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The impact of second language teacher education on the development of pre-service teachers' pedagogical beliefs

El impacto de la formación de profesores de segundas lenguas en el desarrollo de las creencias pedagógicas de los futuros profesores

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Abstract:

The current study explores the impact of second language teacher education (SLTE) on the development of the pedagogic beliefs held by fifty student-teachers enrolled in a public university in central Mexico. Specifically, the research investigates the extent to which conceptions of effective teaching changed, or didn't, over the course of a four-year BA. Repertory grid interviews were used as the primary method of data collection. The repertory grid technique is the best known of several data solicitation instruments associated with the field of personal construct psychology. Both qualitative and quantitative were collected and an assessment of cognitive complexity and principal component analyses were carried out. Results suggest that the participants who were SLTE students did not appear to significantly change their pedagogic beliefs over the course of the educational intervention. However, graduates of the SLTE program were found to hold significantly different kinds of pedagogical beliefs than those of the participants who were still enrolled in the BA, particularly in terms of their beliefs about reflection, student autonomy, and student-centeredness. This suggests that with time, internalized learnings from the program may come to the fore and positively impact teacher practice.

Keywords:

Second language teacher education, L2 pedagogy, teacher beliefs

Resumen:

El presente estudio explora el impacto de la formación de profesores de segundas lenguas (SLTE, por sus siglas en inglés) en el desarrollo de las creencias pedagógicas de cincuenta estudiantes de magisterio matriculados en una universidad pública del centro de México. Específicamente, la investigación indaga en qué medida las concepciones sobre la enseñanza efectiva cambiaron, o no, en el transcurso de una licenciatura de cuatro años. Como método principal de recolección de datos se utilizaron "entrevistas de repertorio." La técnica de las entrevistas de repertorio es el más conocido de varios instrumentos de recolección de datos asociados con el campo de la psicología de la construcción personal. Se recogieron datos tanto cualitativos como cuantitativos y se llevaron a cabo una evaluación de la complejidad cognitiva y análisis de componentes principales. Los resultados sugieren que los participantes que eran estudiantes del SLTE no parecían cambiar significativamente sus creencias pedagógicas a lo largo de la intervención educativa. Sin embargo, se observó que los graduados del programa SLTE tenían creencias pedagógicas significativamente diferentes a las de los participantes que seguían matriculados en la licenciatura, sobre todo en lo que se refiere a sus creencias sobre la reflexión, la autonomía del estudiante y la atención centrada en el estudiante. Esto sugiere que, con el tiempo, los aprendizajes interiorizados del programa pueden tener la oportunidad de salir a la luz y repercutir positivamente en la práctica docente.

Palabras Clave:

Formación de profesores de segunda lengua, pedagogía de L2, creencias de los profesores

Introduction

Since the 1970's, second language teacher education (SLTE) has, as a whole, tended to move away from approaches aimed at introducing teacher candidates to classroom techniques and skills to approaches in which students are encouraged to develop their own pedagogic theories and reflect on their own development as instructors (Richards & Nunan, 1990). Critics of such training have accused it of producing "parallel models" or "separate lines of thought" whereby student teachers learn the rhetoric of their teacher education program without real development of their reflective capabilities

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and awareness (Von Wright, 1997, p. 264).

The current study concerns students who were enrolled in a second language teacher education program at a public university in central Mexico. The primary aim of the study is to explore the ways in which the program influenced these students' beliefs about foreign language teaching. Did conceptions of effective teaching change over the course of the participants' four-year BA? And if so, how?

Literature review

Scholars concerned with language teaching have long taken an interest in the role of formal education in shaping what instructors believe, know, think and do. Bailey et al. (1996) assert that language teacher education programs should lead the teacher to a better understanding of his or her own "assets, beliefs, and values," and help teachers steadily improve their competencies (p. 27). The question, of course, is whether language teacher education really does do these things. Research has produced contradictory findings. Studies concerning the effects of language teacher education break roughly evenly between those that suggest that SLTE programs have, at best, a marginal impact on changing pedagogical beliefs and those that suggest that teacher education programs can, in fact, play a significant role in shaping how instructors think about their work.

Many studies evince scepticism regarding whether teacher training programs have any more than a negligible impact on students' beliefs and underscore the idea that language teacher beliefs are rigid and difficult to modify (Borg, M., 2005; Burke, 2006; Cota Grijalva & Ruiz-Esparza Barajas, 2013; Johnson, 1994; Kagan, 1992; Kunt & Özdemir, 2010; Peacock, 2001; Pennington & Urmston, 1998; Urmston, 2003). Such rigidity is regularly attributed to the powerful influence of the trainees' prior experiences as learners.

In her influential research review of forty learning-to-teach studies, Kagan (1992) argued that the failure of SLTE programs stemmed largely from the inflexibility of the personal beliefs that pre-service candidates bring to teacher education programs. She concluded that "candidates tend to use the information provided in coursework to confirm rather than to confront and correct their pre-existing beliefs" (p. 154). Other research has corroborated Kagan's findings. Bailey et al. (1996) take as their point of departure the idea that "we teach as we have been taught," rather than "as we have been trained to teach" and ask whether pedagogical intervention is enough to break the cycle of imitation or if instructors are compelled to perpetuate the instructional patterns they acquired as language students (p. 11). Johnson (1994) likewise remarked that the most striking pattern that emerged from her data was the strength of prior experiences to shape teachers' perceptions of themselves as educators and their behaviours in the classroom.

The view that teacher training has a limited or nugatory impact on teacher beliefs is not unanimously supported, however (Badger, MacDonald, & White, 2001; Borg, S., 1998, 2011; Bremmer, 2020; Cabaroglu & Roberts, 2000; Debreli, 2012; Gürsoy, 2013; Gutiérrez Almarza, 1996; Mattheoudakis, 2007; Phipps, S., 2010; Richards, Gallo, & Renandya, 2001). In one oft-cited study, for instance, Gutiérrez Almarza (1996) argued against the idea that teacher training courses have little impact on how teachers think about their work. The picture that emerged from her own work was more complex: "… a large proportion of the transformations in pre-training knowledge had its origin on campus during the teacher education programme and before student teachers took up their school placements. These changes were related to the way they selected content, provided explanations, and organized activities during teaching practice" (p. 71). Cabaroglu and Roberts (2000) reported that nineteen of the twenty participants in their study of pre-service teacher beliefs showed some development. The authors hypothesized that the observed changes were attributable to the "belief development opportunities" that the students were afforded during their certificate program.

In a study by Borg (1998), the author concluded that SLTE had a lasting impact on the study participants' professional practice and was powerful enough to "blot out" prior beliefs about the value of explicit grammar work instilled by the participant's own experience as a language learner. In another study by Borg (2011), the author carried out a longitudinal study designed to examine the impact of a teacher education program on the beliefs of six English language teachers. Borg concluded that the program had a considerable, if variable, impact on the teachers' beliefs. "The course allowed teachers to think more explicitly about, become aware of, and articulate their beliefs, to extend and consolidate beliefs they were initially-and sometimes tacitly-positively disposed to, and to focus on ways of developing classroom practices which reflected their beliefs" (p. 1). Mattheoudakis (2006) tracked a group of pre-service EFL teachers through a three-year teacher education program. She concluded that the majority of student beliefs developed gradually from one year to the next and noted that in several cases, significant changes were observed between the first and the last year (p. 1283).

Relatively little research into the impact of SLTE has been conducted in Mexico, the site of the present study. One aim of the current paper is to contribute to filling this lacuna. As with research conducted in other countries, Mexican studies to date can roughly be divided evenly between those that fail to show many positive effects of L2 teacher education program and those that support the

idea that such programs benefit their students. On the positive side of the ledger, Cota Grijalva and Ruiz-Esparza Barajas (2013) report on their longitudinal study tracking the development of fourteen students' pedagogical beliefs across four semesters of an eight semester SLTE program. Their findings showed that the pedagogical beliefs held by these pre-service teachers were altered as a consequence of the educational intervention: there was an increase in their understanding of the complexities inherent in teaching and learning. Bremner (2020) investigated the characteristics of teacher education that were relatively more or less useful in terms of influencing English instructors' beliefs by eliciting the "life histories" of five university English teachers in Mexico. The author identified five characteristics of effective teacher education programs, including longer courses, opportunities for real practice, constructivist teacher-learning, immersion in new practices, and contextually appropriate reflection. Such reports, however, are inconsistent with other investigations showing limited or insignificant changes to trainee beliefs. Villarreal Ballesteros, Olave Moreno and Flores Delgado (2020) examined the conceptual metaphors used by pre-service teachers in order to uncover their underlying pedagogical beliefs. The authors concluded that despite exposure to theories of teaching and learning and time spent in practicum courses, the pre-service teachers in their study tended to embrace outmoded theories. Lemus-Hidalgo (2017) analyzed data taken from observations, interviews, conversations, class videos and the journal entries of four Mexican language teachers in order to identify the sources of their core pedagogical beliefs. The author concluded the participants mostly derived their beliefs from their own personal and professional experiences rather than from their pre-service SLTE programs.

Methodology

The current investigation can be described as a synchronic, exploratory-descriptive study based on data obtained through survey research, defined as "the collection of information from a sample of individuals through their responses to questions" (Check & Schutt, 2012, p. 160). Research participants were identified on the basis of convenience sampling and included 10 students from each of the four years of a SLTE program at a public university in central Mexico. Ten graduates of the program were also included in the study. In all, 50 participants took part in the research. Before the interviews took place, an informed consent letter was sent to each participant, which they then signed and returned.

The repertory grid technique (RGT) is the most famous of the methodologies associated with George Kelly's (1955, 1963) theory of personal construct psychology. Theoretically, repertory grids "reflect part of a person's system of cross-references between their personal observations and experience of the world … and their personal classifications or abstractions of that experience" (Shaw, 1984, as cited in Zuber-Skerritt, 1988). Practically speaking, the rep grid is a type of semi-structured interview which results in a two-way classification of data in which entities or events (termed "elements" in Kellian nomenclature) are interlaced with abstractions (termed "constructs"). An example of a completed rep grid can be seen in Figure 1.

Figure 1. A completed repertory grid.

1	ELEMENTS							7
Emergent Pole	Teacher 1: **Ann**	Teacher 2: **Bill**	Teacher 3: **Cathy**	Teacher 4: **Dan**	Teacher 5: **Elle**	Teacher 6: **Fred**	Teacher 7: **Gwen**	Contrast Pole
too much grammar	1	6	2	4	5	7	1	*communicative*
uses textbook	2	2	4	5	6	6	2	*authentic material*
boring delivery	1	4	2	7	6	7	4	*energetic*
uses board	2	3	2	3	7	6	3	*no board work*
stdts work together	6	5	7	5	3	1	4	*teacher lectures*
uses L1	2	3	1	4	6	6	5	*only uses L2*
uses games	7	5	7	2	6	1	1	*uses exercise sheets*

There are generally four steps involved in creating a repertory grid. The first step involves eliciting a number of elements from each research participant. Elements can be people, objects, events, or even concepts that are representative of the topic of the interview. In clinical psychology, for instance, elements might be family members: father, mother, sister, brother. In the current research, participants were asked to supply eight elements having to do with their educational experiences and their conceptions of self. For the first six elements, participants provided the (pseudonymous) names of good, bad and neutral general education and language teacher that they had studied under. The choice of past teachers as grid elements was motivated by Lortie's (1975) theory of the "apprenticeship of observation," which denotes the internalization of teacher roles, identities, and practices that takes place over the course of an instructor's time as student. The participants were also asked to think about the elements "you as you are now" and "your future self as a teacher."

The second step is to elicit constructs. Although constructs may be non-verbal, in clinical or research contexts they must of necessity be elicited, conveyed, and understood through the medium of language. In the current research, constructs were elicited through dyadic comparisons. That is, participants were asked to consider, for instance, the elements "a bad language teacher" and "a good language teacher" and identify a core similarity or

difference between them. Once an initial construct (termed the emergent construct) was discussed and confirmed, participants were asked to supply an opposing or opposite construct (termed the contrast construct). For instance, if the emergent construct was “tall,” the contrast construct might have been “short.” Participants were asked to continue comparing elements until they were unable to supply any further constructs.

Up until this point, the standard repertory grid interview resembles a typical semi-structured interview in that a researcher uses a list of questions or topics to guide discussion while maintaining the freedom to “digress and probe” for more information (Mackey & Gass, 2005, p. 173). Depending on the skill of the interviewer and the reflextivity of the participant, the first two steps, as described above, can produce thoughtful and interesting exchanges and produce a wealth of qualitative data. There is, however, a third step in the rep grid procedure that allows researchers to analyze participant responses quantitatively. After the elicitation of each construct, the participant can be asked to assign a numerical rating (usually using a 1-7 scale) to each element in terms of where it lies on the continuum between the emergent and contrast poles. For instance, if the elicited emergent and contrast poles are “teaches too much grammar” and “doesn’t teach enough grammar,” a participant might rate the element “a bad language teacher” a 6, demonstrating that the interviewee believes that teaching too little grammar is considerably worse than teaching too much. In the current study, each participant was asked to rate each element on all the constructs they had produced.

The fourth and final step is analysis of the data resulting from the rep grid interview. There are myriad ways to examine rep grid data, including measures of cognitive complexity and content, principal component, FOCUS, dominance, and semantic similarity analyses. The current study examined rep grid data using the first three of these techniques: (1) cognitive complexity; (2) content analysis; and (3) principal component analysis. Each of these is considered in turn below.

(1) In personal construct psychology, cognitive complexity refers to the capacity of an individual to “construe events from different points of view and not just from a good/bad, black/white perspective which would be characteristic of a cognitively simple person” (Feixas and Cornejo, 1996, p. 5). More concretely, individuals with greater insight into a given domain generally produce more constructs while less cognitively complex individuals tend to produce relatively fewer (Winter, 2013). Thus, the easiest way to measure cognitive complexity is to simply count the number of constructs generated in a rep grid interview. Comparing the number of constructs produced by two or more participants allows the researcher to estimate the participants’ relative ability to construe a given area in a multidimensional way.

(2) Content analysis refers to the process by which patterns are found within the words of research participants and by which those patterns are presented for others to inspect “while at the same time staying as close to the construction of the world as the participants originally experienced it” (Maykut & Morehouse, 1994, p. 18). Compared to other genres of research, content analysis within the context of the repertory grid technique is relatively simple. Investigators who rely on traditional unstructured and semi-structured interviews, for instance, must grapple with the laborious process of reading, classifying, and coding participant responses. With the RGT, however, the process of eliciting constructs at the individual level is essentially synonymous with the process of categorization.

In order to understand the shared perspectives among a group of people, content analysis is used to aggregate the information across a set of repertory grids (Jankowicz, 2004). In order to create “shared grids” a “bootstrapping” approach was employed. Bootstrapping consisted of systematically analysing each cohort’s collected constructs and identifying the “underlying collective frames of reference” which reflect “a sense of common understanding and shared meaning” (Wright, 2004).

(3) Statistical analyses of these shared grids are also possible. Principal components analysis (PCA) is a common type of statistical analysis carried out on rep grid data. PCA calculate the similarities and differences between the elements and constructs in a given grid. Elements and constructs can be plotted in a geometrically graphic form as variables in a system of coordinates that represent a person’s “psychological space” (Kelly, 1955).

Analysis and discussion

In all, the 50 interviews generated 862 constructs and 6,896 ratings. Content analysis of the participants’ constructs demonstrates that most of these concern aspects of general teaching, as opposed to aspects of instruction particular to second language pedagogy. Of the 862 individual constructs elicited, 117 (or 13.5%) can be said to be specific to SLT. Of these, 30 constructs concern techniques and methods strongly associated with EFL instruction (e.g., communicative teaching, PPP, grouping strategies, the use of *realia*). Another 22 constructs have to do with the instructor’s fluency in English. Seventeen involve grammar pedagogy (the emergent constructs of all but one oriented towards traditional deductive instruction). The rest of the constructs specific to second language pedagogy relate to cultural issues, the use of the L2 in the classroom, the teacher’s ability to link language with real life, pronunciation, an emphasis on production and practice

opportunities, linguistic knowledge, corrective feedback, the balance between accuracy and fluency and scaffolding, among others.

The majority of constructs concern facets of instruction that are generalizable across educational contexts. Most of these have to do with teacher personality and socio-affective factors. Some come directly from general education, such as a focus on learning styles and the theory of multiple intelligences.

Through content analysis, the 862 constructs were categorized into 22 major collective constructs. The most heavily weighted collective construct has to do with positive personality traits (69 constructs, or 11% of the total). Positive personality traits included constructs such as empathy, fairness, friendliness, happiness, kindness, outgoingness, patience, self-confidence, and sensitivity, for example. The second most heavily weighted category (61 constructs, or 10% of the total) concerns planning and organization. Constituent constructs from this category have to do with the pacing, sequencing and the congruence of lessons; the quality of lesson planning (e.g., “have a back-up plan” and “creating materials that clearly relate to the topic”); and having clear objectives. Participants particularly emphasized the importance of coming to class prepared. The remainder of the 22 categories were composed of relatively fewer original constructs (Table 1).

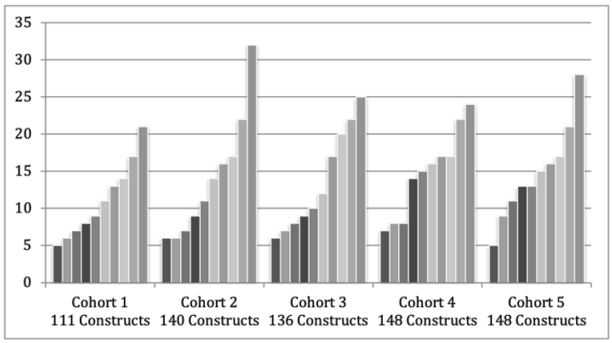
Table 1. Major themes deduced from constructs.

Collective Categories	# of Constructs in Each Category	Major Categories
continuous prof dev	27	PROFESSIONAL DEVELOPMENT
has training / education	14	PROFESSIONAL DEVELOPMENT
content knowledge	23	KNOWLEDGE AND SKILLS
good delivery	21	KNOWLEDGE AND SKILLS
emphasis on L2 communication	15	KNOWLEDGE AND SKILLS
L2 language ability	22	KNOWLEDGE AND SKILLS
makes learning relevant to ss lives	19	KNOWLEDGE AND SKILLS
pedagogic knowledge	24	KNOWLEDGE AND SKILLS
planning and organization	61	KNOWLEDGE AND SKILLS
activities & materials	40	KNOWLEDGE AND SKILLS
cares about ss	21	PERSONALITY / SOCIO-AFFECTIVE
creative	15	PERSONALITY / SOCIO-AFFECTIVE
dynamic and entertaining	26	PERSONALITY / SOCIO-AFFECTIVE
motivates students	21	PERSONALITY / SOCIO-AFFECTIVE
positive personality traits	69	PERSONALITY / SOCIO-AFFECTIVE
student-teacher rapport	43	PERSONALITY / SOCIO-AFFECTIVE
cares about ss learning	32	STUDENT CENTEREDNESS
emphasis on student involvement	15	STUDENT CENTEREDNESS
focus on autonomous learning	20	STUDENT CENTEREDNESS
welcomes student feedback	12	STUDENT CENTEREDNESS
enthusiasm for teaching	28	INVESTMENT
professionalism	35	INVESTMENT

Results of the current study strongly suggest that participants did not significantly change their beliefs about second language pedagogy during the course of their SLTE program. First, the number of personal constructs related to L2 pedagogy that student teachers in the SLTE program were able to generate did not rise significantly over the course of the program. Second, attitudes about teaching, as measured by PCA construct loadings, did not vary appreciably over the course of four years.

The concept of cognitive complexity, as understood in personal construct psychology, holds that cognitively complex individuals will generally be able to produce more constructs about their area of expertise than their less cognitively complex peers (Castejon & Martinez, 2001). In terms of the present study, it is reasonable to hypothesize that if a SLTE program is successful, this success should manifest itself in the increasing cognitive complexity of its students over time. This, however, was not the case with the four student cohorts examined in this study. Some slight, albeit inconsistent, growth can be seen in the number of personal constructs generated by students at different stages of the SLTE program. However, an independent-samples t-test was conducted to compare construct generation at the beginning of the SLTE program and the end: no statistically significant difference in the scores between Cohort 1 (first-year students) (M=11.1, SD=5.15) and Cohort 4 (fourth-year students) (M=14.8, SD=5.79) were discovered [conditions: $t(18)=1.5$, $p = .15$]. These results suggest that after four years of SLTE, students completing the SLTE program were unable to produce significantly more personal constructs about L2 pedagogy than in-coming students (Figure 2).

Figure 2. Number of constructs generated by cohort.



Principal component analysis provides a sense of how a given person’s beliefs relate to each other, as well as how strongly these beliefs are held. Results of PCA indicate that student ideas about teaching remain fairly consistent over time. Research participants in each of the four years of the program agreed on the most important and least important personal constructs. The highest loading collective construct has to do with the importance of motivating students, followed by constructs related to caring for students, maintaining a dynamic and entertaining classroom, focusing on student learning outcomes, and emphasizing student involvement. These loadings exhibit very little change year over year. The collective construct with the lowest loading has do with the language level of L2 instructors; second language ability was rated the least important of all the collective constructs by each of the four participant groups (Table 2). This suggests that the study participants do not

necessarily perceive non-native English language competence as an impediment to teacher excellence.

Table 2. Top five loadings and bottom loading, cohorts 1- 4.

	Bipolar constructs	Year 1	Year 2	Year 3	Year 4	Years 1-4
C15	**motivates students <–> does not motivate students**	**2.01**	**1.82**	**-1.64**	**-2.00**	**-1.85**
C1	**cares about students <–> doesn't care about students**	**1.67**	**1.69**	-1.30	**-1.90**	**-1.63**
C7	**dynamic and entertaining <–> boring**	1.62	**1.74**	**-1.70**	-1.51	**-1.62**
C2	**cares about ss learning outcomes <–> doesn't care about ss learning**	**1.76**	1.68	-1.17	**-1.78**	**-1.57**
C9	**emphasis on student involvement <–> no emphasis on ss involvement**	1.48	1.60	-1.51	-1.59	**-1.54**
C13	L2 language ability <–> no L2 language ability	0.47	0.69	-0.66	-0.74	-0.63

Note: Top loadings are marked in bold. Bottom loadings are surrounded by a box.

The foregoing review of the data tends to confirm that the study participants' SLTE program had a negligible impact on their cognitive growth in term of beliefs about effective L2 pedagogy. These findings are consistent with a number of previous studies. For instance, Morine-Dershirner, Saunders, Artiles, Mostert, Tanikersley, Trent, and Nuttycombe (1992) reported that the pedagogic beliefs of students enrolled in a five-year teacher preparation program were not significantly altered over the course of their education: Throughout the program, the pre-service teachers continued to believe that positive socio-affective traits were the most important factors in teaching excellence.

This initial conclusion is somewhat complicated, however, by an examination of the data associated with the graduates of the SLTE program. Although there was no statistically significant difference between the overall number of individual personal constructs generated by the graduate group and any of the student groups, there were some differences in the *types* of constructs that were generated by each. Both the graduate cohort and the student cohorts generated comparable numbers of constructs having to do with planning and organization; this demonstrates the critical importance of lesson preparation and structure to all groups in the study. However, the graduate cohort and student cohorts were quite different in how they viewed the importance of teacher personality. For students, personality was far and away the most important aspect of teaching. Each student group produced, on average, 12 constructs related to personality traits. The graduate group, in contrast, produced only three. Instead, the graduates generated a high number of constructs dealing with student autonomy. In fact, in terms of the number of constructs, "student autonomy" and "planning and organization" tied as the most important collective constructs for the graduate cohort.

The findings of the current study concerning the growth of pedagogic cognition amongst the graduates of the SLTE program are consonant with the literature. Various studies corroborate just this kind of post-educational growth. A study by Gatbonton (1999), for instance, examined the categories of pedagogical knowledge held by novice and experienced teachers. Their findings suggested that through formal training and classroom work, the novice instructors in the study were quickly able to acquire the major categories of pedagogical knowledge that undergird instructional behaviours. However, these new teachers needed time and experience before they were able to actively apply their knowledge to practice. Numerous developmental stage models have been proposed to account for the fact that changes in cognition and instructional practices often fail to appear until after students have completed their teacher education programs. Kagan (1992) describes changes in pedagogic knowledge in terms of a progression in attention: New teachers first focus on issues of classroom management and organization; they then refocus their attention on subject matter and pedagogy; finally, they turn their attention to what students learn from the different academic tasks assigned to them. Doyle (1983) also sees novice teachers progressing through three stages of development: rote knowledge of classroom strategy, routine knowledge and comprehensive knowledge. The first refers to knowledge that teachers can articulate but which they have difficulty turning into pedagogic action. The second refers to knowledge that can be articulated and applied, but only with effort and only within certain classroom contexts. The third refers to knowledge that teachers can both articulate and automatically apply across a broad range of contexts. Abdullah and Majid (2013) describe the theoretical, experimental, and developmental stages in the evolution of a typical language teacher. Theoretical ideas are formed during formal teacher training. These are supplanted when new teachers are forced to cope with professional realities of classroom teaching, a transition they characterize as a "survival effort" (p. 814). In the second stage, then, novice teachers are forced to experiment with which pedagogic strategies work and which do not. Finally, in the developmental stage, teachers experience their "real life" training, i.e., they have an opportunity to test their personal pedagogical knowledge, establish their own styles, and grow in confidence. Only after fully coming into their own as language teachers do they feel comfortable enough to allow their personal beliefs to influence pedagogic choices about materials, activities, and other classroom related matters.

Conclusion

Despite the use of statistical interpretation, the RGT is firmly grounded in qualitative, constructivist assumptions. As with any qualitative research, conclusions are necessarily tentative and must be heavily caveated. Despite this significant qualification, findings from this study about changes in student beliefs over the course of

a four-year L2 language teaching program are fairly robust: the SLTE intervention had little impact on shaping the beliefs of the study participants while they were enrolled in university. This investigation, then, corroborates the findings of previous studies that indicate the stability of personal beliefs in the face of educational interventions: Bailey et al. (1996); Brouwer and Korthagen (2005); Burke (2006)); Johnson (1994); Kagan (1992); Korthagen et al., (2006); Kunt and Özdemir (2010); Peacock (2001); Pennington and Urmston (1998); Richardson (1996); Urmston (2003); Von Wright (1997).

However, the present study also found that, once the participants graduated from the program, they did tend to develop their pedagogical cognitions over time. This is particularly true in terms of their beliefs about reflection, student autonomy, and student-centeredness. Findings here support Black and Ammon's (1992) contention that, as time goes by, teachers generally move from behaviourist notions of teaching towards more constructivist conceptions that are "differentiated and integrated" (p. 325).

Taken together, then, the findings of this study do not foreclose the possibility that learnings from the SLTE program are "time-released": as graduates of the program gain more experience teaching (e.g., as instructional behaviours become routinized, as problem-solving skills are refined, as issues of management and organization are resolved), internalized knowledge from their second language teacher education may finally have an opportunity to come to the fore. This knowledge can then be reflected upon and acted on, beginning a virtuous cycle of ongoing progressive problem solving: problematizing practice, learning from experience, reflecting further, and again problematizing practice (Bereiter & Scardamalia, 1993; Sternberg & Horvath, 1995; Tsui, 2003).

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