



The use of teacher leader roles in an online induction support system

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H I G H L I G H T S

- Teacher leadership principles can be used to scaffold induction support.
- Early-career teachers can use distinct teacher leader roles to discuss obstacles.
- Symbolic interactionism is a useful lens for group-based professional development.
- Teacher leader roles promote overall deeper levels of reflection.
- Social interactions moved problem-solving toward that of more experienced teachers.

A R T I C L E I N F O

Article history:

Received 14 November 2017

Received in revised form

31 May 2018

Accepted 13 June 2018

Keywords:

Teacher induction
STEM teacher education
Teacher leadership
Online teacher learning
Symbolic interactionism
Reflection

A B S T R A C T

Induction training is a leading model for supporting teachers in today's challenging profession. We describe an online induction support scaffold designed around teacher leadership, and investigate how novice US teachers use leadership roles to address real-world teaching obstacles. We use symbolic interactionism as a lens to understand how teachers develop through the interplay between roles, social interactions and identity. Results indicate novice teachers can operationalize distinct teacher leader roles as early as induction, but may instinctively position their identity outside the role. Through social interactions with leadership roles, teachers moved problem-solving discourse toward a level more consistent with experienced teachers.

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1. Introduction

In the United States (US), reform documents from the National Academies (NRC, 2005, 2010), the President's Council of Advisors on Science and Technology (Lander & Gates Jr, 2010), and the White House (2012) have raised concerns about the nature of the Science, Technology, Engineering and Mathematics (STEM) workforce. In the interest of keeping the US globally competitive, federal initiatives have emerged to support the training of that workforce by highly qualified K-12 STEM teachers (e.g. NSF Noyce scholarship

programs). Between 2000 and 2010, major private educational foundations have also rapidly increased funding toward programs that emphasize quality teacher training and preparation (Reckhow & Snyder, 2014).

Induction programs in the US and abroad transition pre-service teachers, who have focused on basic classroom processes, into their fulltime teaching assignments, where they need context specific support as classroom teachers and members of the school organization (Luft, Roehrig, & Patterson, 2003; Hangül, 2017). Induction programs are also generally accepted to promote the personal and professional well-being of new teachers, while increasing their retention in the profession (Ingersoll, 2012; Smith & Ingersoll, 2004; Strong, 2009). Effective induction programs approach these goals using activities coordinated around mentoring, collaboration

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and professional development in content and/or pedagogy (Wang, Odell, & Schwille, 2008). Teacher mentoring has become a routine component of teacher induction (Hobson, Ashby, Malderez, & Tomlinson, 2009; Strong, 2009), to the extent that mentoring and induction are often used interchangeably in the literature (Ingersoll & Strong, 2011). Mentoring is often designed to pair novice teachers with more experienced teachers (Hobson et al., 2009), however longitudinal demographic shifts towards a novice-dominated workforce may limit access to veteran teachers (Rushton et al., 2014; Polizzi, Jaggernaut, Ray, Callahan, & Rushton, 2015; Ingersoll & Merrill, 2010). Under these conditions, teacher educators have employed peer-mentoring as one strategy for creating supportive learning communities for novices (Cornu, 2005).

Effective induction programs also include activities coordinated around reflection (Wang et al., 2008). Schön (1983) contrasted reflection-in-action, which occurs in the moment of action, and reflection-on-action, which occurs after the fact and allows learning from experience. Reflection-on-action may be more attainable for the novice than reflection-in-action, since reflection competes with the other actions and objectives of the moment. While attainable, teacher reflection can be difficult to promote and then move beyond a descriptive level without “powerful facilitation and mediation within an emotionally supportive learning climate” (p. 345) (Larrivee, 2008). Romano and Schwartz (2005) found that technology could help provide a climate for reflection among first-year teachers participating in induction activities.

Technology platforms have been used to facilitate teacher reflection in group settings (Hou, 2015), and across inexperienced and experienced teacher categories, using video annotation activities (Rich & Hannafin, 2009) and web blogging for “e-flection” (Boulton & Hramiak, 2012). The point on experience levels is important to note, given that reflective discourse is not intended solely for the induction phase teacher; developing higher-order reflection skills is thought to parallel growth from pre-service to induction to master teacher (Larrivee, 2008). Maclean and White (2007) found that reflective discourse, in turn, can aid the co-construction of professional teacher identities across pre-service and experienced teachers. More recently, Boulton and Hramiak (2012) reported that when compared to *individual* reflection activities, the *community* component of “e-flection” promoted teacher reflection on their professional practice and the development of professional identity.

Implications of teacher induction support have been discussed through the lens of teacher identity (Rushton & Criswell, 2015) by examining how teachers navigate the interactions between their personal and professional identities. Chang and coworkers contend that separately, neither personal nor professional conditions are predictive of whether a teacher will feel successful in the profession (Chang & Davis, 2009; Chang, 2009). Instead, disparities between personal expectations for the position and lived experiences of the profession can lead to negative emotions that influence effectiveness. Lazarus (1991, 2000) explains such negative emotions in terms of two cognitive appraisals that determine the magnitude and degree of discomfort, respectively, perceived in a given context. In a teaching context, the primary appraisal is a consideration of the importance of the actual event and its alignment to the expectations and goals for the event. The secondary appraisal is an examination of agency and the likelihood of being able to cope with similar events in the future. Rushton and Criswell (2015) posit that if teachers experience incongruences between their personal and professional identities, they are likely to perceive low self-agency, high likelihood of recurring obstacles, and negative emotional responses. Conversely, developing identities that are consistent with both personal goals and professional realities may lower negative emotions and lead to success in the profession, both of which are goals of induction programs.

We have previously described an induction support structure that uses teacher leader roles to address aspects of the peer-mentoring, reflection and professional identity development concepts outlined above (Polizzi, Dean, Barrett, & Rushton, 2014). An aim of the support structure was for teachers to experience teaching obstacles from different perspectives so that negative emotions were not reinforced, and an a more productive outlook was achieved. Toward evaluating that aim, we have recently reported a positive effect on diversifying discourse patterns and overall levels of reflective discourse when using this scaffold (Ellis, Polizzi, Roehrig, & Rushton, 2017). Here, we perform a finer grain analysis to determine how novice teachers engage with the teacher leader roles and one another during professional development. Our study is guided by the following research questions:

- 1) How do teacher leader roles provide a scaffold for teachers engaging in online discussions of professional issues?
- 2) To what extent are teacher leader roles useful to novice teachers with limited experience in the profession?
- 3) How do the different teacher leader roles allow teachers to reflect on and discuss the teaching profession?

1.1. A framework for examining teacher leader roles

Based on the incorporation of personal reflection, peer-mentoring, and professional identity into our induction scaffold, we desired a framework for evaluating the intervention that would highlight the interplay between these components. Therefore, we selected symbolic interactionism (SI) (Blumer, 1969; Mead & Morris, 1967), which emphasizes the tripartite relationship between symbols/roles, social interactions, and identity (Fig. 1). Within this framework, reality is subjective and humans are actively involved in social interactions that create meaning for symbols, ideas or roles. Meaning is modified and reinterpreted through internal reflection and external conversations, which may lead to new responses and changes in identity as one sees his/her role(s) change. While symbols have been the focus of SI consumer science studies (e.g. social implications of smoking or holding a name brand soda), roles have been a focus of SI education research. Smit and Fritz (2008) highlighted *internalized role expectation* (Vryan, Adler, & Adler, 2003) when using SI to interpret the contexts and outcomes of two teachers in Africa, one of whom felt groomed to leave the classroom for supervisory roles, and the other who reflected on teaching as an enduring family affair. In this journal, Allen (2009) also emphasized role taking, or “the self engaging in a reflective dialogue with itself in order to act in role” (pg 648), in an SI analysis of teachers who did (or did not) fulfill their role in implementing progressive practices once they began teaching. More recently, Pellegrino and Weiss (2017) used SI as a lens to examine how chosen or constrained roles in the student teacher–mentor teacher pairing led to actions and identities as a functioning teacher, or as simply a teaching aid, at a critical time in pre-service teacher development. Together, these example studies are aligned to Potts (2015) contemporary vision of SI for educational research and emphasis on roles:

By taking the role of the other, individuals work out the meanings and intentions of others. Using this reflexive self, individuals are able to modify or change their definition of the situation, try out alternative courses of action and consider their possible consequences. (p 650–651)

Roles. We proposed four teacher leader roles as a starting point for the study participants to work out meanings and try alternative

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