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Critical moments in the process of educational change: understanding the dynamics of change among teacher educators

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ABSTRACT

This study examines the complex process of change among teacher educators who have chosen to improve their practice in a professional development community. Storyline methodology was used to reveal the dynamic process which teacher educators undergo when they consider adopting innovative pedagogy. Findings reveal critical moments in professional development which are characterised by evaluation of feedback from colleagues and students. Professional growth results not only from interaction and negotiation of meaning within the community but also from the effects of messages received from outside the communal context. A two factor model taking into account implementation and feedback is used to show the dynamic process of evaluation and negotiation in teacher educators' professional development trajectory. This study deepens understanding of transition towards change within learning communities, while providing insight into the development of teacher educators as a distinct professional group.

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Professional development; teacher educators; teacher development; teaching practice; learning community

1. Introduction

Teacher educators' role in preparing the next generation of teachers lays at the crux of educational practice (Bates, Swennen, and Jones 2011; Boei et al. 2015), heightening their need for continuous learning through ongoing professional development. In response to international recognition of their importance, research attention has been given to this group (e.g. Korthagen, Loughran, and Lunenberg 2005; Koster et al. 2005; Lunenberg, Dengerink, and Korthagen 2014; Snoek, Swennen, and Van der Klink 2010; Murray 2002, 2008; Ellis et al. 2014). One area of research on teacher educators concerns their professional development (e.g. Jasman 2011; Williams 2014; Williams and Ritter 2011; Goodwin and Kosnik 2013). Nevertheless, less research focuses on *how* teacher educators learn and *how* various processes affect their professional learning (Hadar and Brody 2017). As the work of teacher educators has become distinct from that of teachers and other higher education faculty (Boei et al. 2015), more research is needed on specific features of their professional development. Bates, Swennen, and Jones (2011) have called for more research about how they

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learn professionally, and Loughran (2014, 1) asked 'What does it really mean to professionally develop as a teacher educator?' This study addresses this lacuna by looking at change processes among teacher educators in professional learning communities (PLC).

1.1. *Change and transition among teacher educators*

The concept of *change* among teacher educators relates to achievement goals (Zellermayer and Margolin 2005). Psychological literature refers to processes of change as transition (Amado and Ambrose 2001), signifying the dynamic nature of this endeavour. Transition involves departure from the way things used to be; entering a neutral zone diverging from the old way, but not yet the new way; and adopting a new beginning (Zellermayer and Margolin 2005). This process disrupts existing patterns, creates uncertainty, and may result in confusion, anxiety, feelings of incompetence, and withdrawal (Bolman and Deal 1999; Brody and Hadar 2011; Wheatley 2005). It may also involve conflict, negotiation and compromise (Snow Andrade 2011).

Examining transition sheds light on different paths taken by individuals involved in professional learning, and enhances understanding of *how* teacher educators develop professionally. This study attends to dynamics of transition among teacher educators in a professional development endeavour based on the communal paradigm.

1.2. *Teacher educators' transition in the PLC*

Learning in community is a preferred means for significant professional development (Stoll et al. 2006). Engaging peers in collegial interchange contributes to personal, social, and emotional growth (Desimone 2009; Guskey 2000). Moreover, collaborative interaction leads to professional learning as 'an ongoing, collective responsibility' (Opfer and Pedder 2011, 385), generating new knowledge and creating a culture stimulating further learning (Jurasite-Harison and Rex 2010; Reynolds, Murrill, and Whitt 2006; Wenger, McDermott, and Snyder 2002).

Community is particularly relevant to teacher educators whose work is characterised by isolation (Hadar and Brody 2010, 2016) in a fragmented work environment (Rowland 2001). This relates to differentiation between disciplines, courses, teaching and research, and between teachers and students. The benefits of community for teacher educators are highlighted by Barak, Gidron, and Turniansky (2011, 285): 'Our professional development ... does not mean learning to "teach teaching" better; it means finding ways of being and learning with our student-teachers and with each other'.

Despite these benefits, participation in communal learning does not guarantee transition towards change (Brody and Hadar 2011; Guskey 2002; Opfer and Pedder 2011). Barriers to transition stem from participants' initial expectations, underlying assumptions about the learning process, and self-appraisal as learners (Helsing et al. 2008). Adult learning theory sheds light on transition through a self-evaluation process (Illeris 2003). These theories relate to individuals' interpretation of learning situations generating coping strategies (Seah 2002). Dealing with conflicts and negotiation of dissonance characterise these evaluations (Illeris 2003).

Adult learners' free choice to engage in professional development does not render immunity to dissonance between perceived value differences, motives, processes, or expected

outcomes (Illeris 2003) occurring within learning communities (Cochran-Smith and Lytle 1999; Little 2003). Sociocultural based learning is a continuous process of invention and exploration resulting from dissonance and amplified by feedback loops (Fenwick 2002). Examination of transition processes in communal learning (Scott-Kakures 2009) reveals dissonance followed by a sense of crisis. Resolving the crisis leads to abandoning this process and transformation towards the change goal.

In addition, membership in a community brings unfamiliar demands such as negotiating practical issues, reflecting about practice, 'revealing' personal work, risk taking, and exposure (Zellermayer and Margolin 2005). Referring to adult learning theories, these activities challenge basic assumptions and lead to conflict, fear, antagonism, and departure from comfortable routines (Grossman, Wineburg, and Woolworth 2001). While the communal model seems appropriate for teacher educators' professional learning, it brings inherent issues relating to the transition process.

We address the challenge of Bates, Swennen, and Jones (2011) and Loughran (2014) to understand *how* teacher educators' learn by exploring transition and its dynamics. Specifically, we attend to negotiating conflicts experienced in a communal professional learning process.

2. Method

2.1. Context of the study

This study is based on seven separate yearlong PLCs aimed at infusing thinking education into college teaching in a small undergraduate teachers college in Israel. An integrative approach to thinking education involved exploring higher order thinking strategies to enhance the content teaching in courses (Perkins 2009).

Initially teacher educators were exposed to aspects of teaching thinking (Ritchhart, Church, and Morrison 2011). They were asked to implement thinking education according to their individual understanding of how infusing thinking could improve their teaching. These initiatives were taken in mandatory classes. They reported their experiences to the group for in depth collegial discourse and feedback, followed by joint investigation with group reflection.

Participation in the PLC involved voluntary participation in monthly two hour sessions over each academic year, and faculty joined and left freely over the seven years. Acquainted with one another, participants were affiliated with various departments: Bible, mathematics, linguistics, history, and pedagogy. Of 49 participating faculty over seven years, 12 continued for more than one year, with an average 16% dropout rate. Because the group composition varied from year to year, each yearlong PLC exhibited a unique culture of interaction and norms. Both researchers took part in the PLC, one as an outside expert in thinking education who functioned as the group facilitator, and the other, a faculty member who functioned as participant observer. The workings of these seven PLC's are described in depth in our book on teacher educators' learning in community (Hadar and Brody 2017). This positioning of researchers created insider – outsider viewpoints on community and individual processes, enabling a holistic perspective. These viewpoints fostered reflexivity by counterbalancing bias in data collection and interpretation. Group members agreed to research procedures, and the college IRB approved the study.

2.2. Research goal

This study aims to understand dynamics of change among teacher educators in a PLC. Specifically we aim to unpack salient influences on teacher educators as they negotiate conflicts in communal learning processes and transition towards change in practice.

2.3. Data collection methods

Examining dynamics of change in PLC required studying individual participants over an extended period and comparison between participants. We used storyline methodology and incorporated other means:

2.3.1. Storyline drawing

Six teacher educators drew storylines in which they evaluated and clarified their professional development experiences, showing attempts to change practice and periods of non-implementation. This method enabled individuals to evaluate specific activity over time and present it graphically. The storyline drawn on the graph represents an evaluation of experiences chronologically on the horizontal axis. The vertical axis indicates emotional valence of positive and negative feelings about these experiences. Higher and lower points represent positive and negative appraisals, feelings of success or failure. We asked participants to evaluate relevant events throughout their experience in the community, including implementing and non-implementing innovative practice. Alterations in the line's direction occur at nodes of *critical moments* defined by the teacher educator as significant events marking change in their professional narrative.

Figure 1 (adapted from Beijaard, van Driel, and Verloop 1999, 49) illustrates possible permutations of lines. Each of the four lines indicates the informant's assessment of changes in their trajectory over time. For example, the progressive line indicates movement from negative to positive feelings about a change. Thus teacher educators represented their trajectory by connecting critical moments in their professional development.

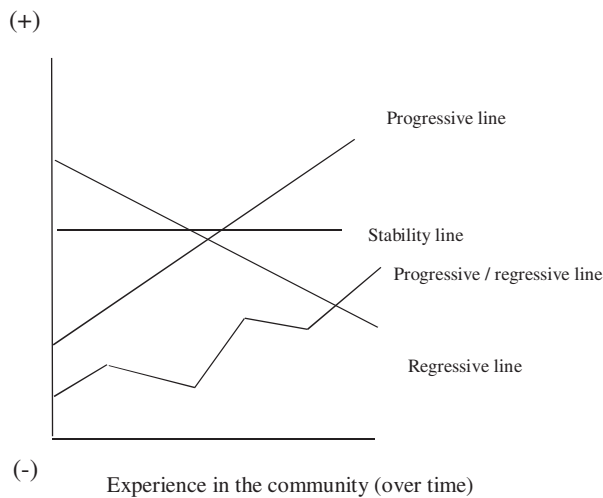


Figure 1. Possible storyline permutations.

The storyline method was inspired by Gergen (1988; Gergen and Gergen 1988, 2000) who investigated college students' feelings of well-being over time. It was applied to teacher education by Beijaard, van Driel, and Verloop (1999) who evaluated teachers' practical knowledge about relevant experiences throughout their career. This method's advantage lies in graphic clarity revealing emotional concomitants to change in practice.

Examining critical events provides insight into professional learning by revealing teacher educators' tacit knowledge of their development (Grimmett 2000) and responses to internal conflicts in learning situations (Zellermayer 2001). Moreover, the storyline sheds light on the evaluation process that requires selecting relevant experiences influencing learning (Beijaard, van Driel, and Verloop 1999). This method fits with narrative research tradition emphasising how informants make sense of experiences and events encountered in teaching (Connelly and Clandinin 1990).

This method's primary disadvantage involves the generality of information collected and possible failure of respondents to attend to relevant details (Gergen 1988). Moreover, critics note it's focus on relevance by emphasising high(est) and low(est) points, glossing over processes occurring between those points (Beijaard, van Driel, and Verloop 1999). As such storylines cannot represent the entire narrative, rather an abstraction of different encounters pointing to the most influential aspects.

Considering these weaknesses in storyline methodology we incorporated additional tools. First we asked teacher educators to label low and high points and describe inclines and declines through reflective writing about each critical moment, interpreting events leading to it and describing how it influenced their learning. Then they presented the storyline to colleagues, with reflective discussion about professional learning journeys, providing insight into directional storyline shifts. This discussion was recorded and transcribed.

2.3.2. Other data collection methods

In order to triangulate and deeply understand teacher educators' transitions we incorporated other data sources:

- We interviewed 29 teacher educators multiple times over the seven years to understand their professional development process and how the PLC affected practice. We also interviewed six dropouts about their experience in the PLC and about change or lack thereof in their practice.
- At the final meeting of each PLC, participants wrote reflectively about their experience over the year. Thirty reports were collected over seven years.
- Recordings of collegial dialogue in the PLC sessions provided insight into how teachers spoke about change in practice.

2.4. Data analysis methods

Data analysis included three phases. First we unpacked storylines by relating to graphic representations, written clarifications, and verbal explanations, categorising critical moments as high and low points and identifying characteristics of inclines and declines. This analysis revealed themes of the critical moments and influences that supported or hindered implementation of change. Examples of negative critical moments include frustration from lack of implementation or from student performance, negative evaluation of student

participation in class, and students' poor ability to demonstrate their thinking after direct instruction. Positive critical moments include awareness of student success, and supportive evaluation of teaching by group members. We then compared these themes and influences between participants, including pattern matching and explanation building (Yin 2014). Trustworthiness was obtained by independent analysis of the data by each of the researchers, followed by comparison and revision to achieve agreement.

The second phase involved examining critical moments of each teacher educator, explaining transitions from one critical moment to the next. This resulted in two overarching categories, negotiation of positive and negative influences and decisions about dealing with these influences. These categories describe a process of active involvement in shaping their own professional learning trajectory, suggesting a dynamic change model.

To validate the capability of the suggested model to capture dynamics of change, we applied it to multiple cases. In this third analysis phase we reexamined each storyline, plotting it on the suggested model. Other data sources elaborated different themes of critical moments and their dynamic nature, thereby achieving triangulation.

In the findings section we first present the dynamic model of change representing the multiple storylines, and then illustrate the model by highlighting one teacher educator's transition process through her participation in the PLC. We aim to deeply understand how teacher educators experience transition in professional learning in community, thus we present one storyline from start to finish as an illuminating case. To give voice to variation of teacher educators' storylines, we intertwine other participants' storylines within this narrative. This blending of the highlighted case with examples from other storylines provides a holistic view of the process of professional learning within community.

3. Findings

Teacher educators' professional learning was not represented by a steady line; rather we found a progressive/regressive line pattern representing fluctuations towards and away from proposed change (Zellermayer and Margolin 2005). Image 1, Dan's storyline, shows these fluctuations. While a pattern of fluctuations was consistent across cases, critical moments on the graph relate to unique aspects of the individual's progression and regression.

A careful grounded analysis of storylines and other data enabled abstraction of categories and relationships in the data, along with the processes from which these were derived. These categories are often implicit in the individual storyline; however, by presenting a conceptual rendering of data that has been fractured and reassembled, we were able to understand what the data is saying (Strauss and Corbin 1998).

Our analysis revealed a two factor paradigm of how teacher educators underwent the process of transition in communal learning. One factor represents change in practice through implementation of new methods and the other factor constitutes influences salient to the teacher educators.

The factor of implementation was of major importance in the data. Our findings show that teacher educators' critical moments consistently related to their decision whether or not to implement innovative practice. Teacher educators' verbal explanation of their critical moments revealed thinking that drove these decisions. This connection between a critical

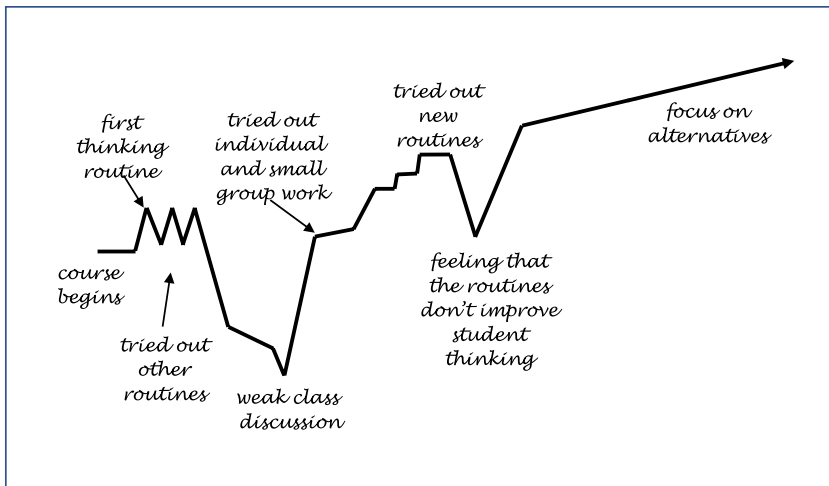


Image 1. Dan's storyline.

moment and a decision of whether or not to implement innovation reveals their understanding of their professional learning, which is bound up with change possibilities.

The second factor addresses influences of collegial support and student feedback on decisions to implement change. Multiple feedback loops affected teacher educators' pedagogical decisions. Collegial encouragement involved reflection on attempts to implement, modelling implementation, inspiring change through discussion, and relating to the utility of different methods. The teacher educators did not feel pressure from their colleagues to implement thinking education, rather they felt support and positive encouragement. Student feedback was also significant. This feedback was described as the presence or absence of student cooperation, engagement, satisfaction, motivation, achievement and even excitement.

The participating teacher educators evaluated student feedback in several ways. They monitored student satisfaction by taking note of student participation in class. These impressions were supported by artefacts generated from class activities related to thinking education initiatives. In addition, several teacher educators collected data on students' higher order thinking for their own research, which was another method of assessing students' evaluations of the thinking education endeavour.

We created a graphic representation of these elements with the implementation factors on a vertical axis and the feedback factor on the horizontal (Figure 2). Decisions to implement or not are represented by the top and bottom zones of the vertical axis. Type of feedback, from colleagues or students, is represented by the left and right zones of the horizontal axis. Interaction between the two factors explains specific characteristics of each reported critical moment. This interaction is represented on the graph in four quadrants: implementation related to collegial feedback (top left), implementation related to student feedback (top right), non-implementation related to collegial feedback (bottom left), and non-implementation related to student feedback (bottom right).

Each critical moment was assessed and plotted into one of the four quadrants, creating a graphic representation of the dynamic process of change. The points on the model

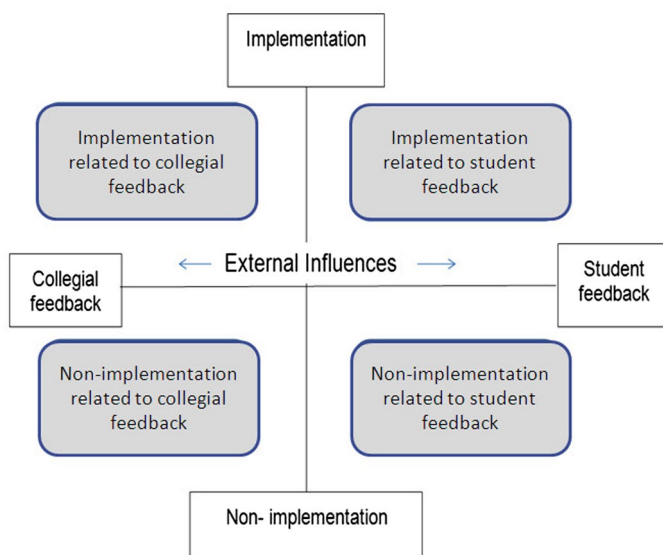


Figure 2. Transition towards change model.

representing critical moments were then connected according to their sequence in the storyline. This graphic representation of the dynamics of individual teacher development shows movement between implementation and non-implementation, as they interact with relevant feedback loops.

Our data suggest that the teacher educators related to each type of feedback as a distinct critical moment, focusing each time on only one type. This dynamic pattern is similar across subjects, although individuals experience different episodes defining their adaptation. Based on evaluation of current circumstances, individuals were found to exhibit different modes of adjustment to internal conflicts.

Our findings reveal a pattern of each critical moment resulting from teacher educators' negotiation between feedback and actual or desired implementation of pedagogic change. For many, this dynamic pattern created dissonance. In these cases the negotiation process supported decisions of implementation or nonimplementation of change. Others did not experience dissonance, rather the critical moment represented a decision to implement based on evaluation of feedback from colleagues or students. Major themes from the data sources elucidate forms of negotiations that occur and participants' evaluation of feedback followed by negotiation towards change.

The following section illustrates the dynamic process of transition for one participant in the PLC. We bring a thick description (Schon 1987) of her development over time in light of critical moments emerging from her storyline and defining the transition process. As the development of this teacher educator unfolds, we refer back to the dynamic model of change. We show how this single case interfaces with the collective by bringing other subjects' parallel but unique experiences, thereby integrating into the single case examples from other storylines.

3.1. *Shula: a search for student involvement*

A teacher educator in the Bible department, Shula participated in the PLC for six years. Her confidence to try new methods in the first year stemmed from belief that thinking education is crucial for future educators: 'This is important especially for them as teachers. ... I get frustrated because I feel that students are not used to thinking'. Collegial support and pressure catalysed this early implementation: 'The group experience helped me try it out ... I felt peer pressure to do something'.

At the year's end she received negative course feedback from students: 'I had a crisis ... The student evaluations were awful'. This marks the first critical moment in Shula's learning and resulted in her dropping out: 'I didn't join the group the following year. I said to myself, 'I can't deal with this'. This was a critical moment. I had to take a break'. This quote shows her negotiating dissonance between expectations of educating for thinking and feedback devaluing her approach. Her resolution involved backing away from the project. Her self-image as a thoughtful instructor had been challenged: 'I had to check out if it was me, or if I can succeed with this'. After a year she rejoined and continued implementing thinking routines in her teaching. The group facilitator queried her decision:

Facilitator: So why did you return? You could have said, 'This isn't for me'.

Shula: Because I believe in it. I think it's really important.

Shula's commitment to thinking education was a major influence in her process of negotiating between negative student feedback and positive collegial feedback. Upon returning to the PLC, she made pedagogic decisions which enabled implementation of change.

I went back to it differently. I planned less, and I transferred (thinking routines) to other courses (because) it didn't work for first year students

Her negotiation of dissonance involved evaluating feedback from students and colleagues, and then selecting a more appropriate course for implementing thinking routines.

Similarly, other teacher educators experienced critical moments based on evaluating student feedback and negotiating dissonance between feedback and their concept of good practice. Meirav, a didactics instructor, started implementing new methods in her first year in the PLC. Her first critical moment on her storyline relates to student feedback: 'Students complain when they experience the same thinking routines in different courses'. Evaluating student feedback created dissonance that she negotiated by halting innovative teaching techniques. The storylines of Shula and Meirav show how negotiation of dissonance due to student feedback led to different results. Shula left the group and returned after a year, while Meirav entered a moratorium from implementation represented by a steady storyline after this instance (Image 2).

Moshe's storyline reveals a different manner of negotiating dissonance resulting from negative collegial feedback. His initial attempts at supporting higher order thinking in his research methods course were met with student resistance and disapproval by the college librarian who found his approach to engaging students in data base search disruptive to library decorum. His evaluation of this negative feedback created dissonance resolved by adopting a less visible strategy. 'I can bring the language of thinking to any course (I teach) anywhere' (Image 3).

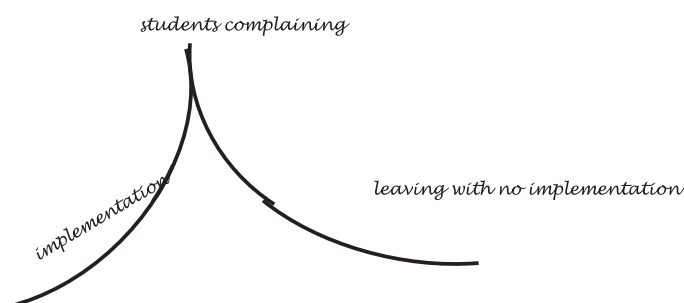


Image 2. Meirav's storyline.

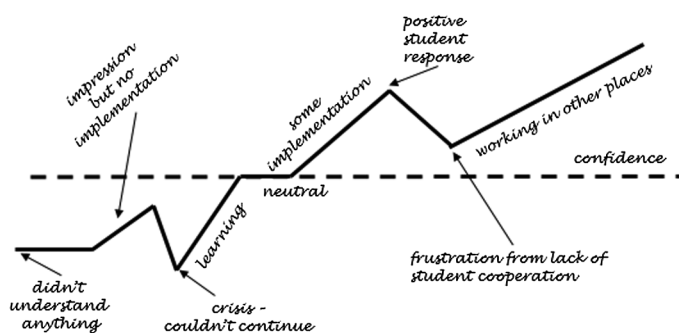


Image 3. Moshe's storyline.

The critical moments in the storylines of these three teacher educators show how evaluation of external feedback affects decisions about implementation, and illustrate the dynamic nature of professional learning. These three storylines show transition towards change through active negotiation of dissonance resulting in different decisions: moratorium, cessation, and morphing into another venue.

Returning to Shula's storyline, her second critical moment occurred after rejoining the group. Based on previous negative feedback, she deduced that thinking education is most effective when students are actively involved. The focus of her storyline at this critical moment shifted to evaluating student participation as positive feedback. Her graphic presentation shows inclines and declines indicating enhanced or decreased student participation. Her second critical moment indicates low student participation which triggered pedagogic innovation: 'Not everybody participated. Ideally I would have liked to have everybody do it on their own'. She then changed her pedagogy: 'I knew not to do it all on the board, because then only a few would participate. I did it in pairs; so there is some progress here'.

Rikki's storyline also represents evaluation based on student participation as significant feedback in her endeavour to implement change. Based on collegial support, she began to implement thinking education. Rikki's storyline indicates a critical moment when students rejected her innovation and requested frontal teaching. She experiences this negative student feedback as dissonance which she negotiated: 'I thought, 'Is this really important to them?' How do I bring them to awareness of the importance of thinking in their teaching?'

As her storyline reflects she resolved this dissonance by explaining the importance of thinking education and by encouraging student input to integrate thinking into the course. This resulted in a peak critical moment: 'The students participated'. Like Shula, Rikki measured her success by student participation. Shula changed her pedagogy to enhance participation and Rikki motivated her students by enlisting their participation.

Shula's changed pedagogy resulted in positive collegial feedback, which she evaluated as a factor in transitioning forward:

(The group) pushed me to think out of the box, to reevaluate, to think constantly about how to do it differently ... It's okay that it doesn't work out right. (laughs) ... My natural tendency is saying 'each class has to be perfect' ... It's ok. Relax, try something new ...

Both collegial support and awareness of student participation drove Shula's continued professional learning as she continued innovation. Her storyline reflects evaluating students' successes and failures in learning to think and reveals significance of student-learning outcomes.

It was terrible, sometimes it was very difficult for them to digress from preconceived beliefs and say that it's possible to look from a different perspective. Afterwards I required them to document their thinking process. This was operating on a higher plain.

Shula assessed student gains in thinking as relevant feedback empowering her to try again with her first-year course that had previously met with disaster. This process marks her third critical moment: 'This was the same course that hadn't worked in the first year. There are two possible interpretations of the text (we studied). They should explore both'. Shula recognised the turning point: 'I've been there, done that, it's over. But that's a critical moment'. This awareness signals transition from perceived failure the first year to success in the third. Her negotiation of student feedback when she attempted her ideas in a different venue translated into a critical moment in her professional learning.

In a similar fashion, Tova, a math teacher educator, drew a storyline that shows evaluation of negative feedback as failure. At the end of a lesson about differences between opened and closed questions, a student challenged her: 'How can this discussion help us teach the theory of square roots?' Tova reflected on her response: 'I was so upset by the student's ignorance of the importance of thinking that I stepped out of the classroom and cried'. Like Shula, her critical moment involved evaluating student feedback, leading to dissonance between her desire to implement change and the student's unwillingness to accept her innovation. As represented in her storyline, negotiation of this dissonance resulted in attempting a different strategy. The next lesson focused on the importance of critical thinking by showing a Ministry of Education curriculum illustrating this principle. She successfully used thinking routines to distinguish between types of questions: 'I have to learn to implement the thinking routines, to tweak them so they fit with my own situation. That's a method that succeeds'. Tova's storyline shows transition from rigid adherence to flexible adaptation resulting from evaluating student feedback and negotiating dissonance between what she learned in the PLC and classroom reality.

Shula described a fourth critical moment of incorporating thinking routines in a graduate level course:

One of the students thanked me: 'I thought about many things which I wouldn't dare to think about if you had asked me to say what I think. Now, I was much more open to see possibilities'. For me this was a very big compliment. This was the peak, really.

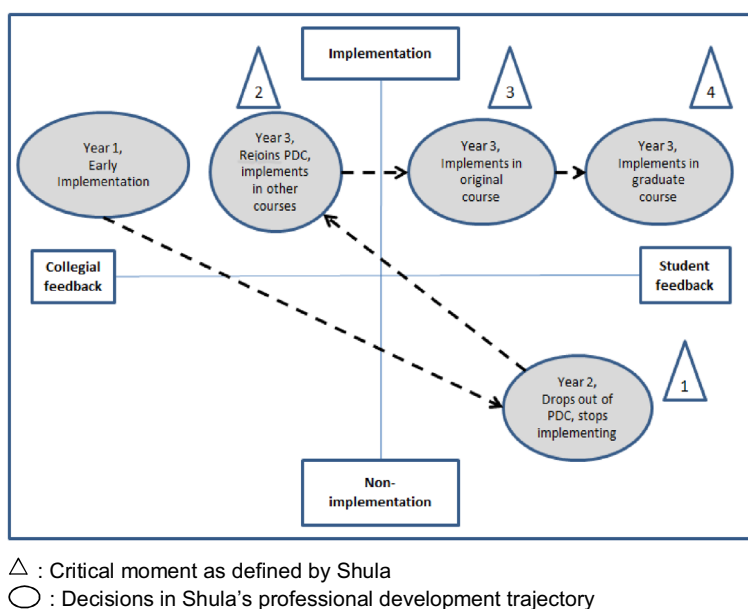


Figure 3. Storyline of Shula on the model of change. Critical moment as defined by Shula. Decisions in Shula's professional development trajectory.

Similar to her first critical moment, Shula frames her teaching by evaluating student feedback. This process led to a transforming experience confirming the efficacy of her innovative teaching and self-identity as a successful veteran practitioner.

Shula's storyline is illustrated graphically in Figure 3. This adaptation of Shula's storyline within our model of change shows the dynamics of her professional trajectory from a starting point of implementation through four critical moments of transformation.

4. Discussion

This study addresses growing interest in teacher educators' professional learning. Building on Fenwick's (2002) emphasis on sociocultural aspects of knowledge development among adults, our study reveals ongoing evaluative processes linked to dissonance and amplified with feedback. Critical moments are created in response to feedback. In the presence of negative feedback, teacher educators questioned implementation of new methods. Feedback-seeking behaviour indicates an active stance in achieving personal goals (Ashford, Blatt, and VandWalle 2003). Our data indicates the centrality of evaluating feedback in teacher educators' transition towards change. Feedback-seeking and evaluation together constitute components in their agency that drives professional development forward.

Our findings show professional growth resulting from interaction and negotiation of meaning within the community (Avalos 2011; Wenger, McDermott, and Snyder 2002), and from effects of implicit or explicit messages received from students and colleagues. While Opfer and Pedder (2011) describe change as collective responsibility, teacher educators' storylines showed change as an individual journey stimulated by learning in community and negotiated through interaction with students.

Types of dissonance and their solutions differ between teacher educators. However negotiation between requirements of the PLC and actual teaching situations was found among all participants. This process continually evolves as teacher educators encounter and respond to new challenges. Its dynamic nature stems from movement towards and away from innovative practice.

Adult learning theory sheds light on the central role of dissonance in transition and change processes. **Contradictions are necessary for adults to depart from current understandings and consider alternatives** (Illeris 2003). Negotiations of teacher educators in our study exemplify this approach. Building on Illeris's emphasis on dissonance, our research suggests that adult learning also occurs through evaluating positive and negative feedback. Furthermore, this study expands the context of adult learning to the communal context, using Illeris's model. Thus the study lays groundwork for further research focusing on negotiation of feedback loops as a dynamic process of change for professionals other than teacher educators. Expanding the context to other professional domains could test the validity of current findings and determine how they might apply to understanding professional learning and growth.

Another contribution of this study is promoting the storyline methodology for understanding individual and group processes. While previously used for students, this study expands implementation to teacher educators, highlighting its utility for revealing group dynamics that affect individuals.

Our dynamic model of professional development provides perspectives about the meaning of educational change for teacher educators. This negotiation process reflects ambivalence about professional standards, as teacher educators define what it means to do a good job partially through the lens of collegial and student feedback. This assessment affects their motivation to engage in transition towards change.

The implications of this study relate to the efficacy of the communal paradigm for teacher educators' learning. This fine-grained perspective shows how individual teacher educators move towards change through decisions to implement innovative techniques, and then negotiate these decisions through various feedback loops. Furthermore, the research highlights support afforded by the community for this difficult transitioning process. Academic deans and other university change agents might consider these factors when planning change-oriented endeavours for faculty.

A further implication of the study lies in the importance placed on various feedback sources for teacher educators. Their profession lies at the nexus of interaction between university administrators, colleagues, students, and supervising teachers. Our findings emphasise significance of feedback from these partners in the learning enterprise. This study encourages sensitivity to how such feedback affects change efforts for the teacher educators seeking to improve their practice.

As in any case study, this research is limited to a small group of participants whose perspectives shed light on multiple negotiations enacted in their professional learning. It could be that contextual factors such as community goals, learning content, and relationship to practice influenced the types negotiations made by teacher educators. Further research should examine teacher educators' negotiation of dissonance in other contexts including different aims and models of their professional learning. This expansion would contribute further insights into how teacher educators transition towards change.

Research on the professional learning of teacher educators relates mostly to benefits or outcomes, and rarely explores processes. Our study helps fill this gap, providing a basis for further research and heightens sensitivity to the personal and professional challenges that professional learning initiatives engender for teacher educators.

Disclosure statement

No potential conflict of interest was reported by the authors.

Notes on contributors

David Brody is Assistant Professor and Coordinator of Special Projects at the Efrata College of Education. His research interests focus on professional development of teacher educators and gender balance in early childhood education.

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