conscious attempt was made to set aside the dimensions of empowerment as identified in the literature; nevertheless, the categories correlated to the dimensions of empowerment as described in Short's work. In some cases the "fit" was nearly perfect, although the teachers' stories gave richer interpretations to the dimensions than Short's definitions implied. More accurately, the categories or storylines seemed to be the contexts in which the dimensions of empowerment appear and are subsequently encouraged or impaired.

An underlying premise of the study is that empowerment is a complex construct. To isolate and examine the dimensions individually seems counter to explaining it as such, and poses a risk of failing to make connections between dimensions. Furthermore, the teachers' stories included descriptions of events that contained interwoven storylines and multiple dimensions. As a result the final structure for reporting the results of the qualitative portion of the study approached three elements of organization simultaneously:

1. The coded storylines (which are the contexts in which the dimensions occur),
2. The dimensions themselves (which the data shows evolved over time), and
3. A sequence identified as consisting of three phases in the development of empowerment in the lives of these teachers.

In the end, the sequence of phases became the primary organizer, with the contexts drawn from the teachers' stories and the dimensions identified in the literature serving as the secondary means of organizing and elaborating the results.

## **Findings**

Analysis of the transcripts and graphs revealed the following influential experiences and patterns in the development of empowerment in the teachers interviewed:

- Autonomy appeared early as a naive sense of choice and evolved over time into a mature sense of responsible decision-making. Autonomy, the most complex and abstract of the dimensions, most nearly mirrored empowerment itself.
- A personal sense of autonomy gave “heart” to the empowerment process, allowing teachers to persist through trying circumstances.
- Decision-making had the most immediate effect on teacher empowerment as the events associated with changes in teaching context and the decisions that caused those changes caused graphs to plummet.
- Professional growth provided the “mind”—an intellectual remedy for lack of preparation for teaching and challenging teaching contexts—and eventually supported a mature sense of self-efficacy which was reflected in teachers' increased confidence in their teaching, involvement in decision-making, and their status as professionals.
- The professional development needs of the teachers varied as their careers progressed and the context of their assignment changed.
- Collegial relationships were seen as important in enhancing and sustaining their sense of empowerment. These relationships became very important in sustaining their sense of empowerment during their 9<sup>th</sup> or 10<sup>th</sup> year of teaching, a period when most of the teachers reported a leveling off in their empowerment and some were contemplating leaving the profession.
- Success in promoting student achievement and recognition from administrators, parents, colleagues and others were important in enhancing the sense of status felt by the teachers. However, the teachers often generated negative stories related to their status.
- The stories told by the teachers as they interpreted their graphs did not reflect a need or quest for control over schools, but focused primarily on their quest for effectiveness as teachers, their need for targeted professional development, and the importance of collegial relationships both within and outside their schools.

## **Implications**

This study confirmed the roles and identified the relationships of the six dimensions of empowerment (autonomy, decision-making, impact, self-efficacy, status, and professional growth) identified by Short as they evolved in the contexts of teachers' experiences. Although complex in their interactions and subject to the causal loops of

systems dynamics, the dimensions did, nevertheless, appear and mature in an identifiable sequence. Evidence concerning the appearance and maturation of these dimensions should be considered in making decisions in regard to how the talents and effectiveness of teachers can be enabled and maximized.

A model emerged that conceptualized the teachers' experiences and their perceived growth in empowerment.<sup>1</sup> The model shows empowerment as a growth process with three phases of development: The Initiating Phase, The Growth Phase, and the Sustaining Phase. Similar dimensions or constructs characterize each phase. However, the dimensions become increasingly complex and sophisticated, and reach maturity during the third phase as reflected in the following summaries.

- During the Initiating Phase (Years 1-3) teachers recalled struggling with their lack of preparation yet growing in confidence as they practiced their craft in their classrooms. Their time was devoted to learning what to teach and how to teach it.
- During the Growth Phase (Years 4-8) teachers recalled becoming more aware of professional development opportunities. Their growing feelings of self-efficacy were supported by real evidence of student success. They were challenged by the teaching context—students, principals, and working conditions. They began to be involved in decision-making groups and took on leadership roles.
- During the Sustaining Phase (Year 9 and beyond) these teachers saw learning as a lifelong process. They felt admired and respected and were impacting education on and off campus. They had strong connections with organized groups and they were redefining their own sense of self-efficacy. However, by year 9 the teachers' graphs all showed a “leveling off” of empowerment. Typically, their sense of empowerment was sustained, but their growth was stalled. It was apparent that the most mature teachers needed different professional development approaches if their sense of personal and organizational empowerment was to continue to develop.

## **Developing and Sustaining Teacher Empowerment**

This study supports the implementation of tiered professional development opportunities for teachers. The developmental needs of teachers in Phase 1 are vastly different than those in Phase 3 yet most school systems take a one-size-fits-all approach to offering growth opportunities to its professional staff. During the first three years of employment new teachers should be supported as they learn the logistics of being a classroom teacher. Teachers reported that peer assistance facilitated this process. However, this assistance was often incidental and not always available when needed. The stories of these teachers, as well as those of many others, provided a convincing argument that an organized and systemic mentoring program is needed for teachers in Phase 1. Furthermore, new teachers should be directed toward targeted professional development opportunities that address individual needs and/or weaknesses. The process of becoming competent and efficient classroom teachers overwhelms new teachers. Any demands on their time in response to their needs should be carefully structured so that outcomes are related to the challenges they are encountering at this phase of their career.

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<sup>1</sup> See Appendix A for “The Empowerment Cycle” model.

Professional development during the second phase should assist teachers in becoming more effective in designing and delivering instruction that meets the needs of their particular student population. This study indicated that teachers in this phase have concerns about their self-efficacy, or instructional effectiveness in terms of student achievement. Professional development should capitalize on this concern. Also, many teachers in this study found areas of strong interest during this phase that later became the professional focus for their collegial connections beyond their classrooms. Thus, it is important that teachers be encouraged to sample a variety of professional development offerings and pursue individual interests and needs. Furthermore, teachers in this phase were becoming involved in leadership activities and roles. These leadership roles enhanced their sense of empowerment as their voices were being heard and their actions were benefiting their colleagues and students. Overall, data in this study indicated the importance of providing opportunities for teachers to become involved in meaningful leadership activities. It is important to note that there was no evidence that these teachers were interested in leadership activities that centered on administrative responsibilities.

During the third phase in their development of empowerment, the teachers in this study recognized the importance of lifelong learning and noted a strong need for collaboration with other professionals who were functioning at their level of competence. Some also sought new challenges. As already noted, their graphs showed a leveling off in their growth in empowerment. School districts should be flexible in allowing these Phase 3 teachers to forego some of the standard offerings and attend, instead, workshops and conferences that meet their individual interests and needs. They must be afforded opportunities to engage with colleagues in and outside their campuses. Fullan (1993) claimed that opportunities for teachers to work together as “kindred spirits” who were involved collegially would form a critical mass of empowered teachers with the capacity to renew schools on a continual basis. Of course, in doing so, they would be sustaining and renewing their sense of empowerment.

If teacher empowerment is to become a means of improving schools, then teachers must be supported throughout the process of reaching a self-actualized level of empowerment—of being all that they can be. Only a few of the teachers interviewed for this study have reached that level, and some of them are contemplating leaving the system due to lack of opportunities for further professional growth. The availability of activities that are designed to increase their instructional capacity and provide opportunities for sustained collaborative interaction with other teachers would enhance the probability of their retention and that of other experienced and effective teachers who are at a similar stage in their careers.

## **Update on the Research**

*Project Instrument Development: Exploring the Professional Growth Continuum* is now in its second year of National Science Foundation support. Dr. Hobbs and Graduate Research Assistant Amy Moreland are currently conducting six local focus

group meetings around the state where teachers who have been previously interviewed are meeting together to share ideas on the research and compare their own experiences to the Empowerment Model included in this article. The model will later be refined based on these teachers' input.

In late spring of 2008, work will begin on a survey instrument to collect quantitative data from large numbers of classroom science teachers. That instrument will be based on teacher experiences, comments, and quotations taken from the interviews and the focus group meetings. Work on the survey is scheduled for completion in the fall or winter of 2008 and the survey should go online on the Texas Regional Collaboratives website early next year. The survey instrument, the ultimate outcome of Project Instrument Development, will allow collection of real time data regarding teachers' perceptions of their empowerment and either confirm or indicate changes that need to be made in the model and the conclusions about teacher empowerment that the model advances.

## **Resources**

This paper can be electronically downloaded from the Texas Regional Collaboratives website at [http://thetrc.org/trc/presentation\\_library.html](http://thetrc.org/trc/presentation_library.html).

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