The construction of the identity of a Mathematics teacher and the influence of a Christian belief system: a narrative inquiry

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Abstract

This study elucidates the influence of a Christian belief system on the professional identity development of a young female Mathematics teacher in a South African primary school. It followed a qualitative approach, in particular a narrative inquiry, to show how the teacher constructed her story by means of Dewey's two principles of experience and Clandininian metaphorical three-dimensional inquiry space. Data were mainly collected through a written account of her identity and a personal interview, although relevant data from previous studies in which the teacher had participated were included. The story illustrated this teacher's experiences as a learner, her decision to become a teacher and her teaching experiences in schools. The influence of her Christian beliefs on her practice particularly illustrated the value of using a narrative inquiry to understand the development of the teacher's professional identity.

Opsomming

Hierdie studie werp lig op die invloed wat 'n Christelike geloofstelsel het op 'n jong wiskunde-onderwyseres se ontwikkeling van 'n professionele identiteit. Die betrokke onderwyseres, Alice, gee wiskunde by 'n Suid-Afrikaanse laerskool. Die studie volg 'n kwalitatiewe benadering en maak veral gebruik van 'n narratiewe ondersoek om te toon hoe Alice haar storie konstrueer aan die hand van Dewey se twee beginsels van ervaring en Clandinin se metafories driedimensionele ondersoekruimte. Die hoofdatabronne wat gebruik is, is Alice se skriftelike beskrywing van haar identiteit en 'n persoonlike onderhoud. Toepaslike data uit vorige studies waaraan Alice deelgeneem het, is ook benut. Die storie illustreer haar ervarings as leerder, haar besluit om 'n onderwyser te word en haar onderwyservaring in skole. Die invloed van haar Christelike geloofsoortuigings op haar praktyk illustreer veral die waarde van 'n narratiewe ondersoek om die ontwikkeling van haar professionele identiteit te begryp.

1. Introduction

Over the past two decades, numerous studies have focused on professional identity and its development (Castañeda, 2011; Gu, 2015; Gur, 2013; Hamman, Coward, Johnson, Lambert, Zhou & Indiatsi, 2013; Hodges & Cady, 2012; Lightfoot & Frost, 2015; Pinho & Andrade, 2015). Scholars have studied varying aspects of the development of a professional identity and therefore different scholars conceptualize professional identity differently (Beijaard, Meijer & Verloop, 2004:108). Studies inter alia focus on the professional identity development of pre-service or early career teachers; report on how teachers or teacher educators represent their professional identities through their stories; and identify the characteristics of teachers' professional identity (Bukor, 2011:111; Pinho & Andrade, 2015:21) and the ways in which teacher identity is co-constructed with colleagues (Wilkins, Busher, Kakos, Mohamed & Smith, 2012:65).

Studies of the professional development of teachers and professional identity development have previously been done in the school (Steyn, 2013; 2015a; 2015b). The stimulus for this research has been the revelation of a young female Mathematics Christian professional identity (cf Lightfoot & Frost, 2015:402). This study therefore explores the nature and development of the interconnectedness of Christian beliefs and interpretations which have

originated from personal and professional experiences, and which in turn shape the development of a teacher's identity. By exploring how the teacher makes meaning of the influence of her religious beliefs on her professional identity, this research may add epistemological value to an understanding of how spiritual and contextual influences affect the development of teachers' professional identity. As such the study focuses on the way in which the teacher negotiates her own subjectivity spiritually and reflexively, which refers to the culturally and socially determined nature and the normal expectations of a person's professional self (Tateo, 2012:345). It is important to understand teachers' experiences of their professional identity since these experiences may have an impact on teachers' efficiency, classroom practices and relationships with students (Hsieh, 2010:106; Vloet & Van Swet, 2010:150).

The starting point of a Christian approach is the personal relationship with Jesus Christ, which is based on the belief that all people are created in the image of God and that the followers of Jesus will develop Christlikeness through divine mercy and faithful stewardship (Chandler, 2015:315). According to Chandler (2015:317) and Gibson (2015:9) the love of God for people and the sacrifice of Jesus Christ are at the core of the Christian faith. It means that a Christian educator needs to model Christ-like love to nurture loving, healthy and caring relationships with learners, "to call forth the best in them" (Chandler, 2015:321) and to use opportunities sensitively to assist children in developing their full potential (Botha, 2014:2). Botha (2014:1) states that a person's commitment to follow Jesus Christ is based on an intentional decision that is to be made on a daily basis. South African schools have become multireligious institutions that place a huge responsibility on Christian teachers to show the love of God through their words and their actions (Botha, 2014:2).

2. Conceptual framework: Professional identity, narrative theory and Wenger's three modes of identification

Although professional identity is a complex phenomenon (Castañeda, 2011:3; Vloet & Van Swet, 2010:150), the different conceptual frameworks reveal mutual elements: a person's identity is shaped by several personal and contextual factors that interact in a reciprocal and dynamic way, and that identity is continually being shaped and reshaped over the life of an individual (Beltman, Glass, Dinham, Chalk & Nguyen, 2015:226).

The first aspect that all professional identity definitions agree on, according to the literature, is that both personal and contextual factors are taken into consideration (Beltman *et al.*, 2015:226; Hsieh, 2010:1; Moss, Gibson & Dollarhide, 2014:13). Kelchtermans (2009:260–261) elaborates on this view and distinguishes between two linked domains in his personal interpretative framework. These two domains are (1) representations of the professional self (professional self-understanding); and (2) the personal system of knowledge and beliefs about teaching. According to Vanassche and Kelchtermans (2014:117) teachers' professional self, like the personal self, consists of five interrelated elements, namely (1) self-image (how teachers portray themselves through their professional stories); (2) self-esteem (the development of the self as teacher, how teachers or others define them); (3) job-motivation (reasons for choosing, remaining in or quitting the teaching profession); (4) task perception (how teachers describe their work); and (5) future perspective (their expectations for the future development of their profession). Kelchtermans's (2009) framework is related to Kelly's (n.d.) Personal Constructs Theory, which states that personality development is a function of people's cognitions, specifically of their understanding of events in their lives. According to Kelly, personal constructs are a person's interpretations, deductions or conclusions regarding life. Such constructs are not static, but are continuously challenged or confirmed (Bukor, 2011:44), because there are many antecedent and contributory factors that have led to their development (Lightfoot & Frost, 2015:402). Individuals' construct systems represent the truth as experienced and understood by those individuals, which in essence means that construct systems are idiosyncratic (Bukor, 2011:44). This is an important point in this study, because it is important to respect the idiosyncratic interpretative processes of a particular participant.

A second aspect that all professional identity definitions in the literature agree on is that personal and contextual factors interact in a reciprocal way in identity development (Beltman *et al.*, 2015:226; Hsieh, 2010:1). Similarly, individuals' beliefs, experiences and interpretations of their lived experiences are intertwined (Bukor, 2011:38). This implies that everything is connected to and affects everything else. Reflection plays a key role in enabling individuals to construct their identities continually (Lightfoot & Frost, 2015:402). In this regard, Vloet and Van Swet (2010:151) state: "By reflecting on their stories and meaningful experiences, professionals can construct and reconstruct their professional identity." This also links to Hermans's (1999:1195) valuation theory, which is a narrative theory about meaning construction and reconstruction. The valuation theory postulates (a) that people, in their

telling of experiences in their lives, organise such experiences in terms of units of meaning, or so-called "valuations"; (b) that these valuations and their configuration are influenced by basic motives; and (c) that the basic motives are articulated in the affective component of a valuation (Hermans, 1999:1195).

The third aspect that professional identity definitions agree on is that personal and contextual factors interact in a dynamic way over an individual's lifetime. The construction of a professional identity is therefore an ongoing, dynamic process where experiences are interpreted and re-interpreted throughout the person's career (Beijaard *et al.*, 2004:109; Beltman *et al.*, 2015:226; Lightfoot & Frost, 2015:402). Moreover, Gur (2013:192) and Lightfoot and Frost (2015:402) state that people need to co-exist with relations, positions and institutions that are either created by people themselves or formed within social contexts. According to the social identity theory, membership of social groups affects a person's identity (Tajfel & Turner, 1979:2); this is echoed by Wenger's (1998, 2012) concepts of "social learning" and "community of practice". When teachers engage with one another, and decode themselves and the others, their knowledge of their own practice expands, and their understanding of themselves and how they position themselves within the teaching profession changes (Cross & Ndofirepi, 2015:98).

Wenger (2012:2-3) identifies three modes of identification: (i) through their engagement with others, people get a sense of who they are; (ii) their imagination allows people to reach beyond the world of their networks (communities of practice) intellectually; and (iii) alignment is improved when there is a strong bond within a community of practice (Cross & Ndofirepi, 2015:98). Giddens's (1984:5) structuration theory states that social structures shape a person's identity, but are consecutively influenced by the agency of that person. For Giddens (1984:5) a human being is a "purposive agent" whose actions are not only influenced by intentions, but also by an ability to do those things. Moreover, the notion of "identity being a self-constructed phenomenon suggests that individuals have some capacity for agency" (Lightfoot & Frost, 2015:403). In this regard Lasky (2005:900) states that agency is always mediated by the interaction between the attributes and dispositions of the individual, and the structure and mechanisms of a social setting.

Considering the above, it is clear that a teacher's professional identity is unique, dynamic and ongoing. It is the sum of all her past and current contextual influences and experiences, which are closely linked to previous and current personal and professional constructs in a teacher's profession.

The interest and purpose of this study conform to the typology of an exploratory case identity construction (Castañeda, 2011:72).

3. Research design and school context

For the purpose of this study a qualitative approach, in particular a case study within the social constructionist paradigm, has been chosen (Creswell, 2013:24; Terre Blanche, Kelly & Durrheim, 2014:277; Lindegger, 2014:461; Ormston, Spencer, Barnard & Snape, 2013:17). It focuses on the story of a young female Mathematics teacher's development of her professional identity based on her Christian belief system. Storytelling is a unique way in which an individual makes sense of experiences of significant events in their life (Grbich 2013:217; Hamman *et al*., 2013: 313; Ormston *et al*., 2013:17; Terre Blanche *et al*., 2014:27). This approach is suitable for the study because it has the potential to produce rich data about the unique and changeable disposition of the teacher's professional identity (Lightfoot & Frost, 2015:406). Clandinin, Humber, Murphy, Orr, Pearce and Steeves (2006:9) view teachers' professional identity as a distinctive personification of such stories that develops from their knowledge based on the previous and present contexts in which they live and work. Moreover, Beijaard et al. (2004:123) recommend the use of narratives to describe teachers' development of professional identity. Such narratives that include a view of the self as well as the context may provide insights that can assist other teachers in shaping their professional identities (Akerson, Pongsanonb, Weiland & Nargund-Joshid, 2014:2058).

Since narratives reveal what teachers care about the most when sharing their life stories, they enable teachers to develop a sense of professional identity that corresponds with their philosophical beliefs about their teaching role, emphasizing their choice to care for students (Tateo, 2012:345). According to Tateo (2012:345) caring involves those emotions, behaviours and reflections that result from a teacher's desire to encourage, motivate and help students to succeed.

The study formed of part of a project at a purposely selected primary school in Gauteng. Recent studies on teacher collaboration and professional identity in the mathematics department of the school (Steyn, 2015; 2016a; 2016b) revealed the strong Christian belief of the participant. During personal interviews and in written accounts the participant, Alice, explicitly expressed her religious orientation. This explains the purposive selection of this participant (Creswell, 2013:154). The urban, Afrikaans-medium, primary

school is located in a middle-class community. When the new principal was appointed in 2010, he introduced horizontal and vertical teacher teams in the school. He also arranged mathematics classes for 15 learners in Grades 5, 6 and 7. The success of this approach was evident from the school's outstanding performance in mathematics in the 2014 Annual National Assessment (Republic of South Africa, 2014:52, 55, 58). Their average performance was significantly better than the average in Gauteng and South Africa, which supports the school's motto: "Mathematics is tops."

According to Castañeda (2011:67) a teacher's life and work denote a complex reality. It implies that exploring the way in which teachers construct their professional identity can only be revealed through the use of methods of personal reflection or professional conversations. Narrative inquiry recognizes the complexities of individuals' experiences and contexts which develop through the past, present and future, and through the stories being told (Swanson, 2013:9). Narrative inquiry is based on Dewey's (1997:17) two principles of experience of interaction and continuity. Interaction refers to the developing relationship between individuals and the contexts in which they work and live in the world (Dewey, 1997:13). Moreover, individuals' past experiences influence present situations and also the contexts in which they work and live. Dewey's second principle of continuity of experience means that every experience is shaped by a previous experience, which is then modified by others following on this experience (Dewey, 1997:13). For the purpose of this study, Dewey's two principles of interaction (personal and social) and continuity (past, present and future) were investigated in the participant's narrative. In analyzing Alice's narrative, the researcher also used the Clandinian metaphorical three-dimensional inquiry space of personal and social (interaction), temporality (past, present and future: continuity), and the place (situation) (Clandinin & Caine, 2012:174; Creswell, 2013:75) to compile detailed descriptions.

Rich data were collected through a follow-up written self-narrative and an in-depth interview, which focused on the influence of Christianity on Alice's professional identity. The self-narrative had an open structure in which the teacher gave a narrative account of her professional experiences (Forte & Assunção, 2014:94; Vanassche & Kelchtermans, 2014:119). The interview followed a conversation style, and follow-up and probing questions were asked when required (Castañeda, 2011:99; Hamman *et al.*, 2013:314). Both in the written account and during the personal interview, attention was paid to the participant's professional identity development as it related to her personal background before joining the profession; her Christian belief system and its influence on her work life; the influence of previous

and current contexts; and future expectations for her career. This interview, like the previous interviews, was transcribed. The Afrikaans written account and transcribed interview were then translated into English. The teacher's identity portrait was sent to her for her approval and possible amendments (Vanassche & Kelchtermans, 2014:120; White, 2014:439).

Two techniques were combined to ensure the trustworthiness of data: the teacher's written account and the transcript of the individual interview were read and reread in depth to search for the special meaning of Christianity in the respondent's professional identity development (Gu, 2015:193; Vanassche & Kelchtermans, 2014:119; White, 2014:439). Moreover, previous written accounts and personal interviews were reread to see how the participant expressed the influence of Christianity on her professional identity development.

Measures were taken to ensure that the study would be ethical. The participant, the principal of the school and the Gauteng Department of Education gave their informed consent for the study form. For ethical reasons a pseudonym, Alice, is used to refer to the teacher in this study (Gu, 2015:193; Hamman *et al.*, 2013:313).

4. Findings

The narrative of Alice was analysed firstly in terms of its uniqueness regarding the development of her professional identity and, secondly, to identify themes from her story and their link to her Christian beliefs and their influence on her practice. Dewey's two principles as well as the metaphorical three-dimensional inquiry space of Clandinin guided the narrative. The first theme referred to individual factors such as personal experiences as a learner and pre-professional teaching experiences that influenced Alice's professional identity (interaction and sociality). A second theme related to the influence of the Year for Christ that served as foundation of her religious beliefs, and the impact that experience had on her career choice and identity as teacher (interaction, temporality and place). The third theme showed Alice's experiences based on practice-based factors in her current school context and her resolve to continue to develop (place and continuity).

Alice joined the teaching profession in 2008 and the school in the study six years ago. She had a BEd (Hons) with mathematics and planned to continue with her master's degree. She recalled her own school experience and spoke about the negative experience she had of her Grade 8 and 9

mathematics teacher. He disliked being a teacher and was only interested in school sports, which negatively influenced her performance in mathematics. However, in Grade 10 she was taught by a "very decent" teacher. She was "an inspiration" who believed that every child could do mathematics. This teacher's teaching philosophy and love for mathematics rubbed off on Alice. Alice explained how the teacher believed in her ability and how she played an indispensable role in her life and career. "In my classroom, learners are never allowed to give up. Giving up is just not on. This is what I learnt from the teacher who believed in me." Moreover, "she motivated me to be a better person, to praise people who do well, to help people". Alice had one negative experience with a lecturer at university. She addressed the lecturer "Mrs" instead of Doctor. This lecturer's response gave her such a "huge fright" and she was too "scared" to ask her anything again. She learnt that it was very important "never to be unavailable to a learner who needs help".

After matric Alice joined a Year for Christ programme that played a defining role in her career and life choices. During that year personality tests were done and career choices were discussed. These indicated that her natural ability and "strong points" were to teach. She has never regretted choosing a career in teaching.

Alice continued her BEd studies when she started working as beginner teacher. The first school where she taught was small and the majority of its learners were from mining and other disadvantaged communities, and diverse cultures. The circumstances at school and in her classroom were very challenging – sometimes she had to use a whistle to get the attention of learners, because "your voice could just not be heard above the din in the classroom". Alice explained how difficult it was for her to "find herself", and to study and teach during that time. In that school she was "friends with learners, really too pally", which in hindsight she realized was "a huge mistake" – learners require someone "to show guide the way and set boundaries".

As a beginner teacher she was "afraid" of parents who rushed into her classroom to complain about her teaching and the results of their children. With more professional experience and subject knowledge she could explain to them with confidence why the learner was struggling with mathematics or why he or she failed the test.

> In the beginning my nerves were shot before a parent evening, but now I am more self-confident; I am no longer scared of dealing with problems and parents' reactions. I am a much more confident teacher.

She realized that it was necessary and important to empower herself to become a "better" teacher, which explains why she had a strong desire to enrol for a master's degree in mathematics education. "One cannot stagnate … if you stagnate you will die." She regarded it as her responsibility to empower herself.

> Sometimes theory and practice seem to be incompatible and I can gain experience by seeing how to keep a class quiet, for example. I can learn from experienced teachers, like many of my colleagues, how to be the best possible teacher a child can have.

Alice's Christian principles played a determining role in her desire to look at learners holistically. "Every child is precious, uniquely created, which is why I want to help them in my own way to become the best they can be." She learnt that many learners' poor performance could be attributed to their particular challenging circumstances. For her the world was "tough" outside and she believed she was put in a position "to give them Jesus's love." She elaborated:

> I firmly believe that the words I say to learners reflect that which is in my own heart. If my heart is not filled with love, I cannot guide the learners in my class to a place of rest and peace. I am the one who must create an environment that is conducive to learning, and my words mean a lot more than my actions. Sometimes we fail to see the learner behind the content we must teach. We have been trained to focus on learning, and then we forget that the learners in the classroom are struggling with their own problems. I can therefore really make in difference in learners' actions and reactions. Maybe I can even help without being aware of helping!

It was important to Alice to motivate learners and to "remember the child behind the subject", "The content you teach is important, but the children themselves also have feelings and emotions. ... Every learner in your class is scared of maths or loves maths... Your task is to teach the theory of mathematics in a way that meets learners' needs, including their emotional needs."

Alice encountered many learners who for various reasons were afraid of mathematics. She regarded it as her responsibility to teach the theory of mathematics while meeting learners emotionally. It meant that she had to help learners to get rid of their fear and to change their "mindsets". As such she told learners at the beginning of each year how important their attitude towards mathematics was. Alice succinctly explained her teaching philosophy:

> Learners will forget the content, but they will always remember that you cared … It doesn't help to have a 100% pass rate if your learners are afraid of you, or even worse don't like your subject … Every child can do mathematics … Believe in your learners and take trouble: motivate and praise all the time!

Her belief implied that she needed to "have compassion" for learners and not only teach mathematics and "drum the times tables into their heads". It was also important for her to encourage learners to develop a passion for mathematics. If a teacher respects every child and succeeds in teaching children to love mathematics, "you can give yourself a pat on the shoulder… It doesn't help to have a 100% pass rate but your learners are afraid of you or, worse still, do not love your subject".

Alice indicated that it was not enough to adhere strictly to the Mathematics curriculum in a changing world. She tried to "awaken" learners' love for mathematics and therefore tried to share "interesting" ideas that she had read about in books, on school websites or on social media: "You have to read a lot; you can't just stagnate." She recalled this quote that supported her belief: "If a child learns what you teach, why not teach to let a child learn?"

Alice also thought it was important to inspire other teachers to improve their teaching practice. She wanted to encourage them to approach certain mathematical lessons differently and to remember the child behind the subject. Many teachers, though not in their school, regarded teaching as a "routine" and only repeated the same experience year after year. Alice mentioned a book she had read that "grabbed her heart". In this book two students in Colorado committed suicide after they had murdered their teacher and fellow classmates. They found school "unbearable"; they hated it. In their suicide letter they said that the murders were the teachers' fault, because they had known about bullying in their classrooms and yet did not do anything about it.

According to Alice her current school played an important role in the development of her professional identity. She said that the school had a positive "vibe", which she found pleasant and enjoyable, and that it helped her to feel part of the school. This school received the prestigious Inviting School Award from the International Alliance for Invitational Education for meeting the criteria of the five Ps (people, places, policies, programmes and processes) (Purkey & Novak, 2008:vii). In accordance with its vision, the school strived to inculcate a strong Christian character through five prominent values: love, respect, integrity, excellence and faith (Steyn, 2013:7). Alice also acknowledged the "many systems, many umbrellas" that were available to support teachers and created an environment where "learning is a high

priority ... The school offers a lot of emotional support. Staff members really care about one another and share in each other's joys and sorrows."

Alice had great admiration for her mentor, an experienced and "an unbelievable teacher … I'd really like to be more like her." She explained the influence of this mentor:

> As beginner teacher I can learn so much from her. Although she does not often ask whether I have problems, I know I can go to her at any time for help. She can always suggest a solution when I need one. When I have a problem, she helps me to look at the situation calmly. She has phenomenal knowledge based on many years' experience. She approaches difficult situations calmly and think them through, which helps me a lot.

Other mentors also helped her to feel at home at the school and they shared their knowledge and skills. Alice also valued the "healthy competition" among mathematics teachers that prevented her "from becoming a teacher who is stuck in a rut, doing the same things year in and year out ... I strive to be a teacher who not only stays abreast, but also puts in extra effort to excel".

Although Alice had many support systems and accepted her responsibility to execute certain tasks, she expressed a need for more professional guidance. She appreciated that all her test and examination papers were checked for spelling errors, but she also wanted more experienced teachers to check the standard and contents of her papers to make sure that the questions covered the curriculum. She elaborated on her need for more support:

> I would have liked to trim management – I would like them to ask: Are you coping? Are you being the best possible teacher in your classroom? They should not only visit when things go wrong. Perhaps they should not ask: What happened? Are you OK? Perhaps they should visit my class throughout the year.

This school had "a few unwritten rules" that teachers had to obey and respect, and expectations they had to meet. For example, teachers were never allowed to call a learner "'stupid', because you would definitely not win that child over". The school's work ethic meant that teachers "can't sit behind their desks; it does not work like that here".

> If the principal walks into my classroom and I am sitting behind my desk, I need to have a very good reason for it. I have to walk around in my class and help the children. We have smaller maths classes, about 15 learners per class. These class sizes enable me to pay attention to every child, which must surely have a positive effect on the marks they achieve.

5. Discussion

The study shows that Alice's professional identity was shaped by her early experiences as child and learner (Gur, 2013:193), her religious disposition and the two different school contexts. Her one mathematics teacher, who was a "good teacher", was her role model and palyed a role in the development of Alice's professional identity (Bukor, 2011:300). Although these factors interacted with one another during the development of her identity, they did not contribute equally to her identity (Gur, 2013:193). Alice's personal attributes, her Christian faith and her views on educatio were the primary reasons why she chose to become a teacher (Canrinus, 2011:9; Chandler, 2015:315). Teaching gave her an opportunity for personal development that showed a complex relationship between her own history and career choice (Bukor, 2011:300).

Kelchtermans (2009:257) maintains that a teacher develops an interpretative framework and that this framework is continuously shaped and re-shaped through interaction among colleagues and the working conditions of school contexts. In line with this view, Canrinus (2011:7) states that the personal interpretative framework consists of a set of cognitions that functions as a lens through which teachers view and give meaning to their work; it determines how they act. This framework is both a prerequisite for and an outcome of the interaction, which represents the expansion of teachers' development over time (Gur, 2013:195; Kelchtermans, 2009:260-261). According to Kelchtermans (2009:261), teachers' sense of self is very prominent in their accounts about their practice, which was also shown in this study. Developing a professional self depends on situations a beginner teacher like Alice was placed in at a school, and also the manner and degree in which she engaged with other colleagues at the school (Cross & Ndofirepi, 2015:108). Castañeda (2011:37) maintains that belonging to a teacher community plays a foundational role in the construction of a teacher's professional identity. As indicated in the study, Alice acknowledged the care and support she received from colleagues, but felt a need for more interaction (Mason, 2012:221).

It is important that teachers should know exactly what they value about being a teacher, and upon which standards, values,and beliefs they base their teaching (cf Vloet & Van Swet, 2010:150). As Alice indicated, societal changes challenged teachers. She had to keep abreast of interesting mathematical knowledge to stimulate learners' passion for the subject (Tateo, 2012:347–348), but simultaneously had to focus on learners' personal well-being (Vähäsantanen, Hökkä, Eteläpelto, Rasku-Puttonen & Littleton, 2008:17).

She cared about them and desired to help them with their personal problems and to inculcate life-values in the learners (Vähäsantanen *et al.*, 2008:17). Alice tried to model Christ-like love and help to develop learners' full potential (Chandler, 2015:321). Her willingness "to blur the boundaries between the personal and professional" with her learners was a core component of her professional identity, which also reflected her fundamental beliefs about how to teach learners effectively by being caring and human (Lasky, 2005:908). She believed that her affective relationship with learners could influence them to take greater interest in mathematics (Lasky, 2005:907).

The study showed that Alice's professional identity (1) was an ongoing process shaped and reshaped by experiences; (2) entailed the person and the context; (3) comprised sub-identities that essentially harmonized, as shown in Alice's Christian disposition; (4) included agency, an important part of professional identity which shows that a teacher needs to be active in the professional identity development (Beijaard *et al.*, 2004:122). Alice repeatedly mentioned the high level of care and support for teachers in the school (Hodges & Cady, 2012:117). She also noted the value of competition (Cross & Ndofirepi, 2015:108) and collaboration with her mentor and other teachers in the department.

6. Conclusion

Alice's perspective on her professional identity as mathematics teachers yielded several important ideas. First, Alice's identity evolved towards being the "best teacher" she could be, and this empowered her to look for strategies to improve her teaching and inculcate love for mathematics in learners. Additionally, Alice valued the conducive school environment and the support of mentors and colleagues in her attempts to become an excellent teacher. She made a special effort to understand her mathematics learners and to take care of their well-being. In this regard her Christian perspective served as foundation on which she based her approach and behaviour. It is difficult to say whether Alice's professional identity development would have used similar approaches had she not placed such a high premium on her Christian values. However, as a relatively young teacher, Alice was on a trajectory to continued development to prevent stagnation. This is an important point, because it is efforts towards continuous change that foster the development of a certain kind of mathematics teacher, in this case a Christian mathematics-teaching identity (cf Hodges & Cady, 2012:121). This implies that appropriate processes are necessary to foster Alice's development and these processes

should be identified. Special attention should be paid to experiences that will add to her current Christian mathematics-teaching identity.

In this study Alice, a young mathematics teacher, provided valuable insights into the identity of a teacher. She endeavoured not only to see herself as a committed mathematics teacher, but also to consider and care for each learner based on her Christian values. The South African education system needs teachers who not only teach mathematics, but also inculcate values like care and love in their learners.

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