



Encouraging and being encouraged: Development of an epistemic community and teacher professional growth in a Singapore classroom



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HIGHLIGHTS

- Cultivating an epistemic community in classroom facilitates teacher development.
- A teacher's learning constantly takes place by interacting with students.
- Students' changes encourage the teacher's pursuit of new strategies.
- Two additional interactions of the interconnected model emerged in this case study.
- Two new interactions describe the role of the research team's support.

ARTICLE INFO

Article history:

Received 12 June 2013

Received in revised form

19 May 2014

Accepted 22 July 2014

Available online 9 August 2014

Keywords:

Epistemic community

Teacher professional development

Interconnected model

ABSTRACT

This paper discusses a case study of a teacher's effort in a Singapore secondary school to develop an epistemic community in the classroom, in collaboration with university researchers. There is a growing interest in the types of professional development that make direct connections to teachers' everyday teaching. Researchers found that efforts made within the school context are much more effective for teachers' professional growth. We illustrate the process of the teacher's developing and enacting strategies in classroom practices using the Interconnected Model of Teacher Professional Growth, and suggest that individual teachers could develop their expertise together with students.

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1. Introduction

I'm just so encouraged each time when the usually quiet ones like Yu, Yang, Jerry, Garnett contribute during lesson.

Nicole's blog on April 24, 2010

I was encouraged by my warm classmate and Miss Toh (Nicole), I improved myself confidence and I spoke more.

Garnett's post-reflection written in May 2010

One of the words that will frequently appear in this paper is 'encourage.' The two excerpts above are taken from a teacher's (we call her Nicole) blog entries about her secondary one geography

class in Singapore and her students' reflections.¹ These excerpts provide a glimpse of the classroom atmosphere toward the end of the term. This paper suggests that a teacher's effort in developing (encouraging) such a culture and community of learners, where the students' changes also encourage the teacher to advance her practices, can provide an important opportunity for a teacher's professional development. In our research, we view the epistemic community as a viable construct to understand the developing culture in the classroom that encourages and cultivates students to be positive and active learners. The premise of an epistemic community is that its members take responsibility for the community's learning through negotiating their ideas and persisting in knowledge advancement (Scardamalia, 2002). In a classroom epistemic community, students' as well as teachers' roles in learning differ

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¹ 'Students' in this paper refers to 'secondary students.' All the names mentioned throughout the paper are pseudonyms.

from their traditional roles in schooling. In Nicole's case, there were points where she became part of the community of learners.

Teachers' changes in practices have a positive impact on students' learning experience and many studies attribute these changes to their participation in professional development activities and communities (Clarke & Hollingsworth, 2002; Richardson, 1998). Developing the culture of an epistemic community, however, not only requires a change in teaching practices but also challenges the authority and traditional roles of a teacher in the classroom. In Singapore, where as in many other Asian countries the voices of elders are highly respected in various levels of society, valuing the voices of students can be an unimagined challenge not only for the teachers but also for the students themselves. In our research, we observed a teacher struggling to share her authority with students and shaping her professional growth as an active learner. The teacher expanded her professional knowledge and skills through developing an epistemic community together with students in the classroom. In this paper, we demonstrate the ways in which this teacher was encouraged to participate in her own professional growth while she encouraged her students' voices in their own learning, using the lens of the Interconnected Model of Teacher Professional Growth (IMTPG) (Clarke & Hollingsworth, 2002). We will start by discussing the recent trend of professional development activities and the research on professional development models.

2. Professional development activities and models

Researchers' work on teacher professional development ranges from identifying conditions of teachers' learning, to elaborating the process of how professional knowledge develops, to designing effective professional development programs (Garet, Porter, Desimone, Birman, & Kwang, 2001). Clarke and Hollingsworth (2002) acknowledged the changing focus of professional development efforts, which "most closely aligns with the 'change as growth or learning' perspective" (p. 948) over a decade ago. Researchers continued to explore better approaches for supporting teachers' growth, considering how teachers have difficulty transferring new approaches into classroom practices from short-term trainings, such as workshops and professional courses (e.g., Clarke & Hollingsworth, 2002; Garet et al., 2001). Research on professional development, therefore, has moved away from the one-shot workshops and trainings to sustained professional development (Cordingley, Bell, & Thomason, 2004; Rytivaara & Kershner, 2012). Supovitz and Turner (2000), in fact, found that the 'sustainment' of professional development was the key to the teachers' growth, based on their survey on the efficacy of professional development activities from 3464 science teachers and 666 principals who participated in the U.S. National Science Foundation teacher enhancement program. They reported a positive association between the amount of hours of professional development experience and the teachers employing inquiry based teaching practices. Cordingley et al. (2004), in their review of research on professional development activities, defined the sustained professional development as lasting at least for 12 weeks. The growth of a teacher is indeed dependent on deeper and more sustained professional development experiences (Garet et al., 2001; Guskey, 2000; Supovitz & Turner, 2000).

When it comes to the deeper engagement in professional development, researchers discuss the activities relevant to the teachers' everyday practices. Effective professional development involves practice-oriented experience (Clarke & Hollingsworth, 2002), opportunities for reflection (e.g., Burbank & Kauchak, 2003; Ross & Bruce, 2007), and activities situated in classroom and school context (e.g., Avalos, 2011; Nielsen, Barry, & Staab, 2008), in addition to the sustained activities. There is a growing

body of literature on how to enable teachers' sharing of their learning in workplace settings on a sustained basis, such as peer-coaching (e.g., Zwart, Wubbels, Bergen, & Bolhuis, 2007) and professional development communities (e.g., Brody & Hadar, 2011). In fact, the benefits of such sustained activities situated in workplace settings are being documented in various western societies, such as the U.S. (e.g., Huffman & Kalnin, 2003; Mawhinney, 2010), Germany (e.g., Eilks & Markic, 2011), Australia (e.g., Aubusson, Steele, Dinham, & Brady, 2007), Finland (e.g., Rytivaara & Kershner, 2012), the Netherlands (e.g., Zwart et al., 2007) and Canada (e.g., Gallagher, Griffin, Ciuffetelli Parker, Kitchen, & Figg, 2011). These studies advocate a persistent, long term and structural process that emphasizes school-based, job-embedded and systematically-planned activities to facilitate professional growth.

While professional development programs embrace different contents and activities, they share a common goal of enhancing teacher's competencies, in turn, to improve students' learning experiences. Teachers' changes and students' changes could be reciprocal. Specifically, literatures on sustained professional development have bolstered the effects of teacher professional growth on students' learning (Phillips, 2003; Vescio, Ross, & Adams, 2008). Likewise, considering the students' learning experiences enables teachers to assess their efforts, in turn, furthering their professional growth (Clarke & Hollingsworth, 2002; Guskey, 2002; Wilson & Berne, 1999). Researchers call for studies from outside western countries with different social and cultural contexts (Rytivaara & Kershner, 2012), and this study attempted to provide insight into such research in an Asian context using a professional development model that has been used to describe teachers' professional growth.

The models of teacher professional development facilitate our understanding of teachers' growth through various activities. Teacher professional growth is defined as a change in behaviors, beliefs, attitudes, and values of a teacher. A linear model would suggest that teachers' knowledge of, beliefs about, and attitudes toward an effective instructional method improve teachers' practices and students' outcomes; and another may suggest an opposite direction where teachers' beliefs and attitudes are likely to change as a result of significant changes in students' outcomes and teachers' practices (Clarke & Hollingsworth, 2002; Guskey, 1986, 2002). On the other hand, changes may occur simultaneously in multiple directions in the process of a teacher's professional growth. Clarke and Hollingsworth (2002) proposed a model for the interrelated and multi-directional nature of teacher's professional growth, namely the Interconnected Model of Teacher Professional Growth (IMTPG), with four domains of change (see Fig. 1) – personal domain (e.g., knowledge and attitudes), external domain (e.g., information and support), consequence domain (e.g., students' learning) and practice domain (e.g., classroom experimentation). The IMTPG emphasizes that a teacher's change in one domain is associated with change in another and helps us to examine interactions situated within the school context.

This interconnected model provides a framework for understanding the underlying process of teachers' change, for designing professional development strategies, and guiding professional practices. Justi and van Driel (2006) employed the IMTPG as a framework to design a project in the Netherlands to improve teachers' knowledge and skills and to understand teachers' knowledge growth. In a more recent study conducted in the Netherlands, Witterholt, Goedhart, Suhre, and van Streun (2012) used the IMTPG as an analytical tool to explore the development of practical knowledge of one mathematics teacher participating in networking meetings with colleagues. In another context, the IMTPG was used as a study tool for a group of five primary English-as-a foreign-language teachers guided by a university professor in

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