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Training Second-Career Teachers: A Different Student Profile, A Different Training Approach?

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Abstract

Second-career teachers are career changers who leave their current jobs to become teachers. This study conducts a narrative literature review which explores the student profiles of these teachers, asking how they differ from school leavers entering teacher education. The literature review also explores the characteristics of training approaches that are most suitable for second-career teachers based on their general student profile. Results show that second-career teachers are older, have strong intrinsic motivation, possess a wide range of knowledge and skills, have a self-directed and application-oriented approach to learning and teaching, and appreciate peer support. They benefit from teacher education programs that are flexible and include a preparatory period, that transfer their expertise into the teaching profession, provide opportunities for self-directed learning and peer support, integrate coursework and field experience, offer a significant amount of field experience and provide intensive mentoring support.

Keywords: second-career teacher, career changer, teacher education program, teacher training.



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Introduction

Many countries suffer from teacher shortages. One way to resolve these is to attract second-career teachers: people from outside the field of education who leave other jobs to become teachers (Tigchelaar, Brouwer, & Vermunt, 2010). Attracting second-career teachers is considered important because of the variety of competences they bring into education (Melchers, Bokhorst, Geervliet-van der Hart, & Smit, 2003). In some countries, second-career teachers must complete the same teacher education program as school leavers entering teacher education. These regular programs for school leavers are often called traditional teacher education programs. In other countries, second-career teachers frequently take alternative teacher education programs (ATEPs) in order to obtain teaching qualifications, often within a short period of time (Tigchelaar et al., 2010; Zeichner & Schulte, 2001). In the US, for example, ATEPs have existed for 25 years. However, in Europe, the development of and research on these programs remains limited (Tigchelaar et al., 2010).

In Flanders (Belgium), where the current literature review was conducted, second-career kindergarten and primary school teachers regularly complete the same teacher education program as first-career teachers. In recent years, several Flemish teacher education institutes have begun to develop teacher education programs especially aimed at second-career kindergarten and primary school teachers. However, it is not yet clear what the main elements of these programs should be. Therefore, the current literature review focuses on second-career teachers and on the characteristics of a teacher education program adapted to their student profile.

The main research questions are:

- What is the student profile of second-career teachers?
- What characteristics should a teacher education program have, which has been adapted to second-career teachers?

Methodology

The literature was collected from the Web of Science database. The search terms were 'second-career teacher', 'change-of-career teacher', 'career changer' and 'adult learning'. In order to make the association with teacher education, the latter two search terms were used in combination with 'teacher education', 'teacher training', 'student teacher', 'pre(-)service teacher' and 'in(-)service teacher'. As second-career teachers are frequently trained in ATEPs (Humphrey & Wechsler, 2007; Tigchelaar et al., 2010), the search terms 'alternative teacher education program(me)', 'alternative teacher certification' and 'alternative certification program(me)' were also included. Moreover, since the latter search term makes no direct reference to teacher education, it was used in combination with 'teacher education', 'teacher training', 'student teacher', 'pre(-)service teacher' and 'in(-)service teacher'. Relevant manuscripts were identified through a reading of the abstracts, and the reference lists of these manuscripts were also explored for other relevant manuscripts. Criteria for inclusion were:

- The manuscripts had to address the characteristics of second-career teachers or the characteristics of a teacher education program adapted to second-career teachers.
- The manuscripts had to be published within the period 2000-2013.

- The manuscripts had to have been peer reviewed.

As a result, 47 manuscripts were included in this study (Appendix A). They were read thoroughly in order to search for patterns in the results. Information on second-career teachers and teacher education programs was coded into themes. This coding process was data-driven based on our reading of the literature. The themes were explored in the manuscripts and incorporated into a narrative review providing 'qualitative descriptions of the findings from literature' (Dochy, Segers, & Buehl, 1999, p. 150). Of the 47 studies, 33 took place in the US, which seems to have a tradition in investigating and publishing on second-career teachers, while the other studies were from Europe (Switzerland, Netherlands, UK), Australia and New Zealand.

In order to answer the first research question, we studied the characteristics of second-career teachers who are regularly trained in ATEPs. In order to answer the second research question, we focused on ATEPs, as second-career teachers are frequently trained in these programs (Humphrey & Wechsler, 2007; Tigchelaar et al., 2010).

Findings

What is the student profile of second-career teachers?

Below we will look separately at background characteristics (age, gender, and ethnicity), motivation, expertise, self-confidence, approach to learning and teaching, and challenges faced.

Background characteristics

The literature is univocal concerning age. In general, second-career teachers are older than first-career teachers (Adcock & Mahlios, 2005; Humphrey & Wechsler, 2007; Humphrey, Wechsler, & Hough, 2008; Kee, 2012; Maloy, Seidman, Pine, & Ludlow, 2006; Zeichner & Schulte, 2001). This might not be surprising since they become teachers later in life, having had a previous career. However, the age range of second-career teachers who commonly participate in ATEPs is wide, consisting of a diverse group of both young and old adults (Humphrey & Wechsler, 2007; Humphrey et al., 2008), but they are generally under the age of 40 (Melchers et al., 2003).

Generally, more women become teachers than men. While ATEPs might be viewed as a way to attract men to the profession (Humphrey & Wechsler, 2007), the data shows no trends in this respect (Humphrey et al., 2008): some ATEPs attract more women (Humphrey & Wechsler, 2007; Richardson & Watt, 2005; Schonfeld & Feinman, 2012; Schoon & Sandoval, 2000), others attract more men (Kee, 2012; Zeichner & Schulte, 2001), while others attract an equal number of women and men (Adcock & Mahlios, 2005).

ATEPs are sometimes considered to attract racially diverse students; however, no trends could be discerned in this respect (Adcock & Mahlios, 2005; Humphrey & Wechsler, 2007; Kee, 2012; Schonfeld & Feinman, 2012). The diversity seems to depend on the students targeted by the program (Brindley & Parker, 2010) or on the program's geographical location (Humphrey et al., 2008; Zeichner & Schulte, 2001).

In summary, although differences were found in background characteristics, these seem to be less important in choosing to change career and become a teacher than other variables (Lee & Lampert, 2011), such as motivation.

Motivation

The literature on second-career teachers mainly focuses on their motivations for becoming a teacher. Unfortunately, it generally does not compare second-career with first-career teachers. An overview of the literature suggests that the reasons why second-career teachers choose such a career change are diverse (Laming & Horne, 2013). In general, they show high levels of intrinsic motivation: they are driven by a desire to pass on their expertise, help young people and contribute to society (Berger & D'Ascoli, 2012; Chambers, 2002; Haggard, Slostad, & Winterton, 2006; Lee, 2011; Lee & Lamport, 2011; Powers, 2002; Priyadharshini & Robinson-Pant, 2003; Salyer, 2003; Tigchelaar, Brouwer, & Korthagen, 2008, Tigchelaar et al., 2010; Williams & Forgasz, 2009). Thus, altruism is an obvious reason (Chambers, 2002; Laming & Horne, 2013; Uusimaki, 2011), although they also see personal benefits (Chambers, 2002; Laming & Horne, 2013) and perceive teaching as more exciting, interactive and creative than their previous career (Haggard et al., 2006).

In addition to intrinsic reasons, extrinsic and pragmatic reasons are also relevant, for example burnout or dissatisfaction with their previous career in terms of career advancement, job security, financial rewards and working hours (Berger & D'Ascoli, 2012; Chambers, 2002; Laming & Horne, 2013; Lee, 2011; Priyadharshini & Robinson-Pant, 2003; Richardson & Watt, 2005; Tigchelaar et al., 2010; Williams & Forgasz, 2009). Social status seems to be less important in choosing teaching as a second career (Richardson & Watt, 2005). Nevertheless, intrinsic reasons are generally considered to be more important than extrinsic reasons (Berger & D'Ascoli, 2012; Powers, 2002; Williams & Forgasz, 2009).

Several studies have attempted to categorize second-career teachers into subgroups based on their motivations (Anthony & Ord, 2008; Chin & Young, 2007; Crow, Levine, & Nager, 1990, as cited in Lee & Lamport, 2011; Priyadharshini & Robinson-Pant, 2003; Richardson & Watt, 2005; Tigchelaar et al., 2008). Similar subgroups come to the fore within these studies. The first subgroup consists of second-career teachers who have always wanted to teach, but did not go into teacher education earlier because of the attractiveness of another job or because of financial barriers to resuming studies. The second subgroup consists of those who chose teaching for pragmatic reasons: job reward, family-friendliness, or a combination of both. The third subgroup exhibits a strong sense of service, while a fourth subgroup chose teaching based on previous experiences: teaching-related experiences, teachers in the family or crucial events; for example, divorce or a mid-life crisis. The main focus of the fifth subgroup is on exploring teaching as a second career.

Expertise

Review studies (Lee & Lamport, 2011; Tigchelaar et al., 2010) have demonstrated that second-career teachers bring valuable, transferable competences into education. However, precisely which competences do they bring? A distinction should be made between competences that almost all second-career teachers bring to education – for example, those related to age and general work and life experience (Ng & Thomas, 2007; Tigchelaar et al., 2008) – and competences related to specific work and life experiences.

In general, second-career teachers possess subject-specific (Chambers, 2002; Mayotte, 2003; Williams & Forgasz, 2009) and practical knowledge (Salyer, 2003). Their experiences in the real world ensure that their lessons are relevant to the learners (Anthony & Ord, 2008). Furthermore, they have a highly developed work ethic and good work habits (Chambers,

2002; Resta, Huling, & Rainwater, 2001, as cited in Lee & Lampert, 2011; Williams & Forgasz, 2009). Due to their earlier work and life experiences, it is easier for them to behave in a work context such as a school organization (Tigchelaar et al., 2008). The transferable skills reported most in the literature concern communication and interpersonal abilities (Anthony & Ord, 2008; Chambers, 2002; Mayotte, 2003; Salyer, 2003; Tigchelaar et al., 2008, 2010), and skills in raising children or working with youth (Anthony & Ord, 2008; Lee, 2011; Tigchelaar et al., 2008).

Other transferable skills that are related to specific work and life experiences are: management and organizational skills (Chambers, 2002; Lee, 2011; Lee & Lampert, 2011; Mayotte, 2003; Salyer, 2003; Tigchelaar et al., 2010), problem-solving and analytical or other thinking skills (Chambers, 2002; Mayotte, 2003; Tigchelaar et al., 2010), technical skills (computer, IT) (Anthony & Ord, 2008; Lee & Lampert, 2011; Mayotte, 2003; Tigchelaar et al., 2010), administration and multi-tasking skills (Anthony & Ord, 2008; Mayotte, 2003) and negotiation and coping skills (Tigchelaar et al., 2010).

Many competences that second-career teachers bring into education will also be learned by first-career teachers, but at a later point in time (Lee, 2011). Drawing on these previously acquired competences is important for second-career teachers' self-esteem when they begin teaching (Anthony & Ord, 2008). Second-career teachers who perceive continuity between previous experiences and current demands are more successful in teaching than those who do not perceive this continuity (Tigchelaar et al., 2010). Moreover, second-career teachers who have previous experience in education, for example as a teacher's aide or as an in-school suspension officer (Humphrey & Wechsler, 2007; Scribner & Akiba, 2010), demonstrate more high-quality teaching skills than participants without this experience (Scribner & Akiba, 2010).

Self-confidence

Due to previous work and life experiences, second-career teachers are self-confident about their goals, capabilities and the desire to teach (Tigchelaar et al., 2008, 2010). However, to ensure their self-confidence, it is important that teacher education programs recognize the competences they bring into teaching (Williams, 2010).

A comparison of the self-confidence of traditional and alternative teacher education program participants reveals mixed results. While Unruh and Holt (2012) did not find any differences, Flores, Desjean-Perrotta, and Steinmetz (2004) found that the traditional teacher education program participants scored higher on personal teaching efficacy than participants in ATEPs. Boone, Abell, Volkmann, Arbaugh, and Lannin (2011) found that participants in ATEPs have an increased self-efficacy over time. According to Unruh and Holt (2012), the level of self-efficacy depends on the level of satisfaction with the support received throughout the program.

Approach to learning and teaching

Research on second-career teachers' approach to learning and teaching is limited. Ng and Thomas (2007) indicated that second-career teachers are self-directed in their learning. Tigchelaar et al. (2008, 2010) found they show more autonomy and responsibility compared to first-career teachers. For example, they are able to set their own goals, make choices and

negotiate with teacher educators and mentors, and they go about learning in a focused way as they do not want to waste time (Tigchelaar et al., 2008).

Second-career teachers are also application-oriented. Many of them have considerable experience in applying their knowledge in the workplace and they want to share this experience in order to help learners understand the real-world application of knowledge (Chambers, 2002; Lee, 2011). Therefore, they use concrete examples and as such bring practical expertise into the classroom (Tigchelaar et al., 2010).

In addition, social support is considered essential for second-career teachers (Uusimaki, 2011; Williams, 2010) because many of them are used to working in teams (Lee & Lamport, 2011). They describe peer support from those in the same situation – from those who have taken a risk and left their jobs to become teachers – as the most important form of support (Jorissen, 2003).

The literature is not univocal concerning openness to instructional innovation. In a study by Chambers (2002), second-career teachers emphasized both the subject and its application and, therefore, they used alternative rather than traditional teacher-centered instructional methods. They seem to be more open to innovations because their experiences as a student with teacher-centered methods are not recent (Tigchelaar et al., 2008). Other studies found the opposite, namely that second-career teachers have traditional teaching beliefs (Uusimaki, 2011), with the teacher being perceived as a knowledge transmitter (Tigchelaar et al., 2008; Tigchelaar, Vermunt, & Brouwer, 2012; Uusimaki, 2011). Flores et al. (2004) indicated that alternatively certified teachers had a more traditional approach to teaching than traditionally certified teachers. This may be due to the fact that alternatively certified teachers had fewer pedagogy classes and mentoring opportunities. Consequently, they may be less confident in taking instructional risks. In a study by Maloy et al. (2006), students in fast-track ATEPs found it difficult to implement student-centered teaching methods that emphasized the learners' responsibility. These students may not have had the time to shift their thinking about teaching. In other words, this requires more time than is available within fast-track programs.

Tigchelaar et al. (2012) found a distinction between younger (28-40 years) and older second-career teachers (40-58 years), with the younger group predominantly holding teacher-centered conceptions, while the older group had mixed conceptions. Uusimaki (2011) found an evolution in second-career teachers' conceptions: while they initially viewed teaching as concerned with transferring knowledge, later, after their practical experience in a one-year teacher education program, they viewed teaching as involving connecting, sharing and developing relationships with learners. Closely related to this, Lee (2011) indicated that second-career teachers find it important to know their learners personally, look after their wellbeing and have a positive impact on their lives.

Challenges

The greatest challenges for second-career teachers concern classroom management (Bolhuis, 2002; Casey, Dunlap, Brister, Davidson, & Starrett, 2013; Haggard et al., 2006; O'Connor, Malow, & Bisland, 2011; Powers, 2002; Priyadharshini & Robinson-Pant, 2003) and time management, for example, paperwork, preparation done at home and additional meetings (Brindley & Parker, 2010; Brouwer, 2007; Casey et al., 2013; Haggard et al., 2006; Laming & Horne, 2013; Lee & Lamport, 2011; Priyadharshini & Robinson-Pant, 2003;

Tigchelaar et al., 2008). Priyadharshini and Robinson-Pant (2003) found that second-career teachers had often attempted to avoid high levels of time pressure and heavy workloads in their previous careers, and such stress contrasts with their idealistic image of teaching (Tigchelaar et al., 2010). In general, their expectations are higher than those of participants in traditional teacher education programs (Unruh & Holt, 2012).

Other challenges are associated with teaching skills, such as creative lesson planning, knowing what to teach (Casey et al., 2013; Haggard et al., 2006), activating learners (Bolhuis, 2002; Brouwer, 2007) and implementing opportunities for differentiation (Casey et al., 2013). Further challenges concern the lack of learner motivation (Lee & Lamport, 2011; Powers, 2002), inconsistent parental involvement (Brindley & Parker, 2010; Lee & Lamport, 2011) and disagreement with the mentor's strategies (Haggard et al., 2006). These challenges regularly produce a reality shock when second career teachers are confronted with practice (Tigchelaar et al., 2010).

Similar challenges are experienced by first-career teachers (Brindley & Parker, 2010; Haggard et al., 2006). When comparing alternatively and traditionally certified teachers, results indicate that both groups have similar concerns, but alternatively certified teachers express higher levels of concern. The greatest differences are found in teaching skills, while the smallest differences are found in people skills. Therefore, ATEPs should provide more extensive preparation prior to field experience (Wayman, Foster, Mantle-Bromley, & Wilson, 2003). Alternatively certified teachers report less need for support in understanding subject areas because they often have a previous degree and work experience in those areas (Johnson, Birkeland, & Peske, 2005; Unruh & Holt, 2012). Nevertheless, they need assistance when learning how to teach (Johnson et al., 2005).

Being older and having more life experience increases the likelihood that higher demands and greater expectations are placed on them (Anthony & Ord, 2008); for example, the expectation that they are experienced with children (Lee & Lamport, 2011). Moreover, their behavioral patterns are considered to be fixed and difficult to change, although second-career teachers themselves deny this (Melchers et al., 2003; Tigchelaar et al., 2008). Furthermore, they sometimes struggle with their novice status as a teacher, having been highly experienced and respected in their previous career. Therefore, it is important for them to value their skills (Anthony & Ord, 2008; Williams, 2010).

In addition to professional challenges, second-career teachers encounter personal challenges. In order to obtain a teaching degree, many of them have to make sacrifices – they have less time available for family, friends and hobbies and they regularly experience a reduction in earnings (Castro & Bauml, 2009; Lee & Lamport, 2011). Therefore, having the support of family and friends and having adequate financial means and time are important for them when starting teacher education (Castro & Bauml, 2009).

What characteristics should a teacher education program adapted to second-career teachers have?

While second-career teachers are a heterogeneous student group, they do have specific characteristics in common. Therefore, it is important to recognize this and provide them with a tailor-made teacher education program (Humphrey et al., 2008; Lee & Lamport, 2011; Mayotte, 2003; Tigchelaar et al., 2010; Unruh & Holt, 2012). What should these teacher education programs look like? Based on our literature review, we have formulated a

guideline with seven points: i) include a preparatory period, ii) transfer second-career teachers' expertise into the teaching profession, iii) provide opportunities for self-directed learning and peer support, iv) integrate coursework and field experience, v) offer extensive field experience, vi) provide intensive mentoring support, and vii) organize a flexible program.

Include a preparatory period

A preparatory period adjusted to the needs of second-career teachers is considered valuable in a number of studies (Brouwer, 2007; Mayotte, 2003). This may include some orientation to the teaching profession, through which students become familiar with the specific demands of being a teacher and the learning goals they must achieve to become a teacher (Tigchelaar et al., 2008, 2010). The preparatory period should include both training at the teacher education institute and field experience, allowing students to become familiar with the main issues concerned with teaching. On this basis, they will also be able to write a personal development plan that will guide them through their training (Bolhuis, 2002; Tigchelaar et al., 2010). As second-career teachers often have an idealistic image of the teaching profession, it is important to discuss this image during an orientation phase, which may reduce the reality shock (Tigchelaar et al., 2010).

In addition to gaining an orientation to the teaching profession, there should be some form of intake assessment which may result in advice about the knowledge, skills and attitudes that need to be developed in order to become a teacher (Tigchelaar et al., 2008). The intake assessment may include a personal interview (Bolhuis, 2002) or tests (subject knowledge, pedagogical knowledge, writing or reading) (Johnson et al., 2005). These intake assessments should also include second-career teachers' observations and involve experts in the field (Brouwer, 2007). It might also be useful to choose the placement school based on this intake assessment; in other words, a school adapted to the second-career teacher's learning needs in which he/she can obtain the required competences (Melchers et al., 2003). After the preparatory period, potential second-career teachers should be able to decide whether or not teaching is a meaningful and realistic career for them (Brouwer, 2007; Tigchelaar et al., 2008, 2010).

Transfer expertise

Second-career teachers bring knowledge and skills acquired throughout previous careers into education. Since they possess a great deal of transferable knowledge and skills, teacher education programs tailored to them might be concentrated into a shorter period of time (Adcock & Mahlios, 2005; Brouwer, 2007).

Certainly, at the outset, second-career teachers will operate with their previous work experiences in mind (Tigchelaar et al., 2008, 2010). However, many studies point out that previous work experience does not necessarily suffice for a successful transition into teaching (Mayotte, 2003). Previous experience does not automatically transfer into the new profession because second-career teachers themselves do not always see links between their previous and current careers (Brouwer, 2007; Lee & Lampert, 2011; Mayotte, 2003; Tigchelaar et al., 2008, 2010). Since they learn best when previous experience is valued, it is important that teacher educators and mentors recognize this experience, teach their student teachers how to use this experience and help them identify links between their previous and current careers, rather than treat career changers as first-career teachers

(Chambers, 2002; Lee & Lampport, 2011; Mayotte, 2003; Tigchelaar et al., 2008, 2010; Uusimaki, 2011; Williams, 2010). The risk for teacher educators and mentors alike is to focus solely on the new profession (Tigchelaar et al., 2010).

Building upon previous experience can be achieved through pedagogical strategies and social support that meet the needs of second-career teachers (Mayotte, 2003; Williams, 2010), or through discussion about which courses and activities the student teachers find interesting (Tigchelaar et al., 2008). One way in which schools can take advantage of second-career teachers' previous experience is by organizing workshops in which they can share skills and insights learned in their previous professions (Lee, 2011). It is important for second-career teachers to develop an identity as a teacher. Therefore, they need the time to reflect upon previous experience and to adapt to the new profession (Lee & Lampport, 2011).

Provide opportunities for self-directed learning and peer support

Since second-career teachers are self-directed in their learning, they should be actively involved in managing their learning (Tigchelaar et al., 2010). It is important to give them co-responsibility for their professional development (Brouwer, 2007). For example, teacher education programs should provide students with the opportunity to play an active role in decisions about their placements (i.e. choosing the placement school) and in relation to the courses they need to complete (Haggard et al., 2006). Moreover, there should be opportunities for differentiation based on individual learning trajectories. In order to personalize learning trajectories, teacher education programs can make use of personal development plans (Bolhuis, 2002; Brouwer, 2007). Teacher educators should recognize that they have to adopt a different role to that taken in training first-career teachers. Since second-career teachers often have expertise in certain subject areas, teacher educators should take more of a guiding role in their development (Melchers et al., 2003).

As peer support is the most important form of support for second-career teachers (Jorissen, 2003), teacher education programs should make use of peer support groups, through which second-career teachers can share their experiences, frustrations and successes, as well as form study groups (Casey et al., 2013; Jorissen, 2003; Lee & Lampport, 2011; Mayotte, 2003). Peer support groups offer emotional support and allow personal relationships to develop (Jorissen, 2002, 2003), which makes the transition to teaching easier and reduces isolation (Lee & Lampport, 2011). Face-to-face peer support groups or online communities seem equally effective (Myers, McMillan, Price, Anderson, & Fives, 2003). Second-career teachers may also benefit from being part of a learning community with other teaching professionals (Mayotte, 2003).

Integrate coursework and field experience

There is considerable variation in ATEPs (Boone et al., 2011; Brouwer, 2007; Humphrey & Wechsler, 2007; Kee, 2012). For example, there are differences in the timeframe and content of theoretical and practical components (Brouwer, 2007; Humphrey & Wechsler, 2007): while some ATEPs resemble traditional programs in content and pedagogy, with coursework scheduled during evenings and on weekends, others are fast-track, accelerated programs (Adcock & Mahlios, 2005).

The coursework is sometimes more practical than in traditional programs, but this is not always the case (Humphrey & Wechsler, 2007). Nevertheless, coursework is considered

important because it contributes to teachers' feelings of efficacy and their professional growth (Humphrey et al., 2008). In a study by Kee (2012), coursework was considered just as important for alternatively certified teachers' feelings of preparedness as for traditionally certified teachers. Since second-career teachers value practical application over theoretical coursework (Lee & Lampport, 2011; O'Connor et al., 2011), the coursework should focus on the former, such as ideas for teaching and classroom management (Humphrey et al., 2008), or case studies and problem-solving coursework (Tigchelaar et al., 2010), in which they can rely on previous experience to solve realistic problems (Lee, 2011).

Above we described the challenges faced by second-career teachers. It is important that teacher education programs pay attention to these challenges. One of the most important of these is classroom management and it has been found that such management courses are best provided early in the program if students are to start teaching immediately (O'Connor et al., 2011). In addition to coursework, field experience is important, but the two are not frequently matched (Humphrey & Wechsler, 2007). It has been found that if field experience is accompanied by the appropriate coursework, first-year teachers feel better prepared. Participants in ATEPs who start full-time teaching without undertaking coursework or gaining field experience in advance feel less well prepared (Kee, 2012). According to Brouwer (2007), practical field experience should be the starting point for theoretical reflection (Brouwer, 2007). Such a combination of field experience and coursework encourages the transfer of theory into practice. Being able to immediately transfer what they learn in the coursework into practice emphasizes the relevance of the coursework to students (Jorissen, 2003). Therefore, it is advisable to allow second-career teachers to begin their practical placements from the start and to continue this throughout the entire program. In this way, students can immerse themselves completely in the school culture, which provides better preparation for the profession (Lee & Lampport, 2011).

Include a significant amount of field experience

Second-career teachers value practical application over theoretical coursework. They consider practicing in real-life situations, such as working with pupils and trying out activities, to be supportive (Tigchelaar et al., 2008), and they perceive field experience as the most valuable form of preparation for teaching (Lee, 2011). Moreover, they not only requested more field experience, but also asked that this occur in a variety of contexts (both urban and rural) (Haggard et al., 2006). These experiences may be especially beneficial for those who have been out of school for many years (Lee, 2011). Therefore, it is advisable to include a significant amount of field experience in second-career teacher education programs (Kee, 2012; Lee, 2011; Tigchelaar et al., 2010). Such practical experience also allows students to become familiar with the workload (Casey et al., 2013) and possibly avoid a reality shock (Priyadharshini & Robinson-Pant, 2003). Research shows that first-year teachers who have less field experience feel less well prepared than first-year teachers whose preparation is more complete (Kee, 2012). However, the literature does not determine the amount of field experience that would be sufficient.

Concerning the content of field experience, Laming and Horne (2013) suggest that second-career teachers should have field experience in several schools in order to develop an understanding of the diversity among schools. Concerning the duration of field experience, Arbaugh, Abell, Lannin, Volkmann, and Boone (2007) showed that second-career teachers prefer practical placement models in which they are in a classroom with a mentor

for an entire year. They saw this as an advantage in building relationships with pupils. Teacher educators perceived this as an opportunity for second-career teachers to develop relationships with the other teachers in the school and to observe their pupils learning over time. According to mentors, a year-long placement provides second-career teachers with the opportunity to see all aspects of a teacher's job throughout the school year. However, they were uncertain whether this experience should involve one or two classes. In the latter case, mentors would coach a second-career teacher for only one semester, and possibly more teachers would be candidates for mentorship at this level. Both second-career teachers and teacher educators were in favor of a half-day structure because this allowed time for coursework, maintaining another job and family responsibilities. However, mentors preferred a full-day arrangement because they considered it offered better preparation for teaching full-time, and a half-day arrangement might also disrupt the mentors' schedules.

In research by Adcock and Mahlios (2005) comparing traditional and alternative teacher education programs, one of the greatest differences found concerned practical experience in the field, with a traditional program being four times more likely to require a placement than an ATEP. Humphrey et al. (2008) also found that student teachers in traditional programs generally complete more practical work than student teachers in ATEPs. However, ATEPs often place student teachers in the classroom at an earlier stage (Humphrey et al., 2008).

Nevertheless, there needs to be some support elements in schools to ensure field experience is successful (Humphrey & Wechsler, 2007). In a study by Bolhuis (2002), second-career teachers indicated that they appreciated support from colleagues and management when starting teaching. In order to increase support, it has been suggested that second-career teachers be placed in cohorts in schools because this provides opportunities for collaboration, team teaching and collective reflection (Maloy et al., 2006). Other characteristics of schools that have been proven to provide effective placements include strong leadership, a collegial atmosphere (observing each other's classes, exchanging ideas and discussing pupil performance) and adequate materials. Student teachers working in such schools were more likely to stay in teaching, had greater confidence in their teaching and experienced greater professional growth (Humphrey et al., 2008). Since the placement school should be able to meet the needs of the second-career teachers, they must make their specific strengths clear (Melchers et al., 2003).

Provide intensive mentoring support

Second-career teachers need mentoring just as much as first-career teachers (Lee & Lampert, 2011). Since mentoring may support the specific needs of career changers, it is certainly likely to be important for them (Jorissen, 2002, 2003). The mentor, being an experienced teacher, is an important source of support (Tigchelaar et al., 2010), and may provide emotional, instructional and classroom management support (Humphrey et al., 2008). Bradbury and Koballa (2007) found that mentors gave more advice at a general level than at a subject-specific pedagogical level.

The mentoring activities that participants in ATEPs most value are observing demonstration lessons, planning lessons collaboratively, talking about learners' strengths and weaknesses and receiving curriculum materials (Humphrey et al., 2008). Garza (2009) found that alternatively certified teachers perceived functional feedback (i.e. written comments about specific teaching behaviors which suggest ways to improve) as more useful

than non-functional feedback. Team teaching can also have a positive influence on the preparation of alternatively certified teachers (Myers et al., 2007). When mentors take the role of a team-teaching partner of a second-career teacher, the latter feel co-responsible for the class and the mentor can easily adopt the position of a role model (Melchers et al., 2003).

Mentors are best connected to second-career teachers early in the teacher education program because this may provide additional support (Casey et al., 2013). Moreover, there should be some collaboration between teacher educators at the institute and mentors at the school. Mentors should be informed about the theoretical components of the program and teacher educators should visit the schools (Brouwer, 2007).

Since second-career teachers have a great deal of work and life experience and have acquired many competences (Melchers et al., 2003), mentors are sometimes reluctant to mentor second-career teachers (Lee & Lampert, 2011). In addition, they often have little experience in mentoring second-career teachers. Therefore, it may also be advisable to train mentors in adult learning theory so that they can better understand their role (Mayotte, 2003; Tigchelaar et al., 2010).

Organize a flexible program

Since second-career teachers often combine work and study and also have family responsibilities, they are generally not able to attend a full-time teacher education program (Lee, 2011) and therefore need it to be flexible (Brouwer, 2007; Lee, 2011; Priyadharshini & Robinson-Pant, 2003). One way to enhance flexibility is to schedule classes in the evening or at weekends (Casey et al., 2013; Haggard et al., 2006). Administrative personnel should also be available at these times in order to provide assistance with financial aid and course registration, etc. (Haggard et al., 2006). Another form of flexibility can be achieved by combining face-to-face and online courses (Brouwer, 2007; Casey et al., 2013; Lee, 2011), which makes it easier to complete assignments at home and maintain another job (Lee, 2011). The use of self-study learning materials and providing a choice between courses based on personal development plans are also relevant (Melchers et al., 2003). Finally, it has been suggested that frequent entry points to the teacher education program should also be organized (Casey et al., 2013).

Conclusion and Discussion

The present study investigated the student profile of second-career teachers and the characteristics of a teacher education program adapted to their specific needs. The results revealed that second-career teachers are a heterogeneous group of individuals (Anthony & Ord, 2008). Nevertheless, they have some characteristics in common. Generally, they are older, have strong intrinsic motivation, possess a wide range of knowledge and skills acquired in their previous careers, have a self-directed and application-oriented approach to learning and teaching, and appreciate peer support. Similar to first-career teachers, they experience many professional challenges; but unlike them, they exhibit higher levels of concern about their novice status as a teacher and face greater demands and higher expectations from others because of their maturity. The types of challenge they face may also be related to the type of teacher education program they complete. For example, programs offering only a small amount of field experience may deliver teachers who have

greater problems with classroom management than others. In addition to professional challenges, second-career teachers also encounter personal challenges (e.g. financial and family sacrifices).

As second-career teachers have specific characteristics, it is important to recognize this (Tigchelaar et al., 2010) and to provide them with a tailor-made teacher education program (Humphrey et al., 2008; Lee & Lampert, 2011; Mayotte, 2003; Tigchelaar et al., 2010; Unruh & Holt, 2012). Such programs should include a preparatory period, after which second-career teachers can decide whether or not teaching is indeed a meaningful and realistic career for them. Moreover, teacher educators and mentors should recognize the expertise of second-career teachers and build upon this, rather than treat them as first-career teachers. Furthermore, the program should provide opportunities for self-directed learning and peer support, and should include a significant amount of field experience that is integrated with the coursework. During these experiences in the field, intensive mentoring support should be provided. Finally, in order for the teacher education program to be compatible with the requirements of a job and family, the program should be organized in a flexible way.

These may in fact be good recommendations for all pre-service teachers, and not exclusively relevant to second-career teachers. However, in some countries, accreditation requirements relating to graduate teacher standards may restrict some of the principles recommended.

In the course of the literature search, it became apparent that research on second-career teachers is limited. The literature has mainly focused on their motives and less on the process of becoming a teacher (Williams, 2010). Nevertheless, our literature overview provides deeper insight into the profile of second-career teachers and the characteristics of a teacher education program adapted to their needs. It is hoped that this will inspire teacher educators to develop specific teacher education programs for second-career teachers.

Despite the added value of this study, some limitations should be acknowledged. Firstly, in order to answer the second research question, we studied the literature on ATEPs, as they regularly attract second-career teachers (Humphrey & Wechsler, 2007; Tigchelaar et al., 2010). Nevertheless, these programs are not exclusively designed for second-career teachers, so several of the points we formulated into guidelines may also be applicable to programs for first-career teachers. Secondly, only full text manuscripts were included. Therefore, it is possible that our literature search omitted studies simply because there was no access to the full text manuscripts. Finally, since a narrative review is the product of the reviewer's interpretive process, it is possible that our pre-existing points of view may have influenced our analysis of the literature. Nevertheless, a narrative review makes it possible to provide in-depth information on a topic (Dochy et al., 1999).

Directions for further research can be formulated on the basis of the results of our study. As previous research has mainly focused on the characteristics of second-career teachers without comparing them to a control group of first-career teachers, it would be interesting to examine the similarities and differences of the groups on several characteristics in order to complement our current findings. Moreover, the research on second-career teachers and ATEPs mainly made use of self-report measures. Although these are of significant value in education, they should be complemented by direct measures such

as the observation of second-career teachers at work in the classroom. Finally, longitudinal research following the second-career teachers into their first years of teaching may also offer interesting insights relevant to the development of programs specifically designed for second-career teachers.

Notes

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Appendix

Overview of manuscripts included in the review study.

Author	Theme ¹	Type of manuscript	Research questions/aims	Subjects	Data collection	Data analysis	Control group?
Adcock & Mahlios (2005) - USA	Teacher education programs - Second-career teachers (gender, age, ethnicity)	Empirical study	- Determining what type of nontraditional alternative teacher certification programs were offered in the Midwest, and the participants who utilized this type of program.	- 44 teacher education program directors (26 from traditional programs and 18 from non-traditional programs) - 81 graduate students - Primary and secondary education	- Surveys	Quantitative	Yes
Anthony & Ord (2008) - New Zealand	Second-career teachers (motivations, expectations, intentions)	Empirical study	- Why does a person decide to give up their former job to become a teacher? - If someone is about to switch careers they must think they've got what it 'takes' – what is this and how do they know this? - Why was the decision to go teaching made at this point in time? - How are change-of-career teachers' expectations implicated in their transition into teaching?	- 68 change-of-career teachers - Secondary education	- Interviews	Qualitative	No
Arbaugh et al. (2007) - USA	Teacher education programs	Empirical study	- In what ways do student interns, mentor teachers, and university faculty view five different internship models for post-baccalaureate mathematics and science certification students?	- 11 student teachers, 11 mentors, 6 university personnel	- Meeting with all subjects - Interviews	Qualitative	No

¹ Main theme (second-career teachers versus teacher education programs) investigated in the research question.

Author	Theme ¹	Type of manuscript	Research questions/aims	Subjects	Data collection	Data analysis	Control group?
Berger & D'Ascoli (2012) - Switzerland	Second-career teachers (motivation)	Empirical study	<ul style="list-style-type: none"> - What is the validity and reliability of the adapted FIT-Choice scale translated into French and German, in the population of Swiss vocational education and training teachers? - What are the most significant determinants of vocational education and training teachers' career choice? - What is the relationship between motivation to become a vocational education and training teacher, and perception of prior occupation? 	<ul style="list-style-type: none"> - 483 vocational and education teachers (second-career teachers) - Secondary education 	<ul style="list-style-type: none"> - FIT-Choice scale (survey) - Perception of Prior Occupation scale (survey) 	Quantitative	No
Bolhuis (2002) - The Netherlands	Teacher education programs	Empirical study	<ul style="list-style-type: none"> - Studying different alternative routes to teaching in secondary education. 	<ul style="list-style-type: none"> - Study 1: 3 employment consultants, 11 students, 4 teacher educators, 5 mentors, 3 school managers - Study 2: 6 teacher educators and 2 mentors (interviews), 872 student teachers (questionnaires) - Study 3: / - Secondary education 	<ul style="list-style-type: none"> - Study 1: document analysis and interviews - Study 2: document analysis, interviews, questionnaires - Study 3: attending meetings, having discussions 	Qualitative and quantitative	No
Boone et al. (2011) - USA	Teacher education programs	Empirical study	<ul style="list-style-type: none"> - Evaluating selected perceptions of science and mathematics teachers (regarding preparation, self-efficacy and outcome expectancy) in an alternative certification program. 	<ul style="list-style-type: none"> - 39 student teachers - Middle and secondary education 	<ul style="list-style-type: none"> - Questionnaires 	Quantitative	No

Author	Theme ¹	Type of manuscript	Research questions/aims	Subjects	Data collection	Data analysis	Control group?
Bradbury & Koballa (2007) - USA	Teacher education programs	Empirical study	<ul style="list-style-type: none"> - What is the nature of advice given by science teacher mentors to their protégés? - How did advice giving compare between the two mentors? 	<ul style="list-style-type: none"> - 2 mentors - Secondary education 	<ul style="list-style-type: none"> - Interviews - Lesson plans - Mentor observation notes - Field notes of planning periods and teaching 	Qualitative	No
Brouwer (2007) - The Netherlands	Teacher education programs	Empirical study	<ul style="list-style-type: none"> - Reviewing strengths and weaknesses of alternative teacher education programs as introduced in the Netherlands on the basis of all the evaluation studies available to date. 	<ul style="list-style-type: none"> - 6 evaluation studies of teacher education programs (5 at the secondary level, 1 at the primary level) 	<ul style="list-style-type: none"> - Document analysis 	Qualitative	No
Brindley & Parker (2010) - USA	Second-career teachers (teaching beliefs)	Empirical study	<ul style="list-style-type: none"> - Investigating the teaching beliefs that post-baccalaureate students brought into a graduate level teacher certification program, and the extent to which those beliefs persevered or changed during their first year of teaching. 	<ul style="list-style-type: none"> - 3 graduate students - Primary education 	<ul style="list-style-type: none"> - Written philosophy statements - Semi-structured interviews 	Qualitative	No
Casey et al. (2013) - USA	Second-career teachers (support needs)	Empirical study	<ul style="list-style-type: none"> - How do novice alternatively certified special education and bilingual teachers describe their support needs? - What kinds of support do alternatively certified special education and bilingual teachers perceive to be effective? 	<ul style="list-style-type: none"> - 89 teachers from ACP's 	<ul style="list-style-type: none"> - Survey 	Qualitative and quantitative	No
Castro & Bauml (2009) - USA	Second-career teachers (motivation)	Empirical study	<ul style="list-style-type: none"> - Presenting factors associated with transitioning into teaching as a second career and discussing their implications for recruiting mid-career teachers. 	<ul style="list-style-type: none"> - 14 program participants - 9 second-career teachers 	<ul style="list-style-type: none"> - Focus group interviews (program participants) - Individual interviews (second-career teachers) 	Qualitative	No

Author	Theme ¹	Type of manuscript	Research questions/aims	Subjects	Data collection	Data analysis	Control group?
Chambers (2002) - USA	Second-career teachers (motivation, skills, applied learning)	Empirical study	- Finding out more about the reasons that draw career changers into teaching and to explore the effects of a previous successful career on their development as teachers.	- 4 pre-service teachers and 6 in-service teachers - Secondary education	- Interviews	Qualitative	No
Chin & Young (2007) - USA	Second-career teachers (motivation)	Empirical study	- Developing typological profiles of the interns by using an ecological model of development.	- 1826 alternative certification candidates	- Surveys	Quantitative	No
Flores et al. (2004) - USA	Second-career teachers (self-efficacy)	Empirical study	- What are university and ACP teachers' sense of teacher efficacy? - Does certification route, experience or specialization impact teachers' sense of efficacy?	- 162 teachers (103 ACP, 59 traditional route)	- Surveys	Quantitative	Yes
Garza (2009) - USA	Teacher education programs	Empirical study	- Examining written feedback provided to beginning alternatively certified teachers by their mentors and their field supervisor.	- 20 student teachers - Primary, middle and secondary education	- Classroom observations - Mentor written feedback - Focus group interviews	Qualitative	No
Haggard et al. (2006) - USA	Second-career teachers (challenges)	Empirical study	- Discovering the special challenges graduate teacher certification students encountered when leaving a career field and becoming novice teachers.	- 40 graduate students - Primary (24) and secondary (16) education	- Open-ended surveys (pre- and post-student teaching)	Qualitative	No

Author	Theme ¹	Type of manuscript	Research questions/aims	Subjects	Data collection	Data analysis	Control group?
Humphrey & Wechsler (2007) - USA	Second-career teachers (age, gender, ethnicity, prior experiences, motivation) - Teacher education programs	Empirical study	- Describing seven alternative certification programs to understand who participates in these programs and what learning opportunities the programs provide.	- Case studies of seven alternative certification programs	- Interviews - Document reviews - Surveys - Observations	Qualitative and quantitative	No
Humphrey et al. (2008) - USA	Teacher education programs	Empirical study	- What are the characteristics of effective alternative certification programs?	- Case studies of 7 alternative certification programs	- Interviews - Document reviews - Surveys - Observations	Qualitative and quantitative	No
Johnson et al. (2005) - USA	Teacher education programs	Empirical study	- What responsibilities do the states assume and what responsibilities do they delegate in sponsoring their fast-track programs? - What are the reported consequences, for program implementation and for the participants' experiences, when the state chooses to centralize or decentralize particular elements of program development and delivery?	- 11 alternative certification programs - Program directors, faculty members, participants, school district officials, nonprofit administrators	- Interviews - Document analysis	Qualitative	No
Jorissen (2002) - USA	Teacher education program	Empirical study	- Examining alternate route teachers' experiences of professional integration during the preparation and induction years of their careers.	- 7 second-year teachers	- Interviews - Questionnaires	Qualitative	No

Author	Theme ¹	Type of manuscript	Research questions/aims	Subjects	Data collection	Data analysis	Control group?
Jorissen (2003) - USA	Teacher education programs	Empirical study	<ul style="list-style-type: none"> - What preparation program experiences did the teachers recall as most beneficial in preparing them for their urban classrooms? - What were the features of key relationships during this period? 	<ul style="list-style-type: none"> - 6 second-career teachers who were still working in an urban school 6 years after graduating - Primary education 	<ul style="list-style-type: none"> - Interviews 	Qualitative	No
Kee (2012) - USA	Second-career teachers - Teacher education programs	Empirical study	<ul style="list-style-type: none"> - Are there differences in the personal characteristics of 1st-year alternatively and traditionally certified teachers? - Do alternatively certified teachers feel less well prepared than their traditionally certified counterparts? - Do alternatively certified teachers whose certification programs have certain features (such as certain types of coursework or longer field experiences) feel better prepared than teachers whose programs do not have these features? 	<ul style="list-style-type: none"> - 1220 1st-year teachers from traditional route - 470 1st-year teachers from alternative route 	<ul style="list-style-type: none"> - Surveys 	Quantitative	Yes
Laming & Horne (2013) - Australia	Second-career teachers (motivation) - Teacher education programs	Empirical study	<ul style="list-style-type: none"> - Investigating the reasons why applicants to pre-service education courses would give up existing careers in order to become teachers. - Exploring the experiences of recently graduated career change teachers. - Testing the efficacy of the survey instrument. 	<ul style="list-style-type: none"> - 30 teachers - Primary and secondary education 	<ul style="list-style-type: none"> - Open-ended questions - Interviews 	Quantitative	No

Author	Theme ¹	Type of manuscript	Research questions/aims	Subjects	Data collection	Data analysis	Control group?
Lee (2011) - USA	Second-career teachers (motivation, prior experiences) - Teacher education programs	Empirical study	<ul style="list-style-type: none"> - What motivating events precipitated a change of career to education? - What common experiences do these teachers share that may be unique to non-traditional entrants to the field of education? - Do these teachers believe that the teacher education and/or alternative certification process helped them learn to utilize their prior work experiences? - How have these teachers' previous careers guided and/or benefited them in their new profession? - What degree of satisfaction have these teachers found in their new profession? 	<ul style="list-style-type: none"> - 12 second-career teachers - Primary and secondary education 	<ul style="list-style-type: none"> - Interviews - Document analysis 	Qualitative	No
Lee & Lamport (2011) - USA	Second-career teachers (motivation, experiences) - Teacher education programs	Literature review	<ul style="list-style-type: none"> - Examining motivations and experiences of non-traditional, second-career teachers. 	- /	- /	Qualitative	/
Maloy et al. (2006) - USA	Second-career teachers (age, gender, ethnicity, prior education) - Teacher education programs	Empirical study	<ul style="list-style-type: none"> - Who are these teachers arriving in the teaching profession on a fast track? - How do they perceive their effectiveness as teachers in classrooms and as leaders in schools? - How do they evaluate the usefulness of their teacher preparation program, and how do they respond to efforts by the schools that hired them to support their induction into teaching through mentoring programs and professional development activities? 	<ul style="list-style-type: none"> - 64/ 44/ 22 teachers (3 measurement moments) 	<ul style="list-style-type: none"> - Surveys 	Quantitative	No

Author	Theme ¹	Type of manuscript	Research questions/aims	Subjects	Data collection	Data analysis	Control group?
Mayotte (2003) - USA	Second-career teachers (prior experiences)	Empirical study	- Looking at the influence of a previous career on classroom practice by considering second career teachers' recognition of competencies and attitudes developed within their previous careers and their transfer to teaching.	- 4 second-career teachers - Primary and secondary education	- Interviews - Surveys - Observation field notes - Teacher artifacts	Qualitative	No
Melchers et al. (2003) - The Netherlands	Teacher education programs	Empirical study	- Describing a training program for second-career teachers in primary education. - Studying the first experiences of second-career teachers with the teacher training program .	- /	- Surveys - Interviews	Qualitative	No
Myers et al. (2007) - USA	Teacher education programs	Empirical study	- Documenting the implementation of a unique project design. - Analyzing the pilot cohort's perceptions of those characteristics that are necessary for effective teacher preparation and instruction.	- 5 participants - Secondary education	- Interviews	Qualitative	No
Ng & Thomas (2007) - USA	Second-career teachers	Empirical study	- Exploring the experiences of two alternatively certified teachers and considering what contributed to their success working in an urban school context.	- 2 teachers	- Observations of their classrooms - Transcripts of videotaped lessons - Artifacts and commentary included in professional portfolios - Focus group interviews - Semi-structured individual interviews	Qualitative	No
O'Connor (2011) - USA	Teacher education program	Empirical study	- Examining the teacher fellows perceptions of the preparation process and support mechanisms that are provided during the training, their suggestions for improving the training, and their plans to remain teaching in New York City.	- 68 students - Elementary education	- Survey	Qualitative & quantitative	No

Author	Theme ¹	Type of manuscript	Research questions/aims	Subjects	Data collection	Data analysis	Control group?
Powers (2002) - USA	Second-career teachers (motivation)	Empirical study	- Investigating the reasons why individuals choose to enter teaching as a second career, what type of differences are perceived from previous occupations, how second-career teachers perceive administrators, and the shared values or mission that aids the second-career teacher during the career transition period	- 7 second-career teachers	- Interviews	Qualitative	No
Priyadhars-hini & Robinson-Pant (2003) - UK	Second-career teachers (motivation)	Empirical study	- Understanding the triggers and processes by which career changers moved into secondary teacher training.	- 34 student teachers - Secondary education	- Interviews	Qualitative	No
Richardson & Watt (2005) - Australia	Second-career teachers (motivation)	Empirical study	- Providing a profile of people who have decided to undertake a teacher education course as a career change into teaching.	- 74 student teachers	- Survey - Interview	Quantitative and qualitative	No
Salyer (2003) - USA	Second-career teachers (motivation, strengths) - Teacher education program	Empirical study	- What were participants' reasons for wanting to become teachers? - What strengths do these participants believe they can bring to a classroom and a school as a result of previous career experiences? - What kinds of support did participants receive as they began their teaching careers?	- 38 university students - Secondary education	- Questionnaire (open-ended)	Qualitative	No
Schonfeld & Feinman (2012) - USA	Second-career teachers (age, gender, ethnicity)	Empirical study	- Estimating the frequencies with which alternatively certified teachers and their traditionally certified colleagues encounter job-related difficulties.	- 257 beginning teachers (70% alternative certification, 30% traditional certification)	- Questionnaire - Online diary	Quantitative	Yes

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Schoon & Sandoval (2000) - USA	Teacher education program	Empirical study	- Describing a graduate, 19-month alternative certification program for urban middle- and high-school teachers that leads to teacher certification.	- Student teachers, principals, mentors, university faculty members	- Interviews - Focus groups	Qualitative	No
Scribner & Akiba (2010) - USA	Second-career teachers (prior experiences)	Empirical study	- What are the characteristics of prior professional experiences among alternative teacher certification program (ATCP) teachers in Missouri? - How are ATCP teachers' prior professional experiences associated with instructional quality? - What explains the relationship between ATCP teachers' prior professional experiences and instructional quality?	- 72 student teachers	- Observations - Interviews - Surveys	Qualitative and quantitative	No
Tigchelaar et al. (2008) - Netherlands	Second-career teachers	Empirical study	- What are characteristic differences between second-career teachers and first-career teachers, when they enter a teacher education program? - What are characteristics in which second-career teachers differ among each other? - Which experiences of continuity and change do career changers report during their transition to teaching? - In what respects do career changers experience their teacher education programs as supportive for the transition to teaching?	- 6 teacher educators - 8 second-career teachers - Secondary education	- Semi-structured interviews - Questionnaires	Qualitative & quantitative	No

Author	Theme ¹	Type of manuscript	Research questions/aims	Subjects	Data collection	Data analysis	Control group?
Tigchelaar et al. (2010) - Netherlands	Second-career teachers (motives, skills, knowledge and beliefs, autonomy) - Teacher education programs	Review study	<ul style="list-style-type: none"> - What are the characteristic differences between first-career trainee teachers and second-career trainee teachers? - What are the characteristic problems and challenges faced by second-career trainee teachers? - How do second-career teachers perceive the support they are given while in training? - In what way is the learning-to-teach process of second-career teachers fostered in alternative certification programs? 	- /	<ul style="list-style-type: none"> - Searching databases - Analyzing studies along four research questions (bottom-up analysis) 	Qualitative	/
Tigchelaar et al. (2012) - Netherlands	Second-career teachers (conceptions of learning and teaching)	Empirical study	<ul style="list-style-type: none"> - What are second-career teacher candidates' initial conceptions about teaching and learning? - What are the relationships between second-career teacher candidates' background characteristics and their initial conceptions about teaching and learning? - How do second-career teachers' conceptions about teaching and learning develop during the first semester of an alternative certification program? 	<ul style="list-style-type: none"> - 207 candidates - Secondary education 	- Questionnaire	Quantitative	No

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Unruh & Holt (2012) - USA	Teacher education programs	Empirical study	<ul style="list-style-type: none"> - What kind of support do alternative-entry teachers find most helpful? - How did their 1st year of teaching experiences match their expectations? - How did the provision of beginning teacher supports affect their perception of teaching as a career? - How did those supports affect their sense of efficacy as a teacher? - How were the perceptions of the support that they received different from those of traditional-entry teachers? 	<ul style="list-style-type: none"> - 83 teachers (63 traditionally certified and 20 alternatively certified teachers) - Primary and secondary education 	- Survey	Quantitative	Yes
Uusimaki (2011) - Australia	Teacher education programs	Empirical study	<ul style="list-style-type: none"> - This study reports on a small cohort of mature-aged graduates' experiences in a one-year postgraduate teacher education program focusing on middle schooling. 	<ul style="list-style-type: none"> - 12 mature-aged pre-service teachers - Middle school 	<ul style="list-style-type: none"> - Pre- and post-enactment interviews - Written reflections - Focus group discussion 	Qualitative	No
Wayman et al. (2003) - USA	Second-career teachers (concerns)	Empirical study	<ul style="list-style-type: none"> - Comparing first-year teaching concerns of alternatively certified teachers with traditionally prepared teachers. 	<ul style="list-style-type: none"> - 237 traditionally certified and 154 alternatively certified first-year teachers 	- Survey	Quantitative	Yes
Williams (2010) - Australia	Second-career teachers	Empirical study	<ul style="list-style-type: none"> - Examining the tensions inherent in being an expert novice in teacher education, and how one career change student perceived the processes of brokering and reconciliation. 	<ul style="list-style-type: none"> - 1 career change student 	- Interview	Qualitative	No

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Williams & Forgasz (2009) - Australia	Second-career teachers (motivation, prior experiences)	Empirical study	<ul style="list-style-type: none"> - Deciding if findings from previous research on career change teacher education students' motivations were still prevalent. - Exploring the attributes that current career change entrants believe they bring with them that are likely to contribute to the quality of their teaching. - Exploring whether career changers' motivational expectations were sustained during the course of their teacher education. - Determining whether policy directions targeting career change entrants to teaching, particularly at the secondary level, can be supported. 	- 375 career change students	<ul style="list-style-type: none"> - Survey - Interview 	Quantitative and qualitative	No
Zeichner & Schulte (2001) - USA	Teacher education programs	Review study	- Examining the peer-reviewed literature on alternative teacher certification that reports information about the nature of the programs under study, to see what can be concluded about these programs in the following areas: (a) what kinds of teachers they bring into teaching (both demographic and academic characteristics), (b) where these teachers teach and how long they stay, (c) how well they teach, and (d) how well they promote pupil learning.	- /	- /	Qualitative	No