Addressing second-career teachers' earlier experiences

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Inspelen op de eerdere ervaringen van zij-instromers
(met een samenvatting in het Nederlands)

Proefschrift

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Samenvatting

In dit proefschrift verkennen we met welke ervaring zij-instromers de lerarenopleiding binnenkomen en wat dit voor het opleiden van zij-instromers zou kunnen betekenen. Dit onderzoek laat zien dat goed inspelen op de ervaring die zij meebrengen bij de start, en met name op hun denkbeelden over lesgeven en leren, van belang is. We willen met dit onderzoek een drietal bijdragen leveren: (1) Inzicht krijgen in de ervaring die zij-instromers meebrengen in lerarenopleiding. (2) Het vergemakkelijken van de grote overstap die zij-instromers maken naar de nieuwe beroepspraktijk van leraar. (3) Het vergroten van de instroom en het verminderen van uitval in alternatieve programma's voor zij-instromers, kortom minder verspilling van tijd, energie en maatschappelijke middelen.

Al een aantal jaren bestaat er in Nederland een lerarentekort, vooral in het voortgezet onderwijs. Een op de zes leraren geeft daar onbevoegd les (Ministerie van OC&W, 2010). De verwachtingen zijn dat de lerarentekorten in het voortgezet onderwijs tot 2018 toe zullen nemen (Ministerie van OC&W, 2010). Met het oog hierop zijn er in de afgelopen jaren verschillende overheidsmaatregelen genomen om het leraarschap als tweede of latere loopbaan te bevorderen. Die maatregelen hebben bijgedragen aan de toename van het aantal zij-instromers in de lerarenopleiding. Bij de invoering van de "Interimwet op de zij-instroom van leraren in primair en voortgezet onderwijs" in 2000 waren de verwachtingen over de aantallen zij-instromers hooggespannen. Nu, elf jaar later, kunnen we enerzijds constateren dat zij-instromers niet meer weg te denken zijn uit de lerarenopleiding, maar ook dat de aantallen zij-instromers behoorlijk tegenvallen ten opzichte van de verwachtingen destijds (AStri 2008). Daarnaast vertoont de uitval onder zij-instromers in het voortgezet onderwijs in het eerste jaar van hun loopbaan en opleiding tot leraar, fluctuaties van 9 procent tot 21 procent (AStri, 2008). In Nederland zijn er - voor zover wij weten - geen gegevens bekend over hoe lang zij-instromers na het afronden van hun opleiding ook daadwerkelijk leraar blijven. Amerikaans onderzoek (Ingersoll 1997, 2002) laat zien dat het uitvalpercentage daar onder zij-instromers in de eerste drie tot vijf jaar hoog is.

Wij zien een drietal mogelijke verklaringen. (1) De overgang naar het beroep van leraar is voor zij-instromers een grote overstap die veel mentale lenigheid van de betrokkenen vraagt. Lerarenopleidingen schieten te kort in de ondersteuning die zij zij-instromers bieden op het moment van de overgang van het oude beroep naar het nieuwe beroep van leraar. (2) Zij-instromers brengen een diversiteit aan eerdere ervaringen mee en uiteenlopende denkbeelden over lesgeven. Op basis van in het verleden opgedane ervaringen koesteren zij dikwijls verwachtingen ten aanzien van de opleiding en het nieuwe beroep, die hun aansluiting bij de huidige onderwijspraktijk en hun ontwikkeling tot docent bemoeilijken. (3) In de lerarenopleidingen wordt onvoldoende ingespeeld op de levens- en werkervaring van zij-instromers. De opgedane ervaring blijft onbenut, waardoor de aansluiting op de nieuwe beroepspraktijk suboptimaal blijft. Met dit onderzoek willen we een beter inzicht krijgen in de ervaring die zij-instromers meebrengen om te komen tot mogelijke opleidingsdidactische consequenties voor het opleiden van zij-instromers.

In dit proefschrift is er voor gekozen om deze thematiek van de zij-instromers via drie invalshoeken te benaderen. In reguliere lerarenopleidingen wordt al terdege rekening gehouden met ervaringen van studenten en de uitgangspositie waarin zij verkeren. We kozen er daarom voor om te leren van deze bestaande praktijk (de reguliere opleiding) ten behoeve van de alternatieve praktijk (zij-instroomtrajecten). We wilden komen tot voorbeeldmatige

opleidingsdidactische aanpakken die voor beide praktijken werkzaam zouden kunnen zijn. Daarnaast kozen we ervoor om de eerdere ervaringen van zij-instromers te vergelijken met die van reguliere studenten. Dit om uitspraken te kunnen doen over de (on)zinvolheid van alternatieve opleidingstrajecten voor zij-instromers. Op de derde plaats kozen we ervoor om één belangrijk aspect van de eerdere ervaringen van zij-instromers extra te belichten: de denkbeelden die zij hebben over lesgeven en leren. Zij-instromers zijn ook ooit leerling geweest en brengen dus eigen leerlingervaringen mee. Dat zijn ervaringen uit een tijd waarin het onderwijs er anders uitzag dan nu. Deze eigen leerlingervaringen spelen een belangrijke rol in de denkbeelden die een aankomend docent heeft opgebouwd over lesgeven, en die op hun beurt het docentgedrag sterk beïnvloeden.

In hoofdstuk 1 formuleerden we de volgende drie onderzoeksvragen voor het proefschrift. (1) Wat zijn goede opleidingsdidactische voorbeelden met betrekking tot het leren van (eerdere) ervaringen, die in de reguliere lerarenopleiding al effectief gepraktiseerd worden? (2) Zijn er vanuit opleidingsdidactisch perspectief gegronde redenen om zij-instromers op grond van hun eerdere ervaringen aparte trajecten aan te bieden? En zo ja, wat impliceert dat voor het inspelen op hun eerdere ervaringen? En (3) wat zijn de aanvankelijke denkbeelden die zij-instromers hebben over lesgeven en leren wat is de invloed daarvan op hun ontwikkeling in de opleiding tot leraar?

In hoofdstuk 2 stond de vraag naar voorbeelden uit de reguliere opleidingsdidactische praktijk centraal. We beschrijven een ontwikkelingsstudie die werd uitgevoerd binnen de duale context van Nederlandse lerarenopleidingen, waarin studenten werken en leren combineren. Een essentieel opleidingsdidactisch thema binnen duaal opleiden is de integratie van ervaringen en theorie. Het onderzoek vond plaats op de reguliere lerarenopleiding van de Universiteit Utrecht. De opleidingsdidactiek van deze lerarenopleiding – maar ook op verschillende andere lerarenopleidingen in Nederland - is gebaseerd op de zogenaamde "realistische opleidingsdidactiek" (Korthagen et al., 2000), die gericht is op de integratie van ervaringen en theorie. Voor zij-instromers is dit vraagstuk van integratie zeker zo relevant. Zij brengen immers meer levens- en werkervaring mee dan de gemiddelde student in de lerarenopleiding. De onderzoeksvraag van de eerste studie in hoofdstuk 2 was: wat zijn concrete voorbeelden van een realistische opleidingsdidactiek waarbij ervaringen en theorie daadwerkelijk en effectief geïntegreerd worden? Methodologisch gezien, is deze studie gebaseerd op de drie principes van ontwikkelingsonderzoek zoals die beschreven zijn door Van den Akker en Plomp (1993). Deze houden in dat het onderzoek plaatsvindt in een situatie van vernieuwing, dat het ontwerp gebaseerd is op theoretische inzichten (in hoofdstuk 2: de theorie over het gedrag van leraren en de aard van de kennis die leraren hebben) en dat het doel is om te komen tot voorbeeldmatige

aanpakken. Het onderzoek vond plaats in drie opeenvolgende cohorten van in totaal 67 reguliere studenten. In de onderzochte opleidingspraktijk vonden we drie concrete voorbeeldmatige aanpakken, die te omschrijven zijn als: (1) werken met eerdere leerlingervaringen, (2) werken met recente leservaringen in de stage, en (3) nieuwe ervaringen creëren in opleidingdbijeenkomsten.

In de twee volgende studies (hoofdstuk 3 en hoofdstuk 4) onderzochten we of er vanuit opleidingsdidactisch perspectief gegronde redenen zijn om zij-instromers alternatieve trajecten aan te bieden, afgestemd op hun eerdere ervaringen. Het doel van het verkennend onderzoek in hoofdstuk 3 was om meer inzicht te krijgen in de achtergrondkenmerken van zij-instromers en in hoe zij de overgang naar het nieuwe beroep en de ondersteuning daarbij vanuit de lerarenopleiding ervaren. Het hoofdstuk bestaat uit twee kleinschalige deelstudies, een studie gericht op de lerarenopleider, en een studie gericht op de zij-instromer, beiden ontwikkeld in de bredere context van Nederlandse zij-instroomprogramma's voor leraren in het voortgezet onderwijs. Aan de lerarenopleidersstudie namen 6 lerarenopleiders deel. We ontwikkelden voor deze studie een half-voorgestructureerd interview en een vragenlijst. Aan de hand daarvan onderzochten we of zij-instromers volgens lerarenopleiders verschillen van reguliere studenten, en in welke opzichten. In de ogen van de ondervraagde lerarenopleiders bleken zij-instromers op tien punten kenmerkend te verschillen van reguliere studenten. Deze verschillen bleken zonder uitzondering terug te voeren op het hebben van meer ervaring in werk, leren en leven van de zij-instromers. Daarnaast namen de lerarenopleiders ook verschillen tussen zij-instromers onderling waar. We vonden hierbij vier achtergrondkenmerken waarop de zij-instromers volgens lerarenopleiders ten opzichte van elkaar verschillen: (1) geen recente werkervaring hebben (bijvoorbeeld vaders en moeders die na de afronding van hun studie kinderen opgevoed hebben), (2) recente werkervaring in een andere onderwijscontext hebben (bijvoorbeeld docenten van een hogeschool of universiteit), (3) recente eerdere werkervaring in het voortgezet onderwijs hebben (bijvoorbeeld onbevoegd lesgevenden of werkzaam zijn in de onderwijsondersteuning in het voortgezet onderwijs) en (4) ruime werkervaring in een ander beroepsdomein hebben (bijvoorbeeld een dominee of een apotheker).

In de zij-instromersstudie, waaraan 8 zij-instromers met ruime werkervaring in een ander beroepsdomein deelnamen, onderzochten we hoe zij de overgang naar het nieuwe beroep en de ondersteuning vanuit de lerarenopleiding ervoeren. We ontwierpen een half-voorgestructureerd biografisch interview gebaseerd op het zogenaamde "ui-model" (Dilts, 1990; Korthagen, 2004), waarin verschillende niveaus van verandering onderscheiden worden (omgeving, gedrag, compentie, overtuigingen, identiteit en betrokkenheid). De betrokken zij-instromers rapporteerden zowel continuïteit als discontinuïteit

op de volgende aspecten: (1) complexiteit en werkbelasting, (2) omgaan met (grote groepen) leerlingen, (3) het delen van praktijkkennis met leerlingen in relatie tot het schoolvak, (4) de mate van autonomie in het werk; en (5) diep gewortelde verlangens om leraar te worden. De betrokken zij-instromers waren gematigd tevreden over de ondersteuning van de lerarenopleiding. Ze ervoeren dat lerarenopleiders wel rekening wìlden houden met de ervaring die zij-instromers meebrachten, maar dat dit in de praktijk vaak beperkt bleef tot het begin van de opleiding.

In hoofdstuk 4 bestudeerden we de internationale literatuur over zij-instromers en hun ervaring, ditmaal vanuit opleidingsdidactisch perspectief. De onderzoeksvragen waren dezelfde als in hoofdstuk 3, maar nu was het doel om te komen tot aanbevelingen voor de opleidingsdidactiek. Op basis van een grondige verkenning van de database van Web of Science vonden we 36 empirische studies. Deze werden samengevat en in samenwerking met twee onderzoekers geanalyseerd aan de hand van de onderzoeksvragen. Per onderzoeksvraag werden de verschillen tussen zij-instromers en reguliere studenten, de verschillen tussen zij-instromers onderling, en de ondersteuning die zij-instromers ervoeren samengevat in hoofdcategorieën. Dit resulteerde in vier principes waar de opleidingsdidactiek zich rekenschap van dient te geven ten aanzien van zij-instromers en de ervaring die zij meebrengen. (1) Inspelen op de beelden en verwachtingen van zij-instromers aan het begin van de opleiding. (2) Rekening houden met specifieke uitdagingen waar zij-instromers voor staan tijdens de opleiding. (3) Actief verbinden van eerder verworven competenties en eerder verworven beroepskennis met de praktijk van het lesgeven. En (4) gerichte samenwerking tussen school en opleiding vanuit gedeelde onderwijskundige concepten over het leren van zij-instromers.

In de laatste studie, hoofdstuk 5, wilden we meer inzicht krijgen in de denkbeelden (concepties) die zij-instromers meebrengen over lesgeven en leren. Dit was een fenomenografische studie waarin zowel kwalitatieve als kwantitatieve methoden gebruikt werden. De studie vond plaats binnen de context van het zij-instroomprogramma van de Universiteit Utrecht (Maatwerk). Het onderzoek bestond uit twee delen. In het eerste deel verkenden we de aanvankelijke concepties van 207 zij-instromers over lesgeven en leren, nog voordat zij aan de lerarenopleiding begonnen. We gebruikten een half-voorgestructureerde vragenlijst die uit twee delen bestond: (1) vragen naar achtergrondkenmerken (bijvoorbeeld eerdere werkervaring, leeftijd, schoolvak) en (2) open vragen waarin we vroegen wat de volgende thema's voor hen betekenden: goed lesgeven, leren lesgeven, leren van ervaringen en goed begeleid worden. Bij ieder thema vonden we drie tot vier uiteenlopende concepties. Aan de hand van kruistabellen werden deze in verband gebracht met de gerapporteerde achtergrondkenmerken. In het

tweede gedeelte van de studie keken we naar de ontwikkeling van de concepties in de loop van de tijd. We vroegen 70 zij-instromers uit de eerste groep om dezelfde vragenlijst nog een keer in te vullen, maar nu nadat zij een half jaar lerarenopleiding hadden gevolgd.

Het eerste gedeelte van de studie liet zien dat de aanvankelijke concepties van zij-instromers veelzijdig waren. Ze konden worden gerangschikt van traditioneel (de leraar centraal/vakgericht) naar meer geavanceerd (het leren centraal/leerlinggericht). Traditionele concepties kwamen het meest voor. Conform de verwachting bleken eerder opgedane ervaringen een belangrijke rol te spelen in de aanvankelijke concepties. Daarnaast bleek de meerderheid van de jongere zij-instromers (tot 40 jaar oud) denkbeelden over lesgeven mee te brengen die doorgaans gematigd traditioneel waren (gericht op de leeromgeving). Oudere zij-instromers neigden meer naar de extremen: traditioneel (meer vakgericht) of gematigd geavanceerd (juist meer leerlinggericht). We ontdekten ook dat zij-instromers die voorafgaand aan de opleiding onbevoegd lesgaven, traditionele denkbeelden over leren en begeleid worden meebrachten.

Tot slot ontdekten we in het tweede deel van deze studie drie ontwikkelingspatronen in concepties van lesgeven en leren: groei, consolidatie, en terugval. De helft van de participanten vertoonde een patroon van groei. Dit impliceerde dat de andere helft nauwelijks of geen groei vertoonde (consolidatie) of zelfs terugval. We ontdekten ook dat alle (100%) zij-instromers met een patroon van groei aan het eind van de opleiding daadwerkelijk werkzaam waren in het voortgezet onderwijs. Van de 25 zij-instromers die een patroon van consolidatie vertoonden waren er 17 (68%) aan het eind van de opleiding verbonden aan een school, de rest was of werkzaam in het hoger onderwijs, of was op zoek naar een andere baan. Zorgelijk was dat de 8 zij-instromers die terugval in de ontwikkeling van hun denkbeelden vertoonden, begonnen met geavanceerde denkbeelden over lesgeven. Zeven van hen zochten na de opleiding ander emplooi. Dit betekent dat bijna een kwart van de onderzochte groep zij-instromers aan het eind van de lerarenopleiding niet meer werkzaam was in het voortgezet onderwijs en dit ook niet langer ambieerde.

In hoofdstuk 6 ten slotte trekken we conclusies, doen we opleidingsdidactische aanbevelingen en geven we suggesties voor verder onderzoek. In essentie toont dit proefschrif de noodaak aan om "in te spelen op ervaring". Het proefschrift laat zien dat de realistische opleidingsdidactiek zoals die gehanteerd wordt in de reguliere lerarenopleiding van veelal jonge studenten, eerste aanknopingspunten biedt om bij de opleiding van zij-instromers aandacht te besteden aan de verbinding tussen hun ervaring en de nieuwe theoretische inzichten die ze opdoen. Het laat zien dat bepaalde (de meeste) zij-instromers door hun eerdere ervaringen vanuit opleidingsdidactisch oogpunt

daadwerkelijk verschillen van reguliere studenten. En het laat zien dat het vanuit opleidingsdidactisch oogpunt belangrijk is om meer aandacht te besteden aan de denkbeelden (concepties) die zij-instromers meebrengen over lesgeven en leren. Dit impliceert in onze ogen in ieder geval het volgende. (1) Lerarenopleidingen zouden zij-instromers, scholen en zichzelf een dienst bewijzen met een flexibel aanbod aan orientatieactiviteiten op scholen. Een aanbod dat de zij-instromer in een vroegtijdig stadium de gelegenheid biedt om in de praktijk kennis te maken met verschillende onderwijsconcepten. Zo zouden zij-instromers in de gelegenheid gesteld moeten worden om verschillende activiteiten te ontplooien, op verschillende scholen, en op een tijdstip dat hen convenieert. Op die manier kunnen ze in een vroeg stadium hun aanvankelijke denkbeelden en verwachtingen toetsen in de realiteit. (2) Zij-instromers, ook degenen die vanuit hun moverende redenen de stap nemen om van de ene dag op de andere onbevoegd les te gaan geven in het voortgezet onderwijs, zouden in staat gesteld moeten worden om zich terdege voor te bereiden op het lesgeven. Scholen zouden hier meer hun verantwoordelijkheid moeten oppakken. Lerarenopleidingen van hun kant zouden hierin meer flexibiliteit kunnen betonen door op meerdere momenten in het jaar een voorbereidingsweek te organiseren. (3) Dit proefschrift laat zien dat er voor lerarenopleiders die betrokken zijn bij zij-instromers winst te behalen valt. Hoofdstuk 2 biedt hun vanuit het perspectief van de realistische opleidingsdidactiek concrete handvatten om ervaring te benutten tijdens de opleiding. De bevindingen van hoofdstuk 5 laten daarnaast zien dat het verkennen en bewerken van de impliciete denkbeelden over lesgeven en leren die zij-instromers koesteren aan de start, een mogelijke ingang biedt om bij de zij-instromer een duurzame groei te bevorderen, zodat terugval eventueel wordt verminderd. Een terugval die, zoals we in de onderzochte gevallen hebben gezien, mogelijk samenhangt met het voortijdig verlaten van de wereld van het voortgezet onderwijs. Een wereld waar men nog korte tijd tevoren uit volle overtuiging en met groot enthousiasme voor had gekozen.

De trend die na tien jaar zij-instromers zichtbaar wordt, is dat er minder zij-instromers toestromen naar het onderwijsveld dan verwacht. En dat – in ieder geval bij de onderzochte zij-instromers in het onderhavige onderzoek- een belangrijk percentage helaas tijdens of na de opleiding het veld weer verlaat. Eén van de redenen hiervan is waarschijnlijk dat er in de opleidingsdidactiek van zij-instromers weinig aandacht wordt besteed aan de ervaring en aanvankelijke denkbeelden waarmee zij het veld betreden. We hopen dat dit proefschrift kan bijdragen aan een trendbreuk.

Chapter 1

Introduction

As in several countries, alternative teacher education programmes (ACPs) have been developed in the Netherlands to combat teacher shortages. In the past decade, the Dutch government has taken several measures to encourage adults with degrees in higher education to become teachers (Ministerie van OC&W, 1999a, 1999b). Special intake assessments were developed to facilitate career changers to enter teacher education programmes and obtain teacher certification in short spans of time. Due to these governmental measures, the number of second-career teachers in teacher education programmes has increased gradually, especially in teacher education programmes for secondary teaching (Ministerie van OC&W, 2009, 2010). Labour market ratings predict that teacher shortages will not diminish until 2018 (Ministerie van OC&W, 2009, 2010).

In the USA, where alternative teacher education has a history of more than 25 years, empirical research on alternative certification is gradually increasing (cf. Grossman & Loeb, 2008). In the research literature, the following three main topics can be distinguished: recruitment and retention of participants, effectiveness of programmes – often compared to traditional programmes – and teacher performance (cf. Birkeland & Peske, 2004; Dill, 1996; Zeichner & Schulte, 2001; Zumwalt, 1996).

The literature demonstrates that there are great differences between programmes – ranging from little more than dressed-up emergency licensing procedures to programmes that closely resemble more professionally defensible, one-year masters programmes (Zumwalt, 1991; Zumwalt, 1996). Despite these differences, Feistritzer (2005) suggested that ACPs also share a few characteristics. In general, many ACPs require that participants have a bachelor's degree, pass a screening process, begin teaching and engage in on-the-job-training, complete education coursework while simultaneously teaching, work with mentor teachers and meet performance standards.

Alternative certification programmes were seen as a solution to teacher shortages because they offered a way to expand a pool of qualified teachers by attracting individuals who might otherwise not have become teachers. It has been suggested that the principal virtue of ACPs is that they are labour-market sensitive and can be tailored to address specific shortages (cf. Adcock & Mahlios, 2005). In addition, there is evidence that ACPs support the need for teachers in specific fields, such as mathematics and science, and in regional shortages in rural and urban schools (cf. Dill, 1996; Shen, 1997; Zeichner & Schulte, 2001; Hammerness & Reininger, 2008).

However, some studies show that the efficiency of ACPs is moderate. Shen and Palmer (2005) showed that drop-out rates among participants of alternative certification programmes (ACPs) tend to be high. A substantial number of second-career teachers, once certified, disappear from the profession in the first years of their careers. Several authors, notably Ingersoll (2002), refer to this phenomenon as the "revolving door" effect, meaning that people who change careers and move into teaching may retreat from the profession at a future date. The efficiency of ACPs in the Netherlands also appears to be modest. Since the development of ACPs in 2000, the expectations about the number of career changers who could and would be educated in ACPs were high. However, research showed that the number of ACP participants is disappointing (AStri, 2008). In addition, research on dropout rates among Dutch ACP participants (restricted to the first year of second-career teachers' careers) has shown great fluctuations, varying from 9% to 21% (Brouwer, 2007; Ministerie van OC&W, 2006; AStri, 2008).

We propose four possible explanations for this moderate efficiency:

(1) ACPs are abridged teacher education programmes. Possibly, abridgement is a problem. The time span in which second-career teachers are educated and supported in teacher education programmes might be too short. (2) ACPs may not be sufficiently well-organised to support second-career teachers in a relatively swift transition into teaching. (3) Second-career teachers' background characteristics, their views about teaching, or their expectations about ACPs influence their transition to and their learning of teaching, either in a positive or negative manner. (4) ACPs may be insufficiently responsive to the specific learning needs of second-career teachers.

In the present dissertation, we investigate these explanations by exploring second-career teachers' earlier experiences and the pedagogical implications of those experiences for ACPs. The relevance of this investigation is underlined by a recent large-scale study of seven alternative certification programmes conducted by Humphrey and Wechsler (2007). They examined the learning opportunities offered to ACP participants in different programme components as perceived by the participants. Remarkably, they concluded that it was impossible to draw clear conclusions about participants' perceptions of the different programme components, as these perceptions depended a great deal on previous career trajectories. The diversity of second-career teachers' earlier experiences in life and previous careers and the pedagogical implications of those experiences have hardly been the subject of research.

The limited research literature on second-career teachers' earlier experiences and their teacher education reveals three themes: (1) the varying definitions of "ACP participants", (2) the transfer of earlier experiences, and (3) a lack of knowledge about second-career teachers' own ideas about teaching and learning. In the next section, these themes are elaborated in a problem statement.

1.1 Problem statement

The average ACP participant is an older adult who is changing careers. He or she newly enters the teacher profession and brings a certain maturity in learning and teaching. However, the research literature on alternative certification shows more complexity. In a large-scale study (N=47,105), Shen (1997) compared the characteristics of teachers who had been prepared to teach through traditional college-based programmes with those who had been prepared through alternative routes. The primary backgrounds of alternative certification candidates were unexpected: "51 percent came right out of college, another (nearly) 24 percent already held teaching or education-related positions and only (just over) 22 percent came from occupations other than education" (p. 279). Eifler and Potthoff (1998) highlighted the same point in a slightly different way

by stating that the meaning of "non-traditional teacher candidate needs more clarity for shared understanding" (p. 193). Recently, Humphrey and Wechsler (2007) showed that ACP participants "consist of a diverse group of young and older adults, who tend to reflect the gender mix of the teaching profession as a whole and the racial composition of their local labour market" (p. 28). They suggest portraying ACP participants as "a diverse group of both young and older individuals (p. 26)".

The latter definition of ACP participants as a repository for everyone who is involved in an alternative certification programme is reflected in the diversity of terms referring to ACP participants in the research literature on alternative teacher education. The terminology varies from "non-traditional teacher education students", "non-traditional teacher candidates", "mature student teachers", "ACP participants", "alternate-route teachers", "older prospective teachers" and "second-career teachers" to "career changers" or "career switchers". In this study, the working definition of ACP participants has been "second-career teachers, or those individuals who have a solid (lasting more than five years) previous career in one or more other professional domains than teaching in secondary schools (including a career as parent)".

On entry into alternative certification programmes, second-career teachers are assumed to bring strengths into teaching, because they can draw on earlier experiences in work and life. However, studies on this topic are scarce and show mixed findings on the benefits of these earlier experiences. In their transitions into teaching, second-career teachers may become involved in a complicated process in which they feel professionally experienced and at the same time a novice at a point in life when they may already have experienced successful careers and raised a family (cf. Dill, 1996). They bring professional awareness into the existing school organisation (cf. Freidus & Krasnow, 1991), but at the same time they have mixed feelings about the organisation. For example, they may have mixed feelings about perceived workload (cf. Novak & Knowles, 1992; Freidus, 1994; Powers, 2002) or about perceived inefficiencies of school bureaucracies (cf. Eifler & Potthoff, 1998).

Some researchers agree that second-career teachers draw on valuable competencies and knowledge based on earlier experiences in previous careers. The competencies they bring into schools are quite diverse, such as problem solving, coping and communicating with others (cf. Haipt, 1988; Gonzales Rodriguez & Sjostrom, 1998; Chambers, 2002; Mayotte, 2003). In addition, a few studies indicate that second-career teachers bring practical expertise and real world applications into the school (cf. Schwab, 2002; Chambers, 2002; Mayotte, 2003). In this respect, second-career teachers' earlier experiences can be beneficial in their process of transition. At the same time, research establishes

that the transfer of competencies and knowledge is not an automatic process. Eifler and Potthoff (1998) suggest that the competencies second-career teachers bring from previous careers may not be the same competencies necessary for successful teaching. Additionally, Madfess (1989) contends that skills and content knowledge acquired in former careers are not applied spontaneously. Both the scarce data regarding second-career teachers' earlier experiences and miscellaneous findings on the transfer of earlier experiences indicate that it is worthwhile to further investigate those experiences in relation to their pedagogical implications for learning to teach.

The number of studies attentive to second-career teachers' earlier experiences in relation to beliefs is very small and almost entirely restricted to teaching beliefs (excluding learning beliefs), and these studies primarily examine science teachers. This is remarkable, because earlier experiences shape beliefs about teaching and learning, and these beliefs guide behaviour (cf. Pajares, 1992; Brownlee, 1996). Therefore, views of teaching and learning held by second-career teachers and possible relations with earlier experiences should be taken into account as an important aspect of second-career teachers' transition into teaching.

A few studies indicate that second-career teachers bring strongly developed beliefs about teaching, suggesting a possible connection with earlier experiences of being a student long ago (cf. Jenne, 1997; Park et al, 2010; Chambers et al., 2010). Similar to research on teacher beliefs in student teacher contexts, a small number of studies indicate a relationship between beliefs about teaching and the nature of second-career teachers' classroom teaching (cf. Powell, 1996; Proweller & Mitchener, 2004; Koballa et al., 2005) and a possible resistance to change (cf. Koballa et al., 2005). As far as is known to us, second-career teachers' beliefs about learning or learning to teach have not been subject of research. As a part of this dissertation, second-career teachers' beliefs about teaching and learning will be investigated, focussing on pedagogical implications.

Reviewing the literature about ACPs with a focus on second-career teachers' earlier experiences and pedagogical implications Zeichner and Schulte (2001) suggest broadening our domain of research. They suggest that research should further a "better understanding of the components of good teacher education regardless of the structural model in which they are present" (p. 279). Apart from important differences in programming, ACPs can, in essence, be characterized as a particular form of regular teacher education programmes in which working and learning are combined (cf. Feistritzer, 2005). In that sense, they form a part of a larger movement in teacher education arising in the late 20th century, in which combining working and learning have become more and more important. Educating teachers has become a joint responsibility of

teacher education institutes and schools. In the USA, this movement is referred to as "professional development schools". In the UK, it is called "school-based teacher education". In the USA, the development of the schools and the teacher education institutes as a result of different forms of cooperation is emphasized (Darling-Hammond, 2004). In the UK, parts of the teacher education programme are transferred to schools (cf. Furlong et al., 1996). In the Netherlands, the movement is called "opleiden in de school" (school-based teacher education). In the Dutch context, school-based teacher education is characterised by partnerships between schools and teacher education institutes with joint responsibility for the education and assessment of teachers (cf. Van Velzen & Volman, 2009). As a result of these movements, teacher education in general has become more practice-based.

Along with this development, one of the pedagogical issues has become promoting reflection on practice by integrating (practical) experiences and theoretical insights. This issue is also relevant for ACPs. The study by Eifler and Potthoff (1998), which involved a review of the literature about non-traditional student teachers, revealed that participants "overwhelmingly endorse" programmes drawing upon adults' life experiences and tying theory closely to practice" (p.192/193). Korthagen et al. (2001) developed a pedagogy for school-based teacher education programmes, the so-called "pedagogy of realistic teacher education", based on the Dutch teacher education practice. In this pedagogic view, student teachers' authentic experiences form a starting point for learning. Within teacher education seminars, teacher educators simultaneously attempt to deepen experiences linking them to theoretical insights and to facilitate the use of theory in student teachers' teaching practice. In this process of integration, earlier experiences and beliefs play an important role.

Focussing on second-career teachers' earlier experiences, the pedagogy of realistic teacher education, as applied in regular school-based teacher education programmes, might provide concrete approaches crossing the boundaries of regular teacher education programmes and alternative programmes, regardless of the structural model in which they are present (cf. Zeichner & Schulte, 2001).

1.2 Research purpose and research questions

The purpose of this dissertation is to explore second-career teachers' earlier experiences from a pedagogical point of view. The main research question is:

What are second-career teachers' earlier experiences and what do they imply for the pedagogy of ACPs?

We decided to limit our research to three assumptions with corresponding research questions.

First, second-career teachers enter alternative certification programmes, which are special school-based teacher education programmes in which teaching and learning are combined. Integrating experiences and theory, one of the pedagogical issues in regular school-based programmes, could be also relevant for second-career teachers and the earlier experiences they bring. The Dutch school-based teacher education practice of Utrecht University is based on the "realistic pedagogy" (Korthagen et al., 2001) aiming at the integration of experiences and theory. The realistic approach is based on insights about teacher behaviour and the nature of teacher knowledge. The first assumption is that practice as a teacher educator in a regular teacher education programme based on the realistic pedagogy may provide concrete pedagogical suggestions with a view to educating second-career teachers in ACPs. The first research question is:

> 1. When considering experiences, what are successful pedagogical approaches in a school-based teacher education programme that is based on realistic pedagogy aimed at integrating experiences and theory?

In the first study, this question is elaborated using three research questions related to the Dutch teacher education practice of realistic pedagogy:

> 1.1 When working with student teachers in teacher education seminars, how can teacher educators build on student teachers' experiences, starting with their classroom behaviour and building towards linkages with theory?
>
> 1.2 What can recent insights into the sources of teacher behaviour contribute to teacher education seminars aimed at integrating experiences with theory?
>
> 1.3 What can be the contribution of realistic pedagogy in guiding curriculum development in teacher education programmes, taking into account recent insights in teacher behaviour and the nature of teacher knowledge?

Research questions 1.1 to 1.3 are central in Chapter 2.

Within school-based teacher education programmes, special alternative routes have been developed specifically with second-career teachers in mind. These are abridged routes. The underlying idea is that second-career teachers bring earlier experiences, which might be easily transferred into teaching. This would allow shortening the length of time they need to spend in a teacher education programme. However, empirical evidence of the successful transfer of earlier, non-teaching-related experiences to teaching is scarce. Moreover, unsuccessful transfers have been reported. It is also worth noting that first-career teachers bring earlier experiences as well. This leads to the assumption that abridged alternative routes for second-career teachers may not be predicated from a pedagogical point of view, and that the idea needs to be thoroughly

reconsidered. It is necessary to ask what pedagogical implications could arise from such reconsideration. The second research question, therefore, is:

> 2. Given second-career teachers' earlier experiences, what is a pedagogical rationale for offering second-career teachers abridged alternative routes within school-based teacher education programmes?

This research question is elaborated through the following research questions:

> 2.1 What are characteristic differences between first-career teachers and second-career teachers?
>
> 2.2 What are characteristics in which second-career teachers differ among each other?
>
> 2.3 In which ways do second-career teachers experience their transitions into teaching?
>
> 2.4 What is the contribution of alternative certification programmes to second-career teachers' transition into teaching, especially regarding the earlier experiences they bring?

These four questions are central in two studies described in Chapter 3 and Chapter 4.

We assume that second-career teachers bring strongly developed ideas to their new careers about both teaching and learning. Studying these ideas is important because these views are shaped by previous experiences and because they influence teacher behaviour and teacher education. This leads to the third research question:

> 3. Taking into account the earlier experiences that second-career teachers bring, what is the relationship between second-career teachers' initial conceptions and their learning to teach?

This question is elaborated through the following three questions:

> 3.1 What are second-career teacher candidates' initial conceptions about learning and teaching?
>
> 3.2 What are the relationships between second-career teacher candidates' background characteristics and their initial conceptions about learning and teaching?
>
> 3.3 How do second-career teachers' conceptions develop during the first semester of an alternative teacher education programme?

These three research questions are at the forefront in Chapter 5.

1.3 Context

Teacher education for the Dutch secondary education system is organised in full-time as well as part-time programmes in 55 school subjects, arranged in seven clusters in general and vocational education: languages, natural sciences, social sciences, health, arts, technology and agriculture. These programmes are provided by a relatively large number of institutions, most of which cater to a

specific region: seven non-university institutions, which educate teachers for the lower strata of secondary education, and five universities, which educate teachers for the upper strata. The non-university institutions offer 4-year undergraduate programmes in which subject study and pedagogical education are integrated. The universities offer one-year postgraduate programmes with a specific pedagogical emphasis, after a master's degree in a school subject is obtained.

The postgraduate programme is a school-based programme, meaning that student teachers learn parallel in school and at the university. With the entrance of the new teacher candidates (second-career teachers), new alternative routes have been introduced. The participants in these ACPs form a heterogeneous group. They differ considerably in age (from 28 to 58 years), previous training, work and life experiences and ambitions on the labour market.

In most cases, ACP participants spend 2½ days per week in a school, 1½ days in a teacher education institute, and one day on independent study, individually or in groups. The ACPs involved offer tailor-made routes in which participants can strengthen specific deficiencies identified in intake assessments. To this end, candidates formulate personal development plans, write logbooks and produce portfolios for reflection. In the college-based components of the programmes, small group work is the setting for peer mentoring. Also, teacher educators hold individual supervision meetings with their students.

In Chapter 2, the regular school-based teacher education programme of Utrecht University is considered. We chose this programme because it aims for the integration of experiences and theory based on the results of quite a few previous studies (Brouwer & Korthagen, 2005; Hermans, Créton & Korthagen, 1993; Kessels & Korthagen, 1996; Koetsier & Wubbels, 1995; Koetsier, Wubbels & Korthagen, 1997; Korthagen & Kessels, 1999; Korthagen et al., 2001) that have influenced programme structure, curriculum and pedagogy.

Utrecht University's teacher education programme is considered in Chapter 5, as well; however, the alternative programme is addressed. Compared to other Dutch ACPs, this programme has a relatively high percentage of second-career teachers, probably because Utrecht is situated in the centre of the Netherlands. The programme offers tailor-made routes in which participants can strengthen specific deficiencies identified in intake assessments.

1.4 Overview

This dissertation consists of four studies. In the next sections, the studies are presented by describing aims, context, participants, and method.

The first study (Chapter 2) focuses on the fundamental issue of integrating experiences and theory in school-based teacher education programming. The aim of this chapter is to identify successful pedagogical

approaches based on realistic pedagogy. Research questions 1.1 to 1.3 are in the forefront. The study is developed within the context of the Dutch school-based teacher education programme for student teachers at Utrecht University. Methodologically, this study is based on three principles of development research, as described by Van den Akker and Plomp (1993). First, this implies that the research has been initiated in a complex situation of innovation. Second, the design has been based on theoretical insights about teacher behaviour and the nature of teacher knowledge. Finally, the aim is not to elaborate and implement complete interventions, but to describe (successive) prototypes aiming at integration. The process of this type of research has been cyclical. In Chapter 2, we describe how analysis, design, evaluation and revision activities have been iterated until a satisfying balance between ideals and realisation was achieved. Three cycles of design, evaluation, and revision are described. The observations of three cohorts (N=67) of student teachers in school-based programmes are reported.

In the following studies (Chapter 3 and 4) the focus is on a possible pedagogical rationale to set second-career teachers apart from first-career teachers in school-based teacher education programmes. The purpose of Chapter 3, an exploratory study, is to gain an in-depth understanding of ACP participants' background characteristics and the support they experienced in their transition into teaching. Research questions 2.1 to 2.4 are central in Chapter 3, focussing on differences between first- and second-career teachers, differences among second-career teachers and support perceived by second-career teachers. The chapter consists of two small-scale studies, a "supervisory study" and a "career-changer study". Both are developed within the context of alternative teacher education programmes for secondary teachers in the Netherlands.

The participants of the supervisor study are supervisors (N=6). The study focuses on characteristics distinguishing second-career teachers from first-career teachers and on differences attributed to second-career teachers. A semi-structured interview and a questionnaire were developed. The findings include characteristics attributed to second-career teachers different from those attributed to first-career teachers and a typology of second-career teachers.

The focus of the career-changer study in Chapter 3 is on second-career teachers' (N=8) experiences in their transitions into teaching and the contribution of the teacher education programme. A semi-structured biographical interview was developed, structured on the levels of a developmental model of change, the "onion model" (Dilts, 1990; Korthagen, 2004). The results of this study are described in terms of "experiences of continuity and change" and support experienced.

In Chapter 4, the literature on alternative certification is reviewed from a pedagogical perspective. The research questions are the same as in Chapter 3, but in this chapter the aim is to derive pedagogical implications from the literature. The database Web of Science was searched to find studies based on empirical research. Descriptive information about these studies was summarised (i.e., author, title, year of publication, purpose of the study, theoretical perspective, methodology and results). Then, the studies were analysed on the basis of the research questions. Through discussions with several colleague researchers, different aspects of the role of second-career teachers' earlier experiences were identified in main categories. In the conclusions, four pedagogical implications are formulated.

Finally, Chapter 5 aims to increase our understanding of second-career teachers' ideas about learning and teaching during their transition into teaching. It is a phenomenographic, qualitative as well as quantitative study conducted within the context of the Dutch alternative teacher education programme of Utrecht University. The study consists of two parts. In the first part, research questions 3.1 to 3.2 are central. Prospective second-career teachers' (N=237) initial conceptions about learning and teaching are explored. A semi-structured questionnaire was administered, which covers four themes of teaching and learning. First, a preliminary sample of the data (the scripts of participants 1–30) was used to identify topics and initial conceptions. Second, relationships between second-career teachers' (N=207) background characteristics and initial conceptions were identified by cross tabulation.

In the second part of the study, a selection of the participants of the first part of the study (N=70) filled in the same questionnaire after the first semester of a teacher education programme. Patterns of development in second-career teachers' conceptions of teaching and learning were revealed and discussed with two researchers and two experienced teacher educators involved in the education of those 70 participants.

Chapter 2

Deepening the exchange of student teaching experiences [1]

Abstract

How can teacher education seminars be arranged in such a way that theory is integrated with student teachers' practical experiences? In order to study this key question, we first present a theoretical framework on the sources of teacher behaviour, and discuss its implications for practices within teacher education. Next, we describe our development research study, which led to the identification of three approaches that can help to integrate student teachers' experiences with theory. We introduce a five-step procedure characteristic of all three of them illustrating each approach with real-life examples of interventions and their effects.

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2.1 Introduction

In many teacher education programmes, an important question is how to teach theory in such a way that student teachers are able to connect it to their classroom activities. Teacher educators are usually very creative in developing teaching strategies, educational procedures, exercises, and tasks, in which they try to help their students in applying the theory to their teaching practices. Despite all this creativity, the results are generally poor. Many researchers have shown that the results of what Carlson (1999) calls the "theory-to-practice" approach, are meagre (Wideen, et al., 1998). Schön (1983) characterises this approach as one of technical rationality, and his criticism of this view of teacher education has been widely accepted. More than 20 years ago, Zeichner and Tabachnik (1981) discussed the problem that many notions and educational conceptions, developed during pre service teacher education, were "washed out" during field experiences. Similar findings were reported by Cole and Knowles (1993). Even when student teachers rationally understand the importance of theory as a means to support practice, they soon experience the struggle with everyday problems in their classrooms (Veenman, 1984). And what's more, they notice they are not the only ones struggling. As a result, they often experience the whole idea of applying theory as being a mission impossible (Elliot, 1991). Still, the technical-rationality approach has been dominant in teacher education for many decades (Imig & Switzer,1996; Sprinthall, et al., 1996; Wideen et al., 1998), in spite of the growing number of studies showing its failure to influence educational practices.

In several countries (e.g. the United Kingdom and the US) the dissatisfaction with the traditional approach to teacher education has led to programmes in which a considerable part of teacher education is being moved into the schools. In reaction to the criticism of the relevance of theory as a preparation for practice (see e.g. Sandlin et al., 1992; Schön, 1987), alternative certification programmes have been created in various countries (see e.g. Brown, Edington, Spencer, & Tinafero, 1989; Littleton & Larmer, 1998; Zeichner & Schulte, 2001). Several institutions for teacher education have entered into partnerships with schools, and have developed new programmes in which sometimes novice teachers receive very little theoretical grounding. In some of these programmes, teacher education becomes more of a process of guided induction into the tricks of the trade. In many countries, this trend is also being influenced by the understandable need to solve the problem of teacher shortages.

Although this development may satisfy those concerned, there is a great risk involved. The focus seems to move completely away from an emphasis on theory to a reliance on practical experiences. Such a practice-based approach to teacher education is, in turn, not very successful either. In fact, it has been

demonstrated that teaching experiences can lead to an unproductive process of socialisation rather than to fruitful professional development (cf. Wideen et al., 1998). As Cole (1997) states, this process of socialisation often creates a dislike for reflection and theoretical deepening.

So, both the traditional and the practice-oriented approach carry a risk. In the traditional approach, the risk is that student teachers do not apply the theory to their teaching practices. On the other hand, the more practice-based approach carries the risk that student teachers will be unable to relate their practices to theory. In both approaches, in order to offset these risks, teacher educators are inclined to emphasise either the importance of theory or the importance of practice. Whatever one's perspective, the core issue remains how to integrate the two (Smith, 2003, p. 53).

This raises the following problem: how can a teacher educator design a teacher education programme component in such a way that theory is really being integrated with experiences in practice? If a teacher educator intends to integrate practice and theory, he or she will have to be able to work with the practical teaching experiences of students, and at the same time to take care of the integration of these with theoretical knowledge. The teacher educator also has to stimulate the students to integrate their new knowledge with their school lessons. The aim of this article is to discuss these issues based on recent insights into the conscious and unconscious sources of teacher behaviour. In this way, we wish to contribute to an area that has until now attracted remarkably little attention in professional literature, i.e. the pedagogy of teacher education.

As we will discuss in more detail in the methods section, our methodology was based on the development research approach, which means that we carried out our study within the setting of our own teacher education programme, with the aim of contributing to its development in a research based manner. This teacher education programmes follows the so-called realistic pedagogical approach, which means that the educators work with realistic examples taken from the student teacher's recent practice, and simultaneously attempt to deepen these experiences, link them to theory, and facilitate the use of theory in their teaching practice of tomorrow. (See for a detailed description of his programme: Korthagen, et al., 2001.)

Given our perspective of the realistic approach, it will not be surprising that we first present a real life example of a problem experienced by a teacher educator that concretises the focus of this article.

2.2 A real-life example

In the following fragment, a teacher educator is consulting two of his colleagues during the preparation of a session. He tells them about his struggles with one of his teacher education classes. He works with a heterogeneous group of 25 student teachers, all teaching different subjects at various secondary schools. What they have in common is that they just have come back from 2 weeks of teaching practice. Thus, the next fragment is a transcript of a real-life situation: the teacher educator is consulting his colleagues about his plans and doubts.

Next Friday, I want to work with my students on the topic of classroom co-operation between pupils. This topic gives me several good possibilities of linking the theory on co-operation and their internship experiences. Earlier in the programme, I already trained them in working together on specific tasks, and in the basics of reflecting on their own co-operation. We talked about some theoretical implications. As a homework assignment during the internship, I asked them to design two or three (parts of) lessons in which the pupils had to cooperate, and to teach these lessons during their internship. Of course, next Friday, I want to know more about their experiences with this, and give them some more theory on cooperative learning. (…) But, to be honest, while I'm telling you this, I sense that I'm not looking forward to next Friday.

For example, I am thinking of the three history students, Michael, Sandra, and Maria. Every time we discussed co-operation, they told me: "Co-operation and history, that's a different matter. Pupils want to hear a good story, and that's it. That is what our own history teacher always did: he told us a good story, and we just drank in every word he said". (…) Last week, I bumped into Michael in the library, and he told me he had prepared a lesson in which the pupils had to correct a task in pairs. But as soon as the lesson had started, he decided on the spot to skip that part and do it in a pedagogically traditional way.

And then Karen, John, Tom, Eric and Helen. I got them to experiment with something. But now that they have been confronted by actual school practice, I'm sure they will have all kinds of questions next Friday. Based on my previous experiences, I expect Karen to complain about the nois the pupils made, and the disorderly classroom: pupils were talking and walking about. I expect John not to know how to cope with unexpected questions and remarks of pupils, such as: "Can we leave now for the retirement centre to do an interview?" Or:"Fatima worked on that task, you can't blame us all and give us a low mark for that!"

Then, in contrast, Sara, Jonathan and Hassan. The more ways of co-operation they can think of in a lesson, the better it is, they think. So, the have practised a lot. They are full of questions, all of them relevant and to the point. Questions such as: How can I change the task in such a way that they work

together towards one product? Can you give pupils a shared mark for working together? How do you deal with a group of pupils that isn't focused? How can you deal with a group of pupils working very fast, and finishing way ahead of the others? (...).

The situation described here is well known among teacher educators. In general, they work with a considerable number of student teachers in a group. Their students come back having had practical experiences, and the teacher educator wishes to deepen their experiences. The problem then is that their experiences are very diverse. The teacher educator in our example doubts what he can achieve in such a situation with a more traditional, deductive approach (the theory-to-practice approach), an approach in which a lecture is given, or some theory discussed, with the aim of having student teachers apply this to their teaching practice. The teacher educator aims at a genuine integration of practice and theory. So the first question is: How can he work more inductively in a situation like this? In other words, how can one build on the student teachers' experiences, starting from their classroom behaviour, and work towards linkages with theory? In order to answer that question, we have to analyse the nature of teaching behaviour.

2.3 Theoretical framework: the sources of teacher behaviour

2.3.1 Conscious and unconscious behaviour

Insight into the factors determining teaching behaviour is essential if teacher educators wish to help their student teachers develop or change their classroom behaviour. Part of this teacher behaviour is conscious and reflective, namely when they have and take the time to step aside from the given situation and consider it consciously (Eraut, 1995). However, one of the characteristics of the teaching profession is that a teacher is often confronted with situations demanding an immediate response. Dolk (1997) calls these immediate teaching situations. Based on the work of other researchers, such as Eraut (1995), Yinger (1986), Dolk states that these immediate situations frequently occur in classrooms. During a school day, teachers have to take many, rather complex, and quick decisions such as: Do I interrupt my explanation now or just go on? Do I pay attention to the pupil reading her diary or ignore it? Is it better to give the demonstration I planned, or rather have them try first? Karen, John, Tom, Eric, and Helen in the above example seem to be bothered by questions and dilemmas related to immediate teaching behaviour: How to react in situ to unforeseen situations and problems?

Clark and Peterson (1986) assume based on the findings from five studies that, on average, a teacher makes a conscious interactive decision every 2 min. Yinger (1986) assumes that many of these decisions are not made on a conscious basis, but that less conscious factors, such as routines and spontaneous reactions, determine much of a teacher's classroom behaviour. He demonstrated that at the most a quarter of the reported thoughts of teachers involved conscious decisions.

It seems as if for long time researchers have overlooked unconscious teacher behaviour, perhaps because they found it hard to find ways to capture it. Gradually, however, an increase of attention to unconscious processes in teachers' behaviours has become noticeable. For example, the assumption that teachers generally have sufficient time for reflection-in-action (Schön, 1987) was thoroughly disputed by Eraut (1995). He analysed the effect of available thinking time on the mode of cognition, and, like Yinger, noted that teachers in actual educational situations rarely have the time to reflect. Eraut points out that the available time influences the degree of consciousness of the teacher's decisions. This concurs with the theory of Metcalfe and Mischel (1999). They distinguish between cool and hot systems in the mediation of behaviour:

> "The cool system (…) has the potential of generating rational, planned, and strategic behaviours. It is characterized as cognitive rather than emotional, complex rather than simple, and reflective rather than reflexive. The hot system, on the other hand, is an emotional system specialized in quick reactions to strong, emotion-provoking stimuli that trigger pleasure and pain. (…) Once activated, hot system processing triggers rapid actions. As such, the hot system is largely under stimulus control."

Hence, when a teacher has to react very fast, his or her "hot" behaviour will be unreflected. When there is more time, his or her reactions may be more conscious, and based upon a rational analysis of the situation. We conclude that teaching cannot be an entirely reflective and rule guided process, as circumstances do not allow each occurrence to be fully examined, and every possible alternative to be considered based on existing theories. Hence, a great deal of the teaching behaviour of teachers must be based on non-analytic and partially unconscious processes (a point also emphasised by Wubbels, 1992).

Consequently, introspection and retrospection can lead to invalid descriptions of the sources of behaviour. In a number of experiments, people explained their behaviour with the aid of factors that had not actually been present at the time, and they thus unintentionally failed to give the reasons really influencing their immediate behaviour (Nisbett & Wilson, 1977). In other words, there can be a discrepancy between the real causes of behaviour and the arguments created by introspection and retrospection. Nisbett and Wilson

conclude that when people give reasons for their behaviour, they make use of a rational reconstruction. As a result of this, they often refer to reasons that did influence them, but overlook unconscious motivations that also played a part.

2.3.2 Gestalts

In summary, teachers can show behaviour in various circumstances without being aware of its sources. These sources can be of a diverse nature. Korthagen and Lagerwerf (1996) emphasise that not only tacit knowledge but all kinds of meanings, feelings, values, needs, routines, etc., can play a part. They call the conglomerate of such unconscious sources of behaviour in a specific situation, a Gestalt. We can demonstrate the functioning of Gestalt with the example of driving a car. When all of a sudden a child crosses the road, an instant panic is triggered in the driver, a need to save the child, which also is related to a human value. A meaning is attached to the situation (danger), and a behavioural response takes over almost automatically (stepping on the brakes). As all of these factors can hardly be separated from each other, and all surface within a split second, we can summarise the phenomenon by saying that the immediate situation triggered a Gestalt in the driver almost unconsciously leading to the specific response of stepping on the brakes.

In the same way, teaching situations trigger Gestalts in teachers. If we take the above example of Michael, we can see that perhaps one of the unconscious aspects in Michael's situation is that he made his choice based on certain feelings. For example, he may have been scared of losing control of the situation, or afraid that once the pupils were working together, he would not get them to be quiet again. It is also possible that previous experiences are influencing Michael's decision, e.g. situations experienced as a pupil, in which moments of co-operation in a lesson made a welcome change, but without having any consequences: a lot of fun, but no learning. His behaviour may also be unconsciously guided by an underlying individual value such as "in a good lesson, the teacher speaks and pupils listen, that's how people learn".

This mass of possible and related sources of Michael's behaviour is an example of a Gestalt. The example of the driver and Michael's case clarify the general principle that Gestalts are directly connected with and triggered by specific situations. As they function at an unconscious level, they show an almost automatic nature: once a Gestalt is invoked, the behaviour is carried out (in Gestalt psychology this was named the principle of closure of the Gestalt, see e.g. Korb, Gorrell, & Van de Riet, 1989). Gestalts surface based on earlier experiences in concrete situations. When another situation shows similar characteristics, the same Gestalt is triggered, and the behavioural inclination that is part of the Gestalt is evoked. In Michael's case, the behavioural inclination is to teach in a

pedagogically traditional way to keep controlof the situation. (See for a further elaboration of the Gestalt concept in teacher education: Korthagen et al., 2001, p. 175–204.)

2.3.3 Behaviour of student teachers and experienced teachers

The behaviour of experienced teachers is based on a multitude of experiences with a variety of teaching situations. Most likely, they will not share Michael's feelings, e.g. the feeling of being afraid to lose control of the situation. Their abundance of experiences causes the Gestalts of experienced teachers to differ from the Gestalts of a student teacher. And in connection to this, their behavioural inclinations will also differ.

Throughout the years, experienced teachers have had many chances to reflect on their reactions and actions afterwards. They have become aware of various elements of their own Gestalts. In other words, they have become aware of the underlying feelings, needs, values, etc., which means that the different elements of the Gestalt have become more conscious and clear, and also that the interrelationships of the elements within the Gestalt have become more manifest (Korthagen & Lagerwerf, 1996).

The behaviour of experienced teachers is thus based on so-called practical knowledge (Fenstermacher, 1994). This is knowledge developed during many years of teaching, by being confronted with many unexpected situations asking for immediate, prompt decisions, and by reflecting on these decisions afterwards.

The significance of practical knowledge is confined to the situation or context in which the problem occurs. Thus, practical knowledge is generally related to a specific way of doing something, and to doing it at a certain moment, and in a certain setting.

When used frequently, this practical knowledge can become tacit, and the teacher's reactions can become more routine. In fact, this means that the teacher's behaviour is again guided by unconscious Gestalts, but the difference with the behaviour of student teachers is that experienced teachers' Gestalts are more often based on knowledge that was once conscious, and that this knowledge can generally be made explicit again.

2.4 Method

2.4.1 Development research

We believe that teacher knowledge aimed at in teacher education should be based on scientific theory. However, the discussion in the previous section also shows the need to take into account the Gestalts of student teachers formed earlier (compare Wubbels, 1992). In the example we started with, the teacher educator

is thus confronted with a fundamental dilemma: How can he organise his course in such a way that he can both give all his student teachers some useful theory and also take into account the fact that their (individual) behaviours are often guided by idiosyncratic and unconscious processes?

This dilemma was the starting point of our study. Since we aimed at a combination of theoretical insight into the dilemma and the development of practical solutions to it, we based the study on the principles of development research as described by Van den Akker and Plomp (1993). As Van den Akker (1999, p. 5, 7) states, in this type of research

> "Theoretical ideas of the designer feed the development of products that are tested in classroom settings, eventually leading to theoretically and empirically founded products, learning processes of the developers, and (local) instructional theories. (...) Development research is often initiated for complex, innovative tasks for which only very few validated principles are available to structure and support the design and develop activities. (...) The aim is not to elaborate and implement complete interventions, but to come to (successive) prototypes that increasingly meet the innovative aspirations and requirements. This process is often cyclic or spiral: analysis, design, evaluation and revision activities are iterated until a satisfying balance between ideals and realization has been achieved."

Below, we report on three cycles of problem analysis: design, evaluation, and revision.

2.4.2 First research cycle

In our 1-year teacher education programme, we work with heterogeneous groups of 20–25 student teachers doing practice teaching. During their internship, they spend 1 day a week at the university. The theoretical framework described above left us with the problem how to organise opportunities for working with the experiences and Gestalts of our student teachers, and at the same time connect these to theory. Put briefly, in line with the dilemma of the teacher educator in our example, the emerging research question was: when working with a heterogeneous group in teacher education, how can we use recent insights into the sources of teacher behaviour (see the theoretical section above) with the aim of connecting their practices with theory? We realised that this would imply that existing Gestalts could be enriched, but also that these Gestalts would sometimes need a fundamental change. In any case, what seemed to be necessary was a focus on methods that would place the student at the centre of the learning process (Pedler, 1974), and that would situate their learning within the context of practice (see Brown, Collins, & Duguid, 1989; Resnick, 1987).

Because we wanted to design effective approaches, we observed three different cohort groups of student teachers during 3 years. In the first year, we aimed at finding examples of "good practice", i.e. examples of methods and structures that seemed to answer our research question. During the sessions, we made verbatim reports of instructions, and of the discourse of the two teacher educators and the students. (In our teacher education programme, we work in teams of two teacher educators teaching one cohort group for an entire year.) So, during the first year, we observed the methods already being used in our teacher education programme. After the first year, in the evaluation phase of the first research cycle, we discussed the verbatim reports in a team of three teacher educators (i.e. the two involved, A and B, and a teacher educator/researcher C not working with this particular group of student teachers). This made it possible to use the methodological principle of internal control by an independent judge (Guba, 1978; Lincoln & Guba, 1985): C had the role of checking whether the examples did indeed take account of students' Gestalts, and at the same time aimed at a connection with theory. Doubtful examples were removed. This revision phase of the first cycle was the immediate source of the design phase in the second year.

2.4.3 Second cycle

Based on the selected methods, a fresh pair of teacher educators (A and C) worked with a new group of students. This time the problem analysis of the first research cycle was broadened: we wanted to start with a careful analysis of the effectiveness of the methods. As far as the design phase is concerned, again verbatim reports were made of the instructions and the discourse. This time, we also asked the students to record their reflections in their logbooks during the final 15 minutes of every group meeting. Afterwards, the three teacher educators/researchers first individually analysed the verbatim reports and the logbook fragments, looking for concrete learning results reported by the students. This evaluation phase led to a list of effective methods. Next, in the revision phase of this second research cycle, a categorisation of these methods was developed into three main types of approaches for enriching or changing the Gestalts of student teachers in relation to theory.

2.4.4 Third cycle

In the third year, the central problem shifted towards gathering clear evidence of the impact of the three main approaches on the student teachers. In this phase, we refined these three approaches and again tested them with a group of 23 students. We evaluated the results of the third year by analysing the students' written reports and logbooks on the group meetings and on their teaching

practice. We gathered excerpts that seemed to show evidence of enrichment or change of Gestalts and/or actual applications in the classroom, thus providing us with concrete evidence of the impact of the three approaches. Again, a third teacher educator/researcher, served as an independent judge, carrying out an internal control. He checked the excerpts from the student reports that seemed to show evidence of effectiveness, searching for alternative interpretations. We decided to consider an outcome as an approach effect, if the reports of at least three of the 23 students showed similar outcomes. However, most of the outcomes reported below could be found in many more than three cases.

In the final revision phase, we concluded that all three approaches did indeed answer our research question, i.e. they have the potential to enrich or change the Gestalts of student teachers, to connect them with theory, and in this way influence their teaching practice. However, we analysed the three approaches again to understand the essence of the procedures involved. In other words, we searched for the active ingredients in the three approaches, and finally succeeded in formulating them in the form of a five-step procedure that characterises the approaches. In this way, we aimed at creating a basis for the further development of a broad variety of other structures that can be fruitful for the integration of theory and practice in teacher education. This means that the revision phase created a springboard for a next cycle of development research.

2.5 Results

In this section, we describe the three main approaches we have developed, and the results from the evaluation of these approaches, illustrated by real-life examples of teacher educator interventions and excerpts from student reports. In the next section, we will focus on the result of the final revision phase, i.e. the underlying five-step procedure.
The three main approaches are:
1. Working with previously formed Gestalts;
2. Working with recent experiences and Gestalts that are currently being formed;
3. Creating new experiences.

2.5.1 The approaches

2.5.1.1. Working with former experiences and previously formed Gestalts

The first approach aims at working with former experiences and previously formed Gestalts. It is based on the assumption that it can be helpful to have students reflect on former experiences as a pupil, and which relate to their present experiences as a student teacher. The rationale behind this is that an enormous

amount of literature emphasises the impact of experiences on student teachers' preconceptions about learning and teaching when in the pupil role. (See for an overview of this research strand Wideen et al., 1998.)

For example, one of the exercises we used is called the ideal mentor. The objective of this exercise is to become aware of meaningful experiences in being mentored. The key question of the exercise was: Do you remember a tutor or a mentor who has been a shining example to you? Using a guided fantasy technique in which they go back to their experiences with this person, the student teachers are invited to mention important keywords or features related to their own favourite mentor. On the whiteboard, the notions are recorded in a concept map. The teacher educator adds some theoretical notions about mentoring. Finally, the students are asked to connect the keywords and the theoretical notions to their own recent experiences in being a mentor or guide to pupils, and to write some reflections on this in their logbooks.

In discussing the exercise, we discovered that it is in fact archetypal in nature, which can be applied to a variety of other situations in teacher education. We now also use related questions such as: Which teacher is your shining example in guiding co-operative learning? Who has been your ideal teacher? Which of your teachers is your great example for creating a good classroom atmosphere? In our evaluation of the student logbooks, we found three types of effects of this approach. We illustrate each with an example from the student logbooks written after the "mentor exercise":

2.5.1.1.1. Becoming aware of a previously formed Gestalt in practice

> When I was talking with Tugba [one of the fifth grade pupils], and I didn't know what to do, as it was so very complex, her situation (...) I thought: What would Mrs. Hosang do (my ideal mentor from that exercise we did, remember)? And I thought: she would just listen. So I said to myself: Stop helping, stop looking for alternatives for Tugba. Just listen, and understand her feelings. Guess what happened: it worked. While I was listening, Tugba started to develop her own alternatives!

2.5.1.1.2. Enriching existing Gestalts with the experiences of others

As Smith (2003, p. 56) states, "close interaction between individuals is held to be a salient source of knowledge that might otherwise be hidden". This is shown in the following logbook excerpt:

> Last Monday, when listening to all the stories of the others about the ideal mentor, I thought: O dear, I'm just repeating myself. (...) As a mentor, I give my pupils only what I needed from my own mentor. During the Monday session, I realised: every

pupil needs his own mentor, because every pupil has his own individual needs. I give my pupils very much empathy and so on, all the things I needed when I was a pupil. Last Monday, I suddenly realised: I also have pupils who need more structure from me in my mentoring. That's also my task as a mentor. Of course, I tried it out (...).

2.5.1.1.3. Enriching existing Gestalts by making a link between earlier experience, practice, and theory

(...) I realised that I don't have a good example of a mentor. I was a bad pupil and a little bit strange. I always nodded to my mentors and said: Yes, I will do that! But in fact, what I was doing afterwards was: no! I realise that I now try to avoid this particular situation in my own practice. So, I always make very strict appointments/ agreements with my own pupils. To be honest, talking about the past was not my favourite part of Monday's session. But the discussion afterwards, especially on the keywords "mutual responsibility" and "mutual appointments", was a revelation to me. (...)

2.5.1.2. Working with recent experiences and Gestalts that are currently being formed

Given the fact that all our students are teaching during their internship, we know they all have their own specific ''real-life'' concerns. The concerns of the students form the starting point of the second approach. In this approach, we work with recent experiences, aiming at Gestalts that are currently being formed. The rationale behind this approach is: working with Gestalts that are currently being formed is the proper moment to influence the forming of Gestalts, enriching or changing them. There are two main methods in this second approach.

2.5.1.2.1. Triggering Gestalts by focusing on concrete situations

For example, we start with a question such as: Last week you gave several lessons. Which particular situation in one of your classes, with one or more of your pupils is still puzzling you, and is it a situation you want to discuss with us today?

By means of several concretisation techniques, we help the students to evoke a more detailed picture of the particular situation. For example, we ask the group: "Please, try to think back of the situation (in silence). Can you remember what exactly the pupils were doing? What did they say? Where were they in the classroom? How were they sitting? What exactly did you say? What were your feelings at that moment? What did you want? What was going on in your head? What did the pupils say? Do you remember exactly what they were saying? What were the pupils' feelings?" etc. So, we ask our students to be as concrete and specific as possible about the situation and their own feelings. We do not ask any

why-question, and we focus on the concrete situation, and not on the chosen solution in that particular situation.

By focusing on concrete situations, we try to evoke the Gestalt that is part of the hot system (Metcalfe & Mischel, 1999; see the theoretical framework above). In the discourses and in the logbooks, we observed that the fact that this focus on concrete situations - sometimes, we literally had to forbid our students to think about the "why-question" - has the effect of enriching and sometimes even changing the Gestalts. Afterwards, the students reported in their logbooks the importance of being concrete and detailed, for example:

> When, this morning, you asked me at the start: what were the pupils feeling, I could only think: I don't know! And simultaneously I thought: and it doesn't interest me at all! That feeling was very confronting to me, because it is my deeply held belief that a good teacher can deal with the feelings of her pupils...very confronting... I don't have the solution, but the direction is clear: we, my pupils and I, we both have feelings (...). Later on in the discussion, you told us something about Watzlawick's theory. For me, the key sentence related to this experience was: and I am the one who has to deal with their feelings, that is my responsibility. (...)

As noted above, the help of peers can strengthen this effect. For example:

> Today, Karen asked me simply: can you tell me what is wrong in that answer of Sophie's [i.e.one of the pupils]? I saw she really didn't understand. Of course, she teaches another subject, maths, and not history, but (...). And then I thought: if SHE doesn't understand why it is wrong, then my explanation has been really bad. So suddenly, I understood the pupils' behaviour much better. They were not teasing me, they really didn't understand. (...)

So, in peer groups, students try to help each other by asking further concretising questions. This is why, in our teaching education programme, we frequently train our students to ask concrete, non-analytical questions (Tigchelaar & Melief, 2000).

2.5.1.2.2 Enriching and reframing the Gestalts by their integration with theory

In the first example mentioned under Section 2.5.1.2.1, one of the students explains how the theory the teacher educator added was helpful to her. Another example of integration with theory follows:

> You know, my problem was the group work of my pupils. This morning, in the group [meeting at the university], I spoke about the situation in my class, in which the

group work was a problem. The pupils didn't co-operate at all! In fact, when going back in my mind to the situation, I thought: next time I won't make the choice of doing group work. But in the discussion afterwards, about the main pattern in our situation, and you and us talking about it from a more theoretical point of view, I realised that I hadn't used Kagan's principle of mutual dependency that you had explained (...). [see Kagan (1994)]

This example concurs with Smith's (2003) view of the appropriation of knowledge, based on Rogoff (1995), namely as a dynamic two way process in which meanings emerge in the space between the learner and the more expert other.

2.5.1.3 Creating new experiences

Sometimes the experiences in the internship are inhibited by circumstances. Then, the formation of new Gestalts is being blocked. The student teachers are inclined to socialise and to repeat behavioural patterns that, from a theoretical perspective, are undesirable. Perhaps that was the problem with Michael, Sandra, and Maria.

The realistic approach does not stop at the realities of today's schools, but also aims at making student teachers aware of new possibilities. However, this is not done by theoretical discussions (as is often the case in the traditional approach to teacher education), but by creating new experiences during the meetings at the teacher education institute. This is the third main approach. By creating a new experience, the Gestalts of student teachers can be enriched separate from the school experiences. We briefly describe two possible methods of creating new experiences.

2.5.1.3.1. Modelling combined with reflection-in-action

The first method of enriching Gestalts by creating a new experience is through modelling a certain educational procedure. For example, we give the students a well-defined task in which they have to co-operate. The teacher educator models a teacher. During the task, the teacher educator writes on the back of the whiteboard what he or she was doing and what choices were being made. In short, the teacher educator behaves as a model, and at the same time explicitly reflects "in action". For example:

> After the instruction, I stood waiting in silence in front of the group. Just looking round the classroom to see if everybody was comfortable with the task. Whenever there was a question, I spoke very softly and promised to come later. After ten minutes, I noticed one of the groups was not working; they were discussing other things. First, I started by looking at them for a minute, my attitude was open, because I just wanted to check: is my first impression right? Well, my first

impression was right, so I walked up to them a little bit closer. I was just standing there in silence, listening. They said: Sorry, we are talking about our favourite class! (…)

Afterwards, in looking back, the specific actions and choices are discussed with the students. While doing so, the teacher educator refers to relevant theoretical notions. We also used this same method of creating an experience in a slightly different way. This time, each group was asked, during the process of cooperation, to take a time-out to reflect in action. We did this at an unexpected moment. During the time-out, the teacher educator discussed with the students what the positive aspects of their co-operation were, what could be done more effectively, and what they would have liked the teacher educator to do. In looking back on the experience and the reflection in action, the teacher educator referred to some theoretical notions, in this example on cooperative learning.

In our evaluation of the approach, we found many remarks of the students showing evidence of the enrichment of Gestalts, e.g. the following representative reaction:

This was quite an experience: looking into the head of a teacher! (…) Give me more! It's very special to discuss with others what is on their minds (…). Now I know everyone has his particular problem with co-operative learning. I'm going to give it a try.

2.5.1.3.2. Observing good practice

An example of this method is the use of a video fragment showing an experienced teacher dealing with pupils working together. The student teachers observe the teacher's behaviour. The same video can then be shown again, but this time the students observe the pupils' behaviours. In our evaluation of the approach, we found two types of Gestalt enrichment in connection with the two types of observation tasks: looking at the teacher's behaviour or looking at the pupils' behaviours. For example:

I have to confess: I was at first very sceptical about looking at a so-called "good teacher" in a "fine example of co-operating" pupils. But while looking at the example and discussing the observation results, I became aware of something interesting in my own ideas on teaching, and my own behaviour connected to those ideas. In fact, looking back on my own practice until now, I realise I am a sort of "leader-teacher", being the expert on the subject knowledge. That means: I like to work with the class as a whole, first telling and explaining as an expert, then giving an instruction, and next having the pupils work on their tasks. Afterwards, I discuss the results. Looking at the video I thought: Oh boy, you have to turn a mental switch! Good teaching is

not only being the leader and being the expert, a teacher is also a kind of "coach". I saw all the interventions the teacher made, and I was astonished, wow! She was walking around, just looking and helping, asking questions, making helpful remarks, giving compliments, evaluating the process (...)

And:

In my lessons, I try very hard to stimulate my pupils to co-operate, because I believe cooperation is important. Looking at the pupils' behaviours on the video yesterday, I suddenly understood why pupils don't always like my cooperation lessons...On the whole of the video, I saw the same things that happen in my own lessons: pupils working together and a teacher walking around. And then suddenly, comparing both situations, I thought: my pupils are also doing a great job, just as these pupils, but mine don't KNOW they are doing a great job! I hardly ever pay them a compliment!

2.5.2 Revision

In the revision phase of our development research approach, reflection on the three approaches we described above made us first realise that it is not necessary to introduce any hierarky between them. All are suitable depending on the kind of group and the specific situation. And of course, combinations can be made.

As explained above, as a follow-up we started to look for the essence of the three approaches, for the active ingredients. This led to the formulation of a five-step procedure characteristic of all three approaches, and which could help to guide curriculum development by other teacher educators wishing to work with student experiences, and enrich or change their Gestalts.

The five steps are pre structuring, using experiences, structuring, focusing, and adding theory with a small t. Briefly summarised, the first step aims at offering a focus, the second at using real and personal experiences, the third at structuring the reflections of the students on these experiences (e.g. within categories), the fourth at focusing on a limited number of specific aspects that surfaced during the previous step and are connected with the students' concerns, and the fifth step at identifying small theoretical principles that can help to guide the students' perceptions and actions in new situations. This fifth step is called theory with a small t, as opposed to the scientific theory in articles and handbooks (Theory with a capital T). At the same time, this in itself is a new step of pre structuring the next cycle, as it focuses the attention during the next experiences of the student teachers.

The first step (pre structuring) is very important. During pre structuring, the attention of the student teachers is being drawn to a specific aspect of their experiences. It is the aspect of the Gestalt the teacher educator wants to

emphasise during the session. In the "focusing" step, it is this aspect that receives the attention, thus enabling the teacher educator to also add some theoretical notions that can become connected to the Gestalts. Below, we will elaborate on the important first step of pre structuring by describing three examples that we ourselves use.

2.5.3 Three examples of pre structuring

The context is the use of WEB-CT, an online learning environment in which student teachers can, e.g. send e-mails to each other or to the course group as a whole.

2.5.3.1 Example 1: that's fine, that's wrong

> At the end of the last session, we agreed that each of us would experiment with a specific aspect in his or her lessons, something that has to do with co-operation among pupils. We stipulated a few specifics. In your preparation of the next session, I would like you to describe two events in which you were dealing with cooperating pupils in a classroom situation. Please pick out one that made you feel satisfied, and another that left you dissatisfied. In WEB-CT, describe the events as precisely and concretely as possible: What were the pupils doing, what were you doing? What did you think? What did you feel?
> Please, also respond to the contribution of two of your fellow students. During the next session, we will discuss factors interfering with and contributing to pupil co-operation.
> In case it wasn't possible for you to try out something, please indicate what it was you would have wanted to try, what kept you from doing it, and send a message about this using WEB-CT.

2.5.3.2. Example 2: group "desperate"

> At the end of the last session, we agreed that each of us would experiment with some particular aspect in his or her lessons, something to do with co-operation between pupils. We made some specific arrangements. Experienced teachers know that there are pupils who cannot easily cope with tasks in which they have to co-operate. Perhaps you have already experienced this in your class! For example, in your lesson, there may have been a group of pupils who said from the very beginning: "We will do this at home." Or perhaps there was a group saying: "We have divided the tasks and now we are working individually". Or: "Louis is working so slowly, we can't wait for him." If you have such a group, we would like to ask you to observe them twice, each time during 5 min: What exactly are they doing, and what are they saying to each other? What do you think about this? How do you feel about it? If

you wanted to, at what time and at what moment could you intervene? What would you do then? Please write down your observations and reflections using WEB-CT. Please, also respond to the contribution of two of your fellow students. During the next session, we will role-play some of the situations you have described. We will try to formulate some rules of thumb that you can use in your teaching practice in your own dealings with groups that are more difficult. In case it wasn't possible/ was impossible for you to experiment, please indicate what it was you wanted to try, what kept you from doing it, and send a message about this using WEB-CT.

2.5.3.3 Example 3: organising co-operation. Yes, but how?

At the end of the last session, we agreed that each of us would experiment with something in his or her lessons, something to do with cooperation between pupils. We made some specific arrangements. After the lesson, we would like you to take 15 minutes to look back on it by describing (using WEB-CT): What happened? How did the pupils behave (try to be as concrete as possible)? How did you feel about the situation? What was important to you? Imagine the next period with this same class, and plan 5 min to tell the pupils something about what you have noticed in relation to their co-operating behaviour. What was positive in their behaviour? What can be improved? Please also respond to the contribution of two of your fellow students. During the next session, we will focus on your own expectations in relation to pupil cooperation, and how to communicate your expectations to your pupils. In case you were unable to do it, then indicate what it was you wanted to try, what kept you from doing it, and send a message about this (using WEB-CT).

The above examples illustrate that in the phase of pre structuring, we try to work on the basis of three principles. We call them the ART of pre structuring
- Attention to a specific aspect. The maxim is: Try as much as possible to draw the attention of the student teachers to a specific aspect of their experiences.
- Reflection. Here the principle is: Try to promote students' individual reflections (on their previously unconscious Gestalts), and stimulate them to do this in a concrete manner.
- Together. Working together (asking for a reaction to the contribution of others) helps the student teachers to learn from each others' (new) insights and experiences.

These three principles concur with Smith's (2003) conclusions from a literature review on workplace learning, namely that reflection on authentic situations, as well as the negotiation of meanings within a social context, are beneficial to effective vocational learning.

2.6 Conclusions and discussion

We have studied the connections within teacher education programmes between recent developments in the theory on teacher behaviour, and the problem of linking experiences of student teachers and theory. This has led to the identification of three promising pedagogical approaches in teacher education, and a five-step procedure underlying these approaches. The fundamental difference between the theory-to-practice approach and the approaches described in this article, is that the latter are based on (1) working with student teachers' own specific and actual experiences and their (immediate) behaviours, (2) the promotion of reflection on these experiences and behaviours, (3) co-operation between student teachers, and (4) taking existing Gestalts of student teachers seriously, as the basis for their further professional growth. These principles are fundamental to what is called realistic teacher education, and is generally absent in more traditional approaches.

The realistic model is, e.g. fundamentally different from the way cases are often used as a basis for courses in teacher education (cf. Shulman, 1992). In the latter, people other than the student teachers themselves generally describe these cases, and these cases do not originate from their own practices. That case-based approach is much more deductive: the cases are generally chosen and described in the light of the theory that the teacher educator finds important to present. In contrast to this, the "cases" used and worked with in the realistic approach are the student teachers' own experiences. From the point of view of the role of Gestalts in teaching, this is an important difference. In this way, student teachers can become aware of the Gestalts that directed their own actual behaviours. When reflecting on cases they themselves have not experienced, these Gestalts often do not surface, as the student teachers can easily discuss these cases in a rational manner that does not take into account the feelings, images, value conflicts, etc. that play a role in a real classroom situation (and which they are often not aware of before actually being confronted with these situations).

Within the context of this article, we have not discussed the evaluative research carried out on the realistic approach, because this has already been done in several other publications (see for an overview Korthagen et al., 2001). However, we would like to mention that in an extensive national survey, our programme was rated significantly better by graduates with respect to its significance for their practice than the average teacher education programme in the Netherlands (n=5135; p<0,001). Although this is a remarkable result in the light of the worldwide complaints about the impact of teacher education on teaching practices, this research does not yet clarify exactly "which interventions by which interveners in what situations elicit what responses from which prospective teachers", which was the fundamental question about the pedagogy

of teacher education put forward by Fuller and Bown (1975) almost 30 years ago. We believe that such a question is almost impossible to answer given the complex nature of teacher education, and the difficulty of applying quasi-experimental designs in this field. In fact, we are convinced that it is the careful combination of several principles that account for a good pedagogy of teacher education. In this respect, we hope to have clarified how teacher educators can use ingredients of the realistic approach in instances such as the one described in the real-life example presented in the second section, an example that we consider representative of the core problems of many teacher educators.

Chapter 3

Crossing horizons: Continuity and change during second-career teachers' entry into teaching [1]

Abstract

Findings are reported from two studies examining from which specific backgrounds and in which ways second-career teachers make the transition to teaching. The transfer of existing competencies to teaching is shown to involve a challenging interplay between experiences of continuity and change. Continuity was found at the level of beliefs. Change predominated at the level of the work environment. Continuity as well as change were experienced at the levels of behaviour, competencies, identity and mission. Several aspects of career changers' workplace learning are identified which deserve special attention in designing and implementing alternative certification programmes.

3.1 Introduction

Throughout the world, alternative certification programmes (ACPs) are being developed to combat teacher shortages. As these programmes proliferate, one may wonder what they actually contribute towards solving the problem of teacher shortages. Even if ACPs generate an influx of new teachers, an important question is whether they stay in the profession. As several authors, notably Ingersoll (2002), have signalled, a "revolving door effect" is at work, meaning that career changers who went into teaching may in the longer run disappear again from the profession. This leads us to the question whether abridged teacher education routes such as ACPs, which often consist primarily of workplace learning, offer career changers adequate opportunities and support to make a successful transition to teaching, given their personal backgrounds (cf. Chin & Young, 2007).

An important assumption underlying ACPs is that career changers are able to attain professional teaching competence within a shorter time span than students in regular preservice programmes. The idea is that their earlier experiences in training, work and life generally should enable these career changers to transfer the competencies and knowledge they acquired earlier, to teaching. As we shall discuss below, this assumption is called into question by the scarce available evidence about career changers' experiences while learning to teach. If we use the term career changers, who are we talking about? Eifler & Potthoff (1998) concluded from a review of 40 studies on ACPs in the US that the definition of "non-traditional teacher candidates" needs clarification. The picture emerging from their review is one of persons well over 25, possessing substantial life experience resulting from previous careers and raising children, which enables them to bring important assets, such as maturity and expertise to teaching. Zeichner and Schulte (2001), who examined the peer-reviewed literature on the effectiveness of ACPs in the U.S., confirmed the lack of a shared definition of the term "non-traditional" when referring to teacher candidates. They also concluded that there is almost no evidence-based knowledge about the conditions influencing the outcomes of ACPs and call for research targeting the relationships between programme characteristics and programme outcomes. Since then, a few studies have demonstrated specific relationships between ACP characteristics and graduates' attrition patterns (Shen & Palmer, 2005), as well as between beginning teacher turnover and different "induction packages" (Smith & Ingersoll, 2004).

3.1.1 Research questions

Given this state of the art, we feel that, if we want to promote retention and professionalism in the graduates of ACPs, there is a need to know more about career changers' backgrounds and about how these programmes equip them to become teachers. In this chapter, we report about two small-scale studies of ACPs

in secondary education in the Netherlands. The purpose of these studies was to gain an in-depth understanding of second-career teachers' backgrounds and the experiences involved in their transition to teaching.

In the first study, six experienced teacher educators were consulted about what they viewed as the characteristics defining second-career teachers and their specific backgrounds. We will refer to this study as "the supervisor study". The research questions for this study were:

> 1. What are characteristic differences between second-career teachers and first-career teachers, when they enter a teacher education programme?
>
> 2. What are characteristics in which second-career teachers differ among each other?

The findings from the supervisor study helped us to identify the respondents of the second study, which will be referred to as the "career-changer study". Eight second-career teachers participating in ACPs were interviewed in depth about their biographies and their experiences during the transition to teaching. This study began by checking to what degree the respondents fulfilled the characteristics found in the supervisor study. It then focussed on the following research questions:

> 3. Which experiences of continuity and change do career changers report during their transition to teaching?
>
> 4. In what respects do career changers experience their teacher education programmes as supportive for the transition to teaching?

In the following sections, we will first describe the context in which ACPs were introduced in the Dutch system of teacher education. Then, we will introduce the theoretical framework used for studying career changers' transition to teaching. On this basis, the design and the findings of both studies are presented. Finally, we will discuss implications for teacher education and make suggestions for further research.

3.1.2 Context

In the USA, where alternative teacher education has a history of more than 20 years, the concept of ACPs or "alternative routes" has varied meanings (Zeichner & Schulte, 2001; McCabe, 2004). In the context of Dutch teacher education, "alternative" refers to programmes adapted to adult students with a variety of life and work experiences (Bolhuis, 2002).

Teacher education for the Dutch secondary education system is organised in fulltime as well as part-time programmes in 55 school subjects, arranged in seven clusters in general and vocational education: languages, natural sciences, social sciences, health, arts, technology, and agriculture. These programmes are

provided by a relatively large number of institutions, most of which cater for a specific region: seven non-university institutions, which educate teachers for the lower strata of secondary education and five universities, which educate teachers for the upper strata. The non-university institutions offer four-year undergraduate programmes, in which subject study and pedagogical education are integrated. The universities offer one-year postgraduate programmes with a specific pedagogical emphasis.

Since 2000, the Dutch government, reacting to growing teacher shortages has taken several measures - in cooperation with trade unions and employers in education - to encourage adults with a degree in higher education to enter teaching by participating in ACPs (OC&W, 1999a and 1999b). New alternative routes were introduced, consisting primarily of workplace learning (Brouwer, 2007). The participants in these ACPs form a quite heterogeneous group, which is on average much older than the students in regular preservice teacher education in the Netherlands. The career changers differ considerably in age (from 23 to 56 years), previous training, work and life experiences and ambitions on the labour market, and in most cases, their motivation to work in education is high (Inspectie van het onderwijs, 2003, section 2.1).

Until mid 2006, the Dutch ministry of education allowed participants a maximum study duration of 14 months, considering that only higher education graduates are eligible for participation. Since then, this period has been extended to 24 months. In most cases, ACP participants spend 2½ days per week in a school, 1 or 1½ days in a teacher education institute plus 1 or 1½ days on independent study, individually or in groups. The ACPs involved offer tailor-made routes, in which participants can strengthen specific deficiencies identified in intake assessments. To this end, candidates formulate personal learning and development plans, write logbooks and produce portfolios to reflect on their experiences in workplace learning. In the college-based components of many programmes, small group work is the setting for peer mentoring. Also, teacher educators hold individual supervision meetings with their students.

Despite this tailor-made approach, evaluation studies yield mixed findings. Firstly, in participants' actual practice in schools, doing the work of teaching often overrides workplace learning (Brouwer, 2007). Secondly, the dropout rates appear to be high. Until 2005, 1.550 second-career teachers in secondary education have been certified. At the end of 2005, only 800 of those were at work as teachers (Ministerie van OC&W, 2006), which means that 48% of ACP graduates in Dutch secondary education were not or no longer employed in education. Such findings make it all the more relevant to study the learning processes second-career teachers go through.

3.2 Theoretical framework

In this section, we first examine the backgrounds of teacher candidates in ACPs and how their earlier experiences can affect their transition to teaching. We do so on the basis of studies of ACPs in the U.S. from the last two decades that are relevant to our own studies. "Earlier experiences" is a broad concept covering a wide range of aspects, so in consulting the available research literature, we chose to focus in particular on career changers' experiences as they relate to: environment, behaviour, competencies, beliefs, professional identity and mission. These six aspects constitute the so-called "onion model" (Korthagen, 2004, p. 80), which we use to conceptualise second-career teachers' learning. This model helps us interpret the available evidence and theorise about the ways in which the transition to teaching may take place.

3.2.1 Second-career teachers' earlier experiences

In one of four large-scale survey studies, Chin and Young (2007) collected data from interns enrolled in 30 of California's more than 84 teacher internship programmes during 2001-2004. Of the total of 6.367 respondents, 67% answered most of the questions asked about their backgrounds and 29% answered all questions, allowing five distinct profiles to be generated by means of cluster analysis. Four motivational factors turned out to be most influential in the respondents' choice to participate in ACPs: the perception that teaching can best be learned by doing it; programme compatibility in the sense that a programme's mission and the communities it serves align with the intern's aims and desires to work in those communities; an ideal to serve young people or specific communities educationally; and material benefits, notably alignment of work schedules with candidates' life styles and perceived job security. Of the six profiles derived from the data, just one typically fit the category of "second-career seekers", which included 14 % of the respondents. Of all respondents, the career changers were the oldest and earned the highest salaries in their previous work. Most of them were not parents and had no previous experience working with young people. Personal and intellectual fulfilment was their main motive to become a teacher.

　　　Several studies indicate that second-career teachers' earlier experiences play a role in how they cope with the working conditions in their new professional context. Eifler and Potthoff (1998), reviewing 40 studies of "nontraditional" students, showed that in this respect, career changers can draw on earlier experiences that taught them to adapt to new situations. In a mixed-method study, Richardson and Watt (2005) explored the reasons behind graduates' decisions to pursue teaching as a career in a one-year pre-service teacher education programme. The 74 career changers involved were more than aware that teaching would be psychologically and socially demanding. At the same time, they thought that teaching would be a career in accordance with their competencies, interests and future goals. Earlier experiences

encouraged these feelings.

However, other studies showed feelings of frustration and stress in career changers during their transfer to a new professional environment. Freidus (1994), who sampled data from five cohorts consisting of 50 participants in two types of teacher education programmes, using case study methodology, quotes the words "I knew it would be hard, but I never dreamed it would be this hard" as echoing through the data (Freidus, 1994, p. 9). Other research confirms the occurrence of such feelings. For example, candidates were frustrated by the vast amounts of time required by teaching (Novak & Knowles, 1992; Freidus, 1994), by perceived inefficiencies of school bureaucracies (Eifler & Potthoff, 1998), by being a novice at a point in life when one may already have experienced a successful career and raised a family (Dill, 1996), and by stress in coping with the realities of an adjusted income and workload (Freidus, 1994; Powers, 2002). The work environment of the school may even inhibit the potential of career changers, as pointed out by Powell (1997), who explored a gap between what teachers want to teach and what they actually teach in his cross-case analysis of a first-career and a second-career beginning teacher.

Earlier experiences may also strongly affect the way in which second-career teachers behave in new situations. Gonzales Rodriguez and Sjostrom (1998), comparing in a qualitative study the professional beliefs and teaching behaviours of adult teacher candidates in "traditional" and "non-traditional" programmes (N = 25 and 18, respectively), observed that early in their experiences with teaching, second-career teachers demonstrated student-centredness in their behaviour, while beginning first-career teachers were more curriculum-centred. The second-career teachers involved were also more aware of the consequences of their behaviour in the existing culture and politics of schools. Freidus and Krasnow (1991), investigating the needs and concerns of career changers in relation to their biographies, noted in their mixed-method study that the 20 second-career teachers involved were able to understand their professional roles quickly. Novak and Knowles (1992) investigated in their case study the influences of earlier life and employment histories on the thinking and practice of four beginning second-career teachers in elementary and secondary schools. They described how earlier experiences could help career changers set up organisational and management structures in classrooms and solve instructional problems. At the same time, some studies manifest the difficulties second-career teachers may have in dealing with "little people" and working with groups (Madfes, 1989; Freidus, 1994).

Most researchers agree that second-career teachers draw on valuable competencies and knowledge based on earlier experiences in previous careers. The competencies they bring into schools were shown to be quite diverse, such

as problem solving, coping, and communicating with students, colleagues, parents and school administration (Chambers, 2002, Gonzales Rodriguez & Sjostrom, 1998). Mayotte (2003), exploring the perceived influences of earlier experiences of four career changers on their classroom practice, found second-career teachers using knowing-why, knowing-how and knowing-whom competencies developed in their first careers. Chambers (2002), studying the effects of previous succesful careers of ten second-career teachers on their development as teachers by interviewing them, showed that the respondents felt proficient in the content area of instruction, in solving instructional problems, in curriculum design and in their approach to the task of teaching.

However, transferring competencies to teaching is not an automatic process. Eifler and Potthoff (1998) stated that the competencies second-career teachers bring from previous careers may not be the same competencies necessary for successful teaching. Madfes (1989), looking for alterations to teacher education programmes to better accommodate career changers, showed that eight second-career teachers recruited from industry into a special science teacher preparation programme, did not necessarily apply the content knowledge of their former careers to teaching.

Earlier experiences of second-career teachers may also influence their expectations and beliefs about children, as shown by Novak and Knowles (1992). Gonzales Rodriguez & Sjostrom (1998) found that career changers entering new professional environments had well-articulated reasons for choosing teaching, while first-career teachers showed doubts. Chambers (2002) described second-career changers perceiving themselves as different from first-career teachers in "a subtle but significant way". The respondents involved in her study believed they offered their pupils new perspectives, including a commitment to helping pupils to apply their knowledge to the real world, and a willingness to make use of innovative pedagogies such as application-based teaching. They expressed the value of connecting the classroom to the outside world. They saw themselves as adopting alternative pedagogies and engaging in educational reform.

However, transfer could also be problematic as far as beliefs are concerned, as shown by Freidus (1994). The three cohorts of participants (N=28) involved in this qualitative study identifying motivations and concerns of second-career teachers came with either the belief that they would have the autonomy to carry out own ideas in the classroom, or with the belief that the dialogue with mentor teachers would be part of the culture of school life. In contrast, the existing reality of isolation within the structures of traditional school settings came "as a form of culture shock" (Freidus, 1994, p.14).
In some studies, the relationship between earlier experiences and professional identity is discussed. Bendixen-Noe and Reick (1995), examining in a comparative

quantitative study the career development of 430 beginning secondary teachers in "non-traditional" and "traditional" programmes found that the second-career teachers exhibited more self-confidence and self-concerns. Gonzales Rodriguez and Sjostrom (1998) showed that second-career teachers perceived themselves as practitioners in need of time and practice, whereas first-career teachers perceived themselves more as students who needed to learn skills. Novak and Knowles (1992) noticed the influence of earlier experiences on the views that second-career teachers held of themselves as teachers. Other studies report about the personal qualities and strengths of career changers, i.e. they had developed a well-defined sense of self and an understanding of human nature through former work and life experience (Crow, Levine & Nager, 1990; Freidus, 1992 and 1994; Freidus & Krasnow, 1991).

Several studies have shown that career changers often bring an articulated sense of mission and agency and a strong sense of commitment based upon earlier experiences to teaching (Crow, Levine & Nager, 1992; Freidus & Krasnow, 1991; Resta, Huling & Rainwater, 2001; Gordon, 1993; Powers, 2002). In these studies, examples are reported of career changers who care a great deal about children, want to help young people, have the desire to make a difference in the lives of their pupils, are aware of social issues related to education, and show vocational mission, community service, and personal commitment.

At the same time, a strong sense of mission can lead to disenchantment. Crow, Levine and Nager (1990) claimed that second-career teachers can be grouped into three categories with respect to mission: "home comers", who see teaching as a turn to a career they had always hoped to enter; "converted", who consider teaching for the first time as a pivotal event that causes them to reconsider plans; and "unconverted", who have "achieved high status in other occupations", but quickly become "disenchanted with a teaching career".

On the basis of these findings, it can be concluded that earlier experiences do play an important role in career changers' transition into teaching. Yet, having earlier experiences, whether these relate to behaviour, competencies, beliefs, identity or mission, does not automatically imply that the transfer of earlier experiences into the new professional situation is self-evident and easily made. This means that the assumption underlying ACPs that earlier experiences enable career changers to attain professional teaching competence within abridged time spans is a problematic one.

3.2.2 Levels of change

From the literature reviewed above, it becomes apparent that career changers to teaching share specific types of earlier experiences, even though individuals may differ widely in how these experiences manifest themselves. The various aspects distinguished can be interpreted with the aid of the so-called "onion

model" (Figure 1), derived from the work of Dilts (1990) and Korthagen (2004). In this model, six levels are distinguished: environment, behaviour, competencies, beliefs, professional identity, and mission. Conceived as levels of change in personal development, they provide a framework, which can be used to try and understand the ways in which second-career teachers' different backgrounds and experiences may influence their learning during the transition to teaching.
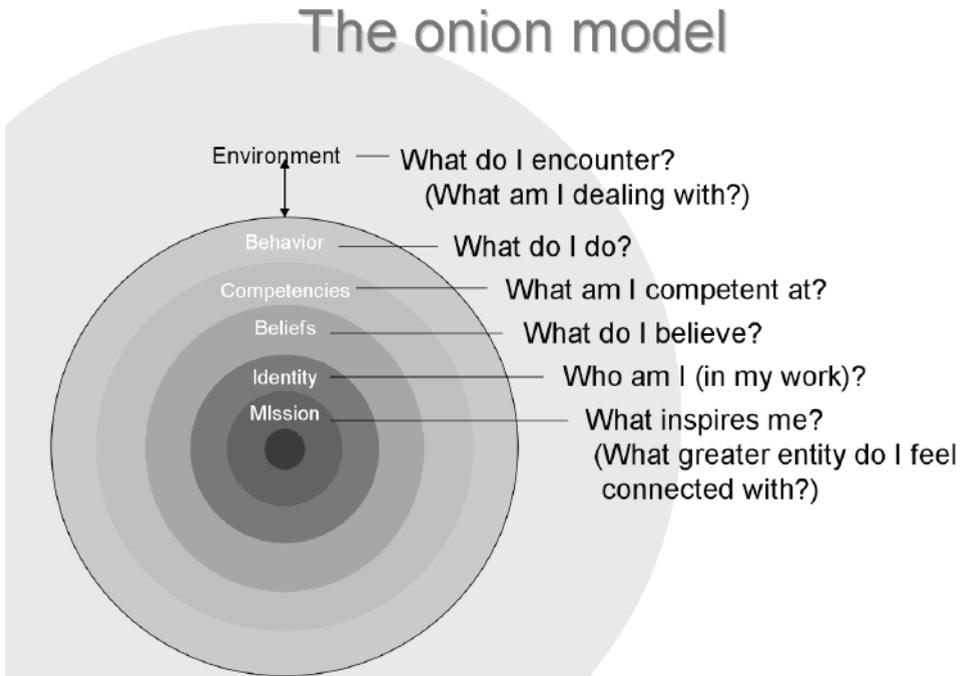
Figure 3.1 The Onion Model (Korthagen, 2004)

At each level, second-career teachers bring with them earlier experiences and mental constructions based on these experiences. The outermost level in the "onion model" represents the second-career teacher's environment, i.e. both their former working conditions and the situations they encounter in their new context. The next levels are those of their behaviour and the underlying competencies, which also include knowing-how and knowing why. Further inwards, first the level of beliefs is situated. Beliefs regarding learning and teaching influence teachers' actions, and they can be deep-rooted and persistent (Fiske & Taylor, 1984, p.171). The next inner level is that of (professional) identity, self-concepts and images about what kind of teacher someone wants to be. The deepest level of mission has to do with a person's sense of engagement in life and work. The level of mission refers to issues such as why the person decided to become a teacher, or even what he or she sees as his or her calling in the world. In essence, this level is concerned with what inspires a person and what

gives meaning and significance to his or her work and life. As can be seen in the above overview of the literature, all of these six levels are relevant in describing career changers.

One idea behind the onion model is that the inner levels determine the way an individual functions at the outer levels, but that a reverse influence from outside to inside is also possible. Another assumption underlying the model is that when people experience alignment between the levels, they feel what Csikszentmihalyi (1990) calls "flow". If, instead of alignment, there is inner tension, they will feel limited in their potential (Korthagen & Vasalos, 2005). We expect that alignment of the different levels is associated with experiences of continuity, as opposed to experiences of change.

3.3 The supervisor study

The supervisor study formed the basis for the career-changer study, in substance as well as method. We therefore report the design and the findings of the supervisor study and the career-changer study separately and consecutively. In accounting for the design of each study, we report on the instrumentation and the methods used for sampling, data collection and analysis.

3.3.1 Identifying second-career teachers

A suitable starting point for identifying specific characteristics of career changers entering teacher education was to consult experienced teacher educators working in ACPs. These supervisors were selected as respondents - rather than mentor teachers in the schools - because they get acquainted with a wider variety of candidates and usually have a broader view of the field of teacher education. Supervisors encounter most ACP participants in their daily work and this affords them an insider view of this new group of prospective teachers. From that vantage point, they could also inform us about differences with students in regular preservice programmes. This is why the first research question was phrased in terms of differences between these two types of participants. The second research question aimed at differences among career changers because of the diversity within this group known both from the literature and from teacher education practice.

In order to obtain the greatest possible variety of responses, six supervisors were selected who had at least three years of experience and were currently active in ACPs providing for either the upper or the lower strata of secondary education (they hadn't been second-career teachers themselves). From both these types of programmes, three supervisors were selected. They worked in three different institutions.

A semi-structured interview and a written questionnaire were designed as

different ways of finding out how the supervisors perceived characteristics and earlier experiences of career changers. The interviews were meant to elicit perceptions and ideas originating from the supervisors' work experience, while the questionnaire contained characteristics of career changers found in the literature that we wanted to verify against the supervisors' work experience.

After an introduction, the supervisors were invited to voice possible differences and similarities between second-career teachers and first-career teachers. Another lead question was what motives and learning needs the supervisors remembered the career changers brought forward during their first contacts with them. In order to explore differences within the group of career changers, we asked the supervisors to produce a mind map of what they saw as "the ideal career changer" and to compare or contrast this with the characteristics they perceived in the career changers whom they actually encountered. The supervisors' reactions were then probed by asking for examples of "strong" and "weak" career changers and what made out the differences between the two. In addition, we asked what earlier and recent experiences career changers reported to the supervisors and whether and how career changers could apply competencies acquired earlier in education. Finally, we asked the supervisors what images of education they saw career changers bring with them and if and how, in working with them, they differentiated between certain types of career changers.

The questionnaire contained 35 items describing possible characteristics of career changers derived from the following sources. From earlier research on ACPs in the Netherlands (Bolhuis, Imants & Pluijmen, 2001), we derived 16 characteristics of career changers' functioning in schools attributed to them by their supervisors. For example, one item drawn from this source was: "Career changers do not have a realistic image of adolescents". Six characteristics were developed on the basis of Thijssen's study (1996) of adult learning in corporate settings, for example: "Career changers are aiming at efficiency in their learning". Finally, our own experience as teacher educators yielded 13 characteristics focussing on earlier experiences in work, life and learning, for example: "Career changers are able to connect classroom situations with specific situations in their former work." Five out of the six supervisors found the opportunity to rate each of these items on 7-point scales and thus indicated to which extent they thought career changers differed from (a) fulltime students in regular programmes and (b) each other.

The interviews in the supervisor study were transcribed verbatim and analyzed first using a within-case, then a cross-case approach (Miles & Huberman, 1994, p. 90-142 and 172-177 respectively). The within-case analysis proceeded from describing verbally represented meanings to identifying and naming recurrent themes (Wester & Peters, 1999, p. 118-119). The cross-case analysis was meant

to ascertain how the supervisors viewed these themes. A theme was defined as recurrent, when it fulfilled the decision rule that four or more of the supervisors made statements about it. All the above analysis steps were carried out by two independent researchers. Where discrepancies occurred in their results, these were resolved by comparing, discussing and rephrasing the career-changer characteristics gleaned from the data. The questionnaire data were used for deciding how applicable the 35 potential career-changer characteristics were, according to the supervisors. This was done by means of the following decision rule. Any item for which four or more of the supervisors scored on or one point away from either of the scale endings (on a seven-point Likert scale) was selected as clearly indicative of career-changer characteristics. The characteristics selected from the interviews, the questionnaires or both – on the basis of the decision rules – were used as a starting point in the career-changer study.

3.3.2 Characteristics attributed to second-career teachers

The interviews with the supervisors and their questionnaire data yielded ten characteristics attributed to second-career teachers as compared to first career teachers, presented in the first column of Table 3.1. In the second column, each characteristic is illustrated by one or two exemplary quotes from the interviews.

Table 3.1

Comparison of first-career and second-career teachers

Characteristics attributed to second-career teachers	Exemplary quotes from supervisor interviews
1. They have work experience.	People entering an ACP have an abundance of work experiences, which for me, automatically means they are older.
2. Before entering the programme, they have made a conscious choice for working with children.	For second-career teachers, working with children is a motive that plays an explicit part in their decision to participate in an ACP. For students in regular programmes, it often works the other way round. They choose the teacher education programme in the first place, and working with children then becomes a result of that choice.
3. They have motives for entering teaching, based in part on earlier work experiences.	Now, take P. He's from business and tells me that he has missed contact with people and for that reason he chooses to work in a school, because of the community feeling.
4. They go about learning in a focussed way.	They are able to set their own goals, they don't want to waste any time.
5. Considering the tension between being in training and being an employee, they take responsibility for their own learning.	Second-career teachers dare to make choices, they negotiate, they join us as captains at the steering wheel of our ACP.
6. They possess competencies acquired elsewhere, especially in the domain of interaction.	They possess communication skills. Which means you can just let them loose on parents, colleagues, pupils and so on.
7. They have non-recent experiences as a pupil with frontal, teacher-centred schooling and are therefore open to instructional innovation.	I find the traditional ideas about learning far more entrenched in regular teacher education students, who just came from school themselves. Someone like T. is a great example [of the opposite]. They [second-career teachers] probably have a lot more experience with other kinds of learning.
8. Because of earlier experiences in work and life, they are able to determine their place in the school organisation more quickly and precisely.	People from the business sector also work in education with a good eye for organisation. They don't stay put in a muddle with their pupils and their lessons, but they quickly conclude they can't solve certain things on their own and will address them on the level of the organisation. They just have a grip on that interaction. A regular student still has to learn these things.
9. They are shaped by life experience, i.e. have developed behaviour patterns which are sometimes hard to change.	They all have their own individuality, their own patterns and routines, you can't change them, you have to deal with that.
10. They have experience in raising children.	V. herself has adolescents at home growing up. From her life experience with adolescents, she also has ideas about the way to explain things to them.

From the findings in Table 3.1, an image of ACP participants emerges distinguishing them markedly from students in regular preservice programmes in a number of respects. Second-career teachers bring an abundance of work experiences with them, from which they can and do benefit in becoming a teacher. Their competencies range from communication and pedagogy in working with groups through facilitating cooperation, organisation and management to doing research. Second-career teachers are willing to contribute to innovations in teaching, whereas student teachers in regular programmes are more resistant to pedagogical innovation. Second-career teachers are also more aware of the fact that they are employees of the school and that they are expected to contribute to the organisation as a whole. In the course of life and work, second-career teachers have developed behavioural routines, which in some cases seem hard to change. Second-career teachers often have children. Those who do, derive from their experience as parents valuable communication skills in dealing and working with adolescents.

From the interview accounts, a tentative typology could be derived of how supervisors distinguish between second-career teachers entering ACPs. The five types are presented in the left-hand column of Table 3.2 together with the distinguishing characteristics used by the supervisors (middle column), and illustrative quotes from the interviews (right-hand column).

Type 1, the regular teacher education student beginning to work before certification, and Type 2, the parent, the supervisors agreed, were essentially first-career teachers, because they had little work experience. Type 3, the reintegrating person, was regarded by the supervisors as a "difficult" and "vulnerable" group. They did not really feel equipped to support the specific needs of these teacher candidates. Type 4 comprises people with some kind of expertise in education, developed either as a certified or as an uncertified teacher. To the supervisors, the teacher candidates in this group presented fewer problems, because they had a certain acquaintance with education. Type 5, the person coming from a sector other than education, was considered by the supervisors to be "the real career changer" or the "career changer in a strict sense". These candidates were aged above 32, possessed substantial life experience and belonged to the group targeted by legislation opening up teaching for people from other professions. In this group, the challenge facing the ACP participant of transferring competencies acquired earlier to teaching plays a prominent part and this, the six supervisors reported, involves an abundance of previous experiences. To address this issue, the supervisors stated, they themselves "simply miss deeper insights in the earlier experiences of career changers". One of them sighed: "I think we do a bad job in linking previous experiences with their actual experiences. To be honest, I think I haven't interested myself enough in their previous experiences."

Table 3.2

Differences among second-career teachers

Types	Distinguishing characteristics used by supervisors	Illustrations given by supervisors
1. Regular teacher education student	without work experience	Student from a regular preservice teacher education programme, prematurely employed as a beginning teacher, entering an alternative route because of work schedule
2. Parent	without work experience	Parent, usually a mother, after having raised children, new in the labour process
3. Reintegrating person	with non-recent work experience outside education	Person who has been ill or unemployed for at least one year, involved in reintegration in the labour process
4. Person with teaching expertise	with work experience and/or competence in teaching	Person who has experience in another educational setting. Subtypes mentioned: a. "seeking a second-subject degree": certified teacher employed in a school who wants to acquire a degree in a second subject b. "updater": certified teacher who first pursued another career and now wants to update his or her teaching competence c. "someone with teaching expertise from a different sector": person without teacher certification having worked in a university, occupational or adult education, a high school or an elementary school.
5. Person from outside education	with recent work experience outside education	Person with relevant work experience coming from another professional domain than teaching

3.4 The career-changer study

Considering the findings of the supervisor study, we decided to focus in the career-changer study on second-career teachers in a strict sense, i.e. those teacher candidates possessing substantial experience in life and work outside education (type 5 in Table 3.2). After accounting for the design of the study, we report in the findings sections from which backgrounds the career changers in our sample came to teaching and how they experienced the transition to their new profession. Separate attention is given to the role of their ACPs in this process.

3.4.1 Exploring second-career teachers' transitional experiences

In this account of the design of the career-changer study, we first explain how the concepts used in formulating research questions 3 and 4 were operationalised in the instruments. Then, the procedures employed for sampling, data collection and analysis are described.

On the basis of the existing literature, we were sceptical about the often heard assumption that career changers can easily make the transition to teaching because of their earlier experiences in work and life. To explore this assumption, it would be necessary to generate in-depth knowledge of how, during the transition to teaching, processes of personal development unfold. We therefore limited our number of respondents so that data of a sufficient qualitative wealth could give us insight in the career changers' "lived reality" as aspiring teachers. This should enable us to determine in which respects and in which ways the characteristics attributed to them by the supervisors influenced their becoming a teacher.

We decided to conduct *semi-structured biographical interviews*, structured on the basis of the findings from the supervisor study as well as the onion model. In-depth interviews were held with eight second-career teachers for 1½ hours each. During the interviews, we wanted to leave the respondents free to report any personal information and current experiences in becoming a teacher that they considered relevant. To achieve this, specific opening questions were used as well as probing questions depending on the respondents' reactions. The interviews covered the following main themes.

Personal backgrounds
In order to clarify with which personal backgrounds they entered their ACP, we first asked the career changers about their previous education, work, motives for becoming a teacher as well as their images of the teaching profession.

Continuity and change during the transition to teaching
The second part of the interview covered experiences of continuity and change during their career change. We asked the career changers to elaborate on commonalities and differences which they encountered between their earlier professions and teaching by drawing comparisons between these different work contexts. On the basis of these comparisons, we also probed how they experienced their transition to the teaching profession on each level of change as distinguished in the "onion model". While this part of the interview was loosely structured, the interviewer aimed at receiving accounts of what, during the transition to teaching, was familiar, slightly familiar or new to the career changer at each level of change.

The contribution of teacher education

In connection with each of the above two themes, we asked the career changers how the ACP in which they participated influenced their learning as a teacher. To explore this issue, we asked them to elaborate on how they personally experienced situations and activities during workplace learning and in the college seminars.

At the end of the interviews, we checked explicitly if the career changers themselves considered the ten entry characteristics identified in the supervisor study applicable. To this end, a *written questionnaire* containing the characteristics presented in Table 3.1 was administered. This procedure served to verify the respondents' personal backgrounds against the findings of the supervisor study. Forced-choice items were used with response categories "yes, applicable" or "no, not applicable" (see for the items Table 3.3 in the next section). We also quantified to what degree their ACPs and the personal support the career changers received from their supervisors met their expectations. For this purpose, five-point scales were used (see for the items Table 3.4 in section 3.4.4). The respondents filled out both parts of the written questionnaire in the interviewer's presence, so that items could be clarified when necessary. Before selecting and contacting the respondents, both the interview protocol and the questionnaire were piloted among teacher candidates with backgrounds similar to those of our definitive respondents. This enabled us to clarify some questions and items and to develop an interview protocol, which remained within 1½ hours' time.

In *sampling and data collection*, we took the following course. Even though this is a small-scale study, we sought to maximise our chances of collecting generalizable data. We did so by using location, gender and age as sampling criteria. Accelerated teacher education programmes for secondary education situated in four different regions of the Netherlands were approached. The programme coordinator in each region was asked to select at random one female and one male ACP participant aged 32 years or above. This age limit was chosen on the basis of nationally representative data, which showed that most candidates in Dutch alternative routes were older than 32 (Inspectie van het Onderwijs, 2002). The participants selected by the programme coordinators were contacted by telephone and/or email and asked for their cooperation. All agreed at first request, except in one region, where no male respondents could be found who had sufficient time available. This is why eventually five women and three men participated in the study. The respondents turned out to be aged 39 on average. Three interviews were conducted by the first author and five by the second author. In no case were the respondent and the interviewer from the same institution.

The *data analysis* was conducted as follows. All biographical interviews were first transcribed verbatim. The resulting texts were studied by three researchers independently (the first author studied all the interviews; the second and third author each studied four different interviews). On this basis, following a grounded theory approach (Glaser & Strauss, 1967) each researcher developed a proposal for response categories in which the information in the transcripts could be meaningfully structured. Discussion of these proposals then yielded the categories in which all interview responses were ordered in the form of summaries and quotations. The number of responses falling within each category was tallied. A separate category was required to contain at least five responses.

In addition to this cross-case analysis of all the interview data, specific within-case analyses were performed. A within-case analysis of the first interview part made it possible to compose individual portraits of the respondents. Within-case analyses of the second interview part enabled us to find out whether continuity or change dominated the career changers' development at the different levels of the onion. From the questionnaire data, descriptive statistics were generated.

3.4.2 Second-career teachers' backgrounds, motives and images of teaching

The teacher candidates in this study entered their ACPs in large part possessing the characteristics attributed to them by the supervisors. This finding will first be detailed here. Then, we report the respondents' experiences of continuity and change during their transition to teaching. Finally, their perceptions of how they were supported by their ACPs are presented.

3.4.2.1 Entry characteristics

In Table 3.3, entry characteristics have been summarized. From the questionnaire, it became apparent that the majority of respondents possessed the first eight entry characteristics identified in the supervisor study (cf. Table 3.1 section 3.3.2). As Table 3.3 makes clear, the career changers sampled in this study deviated from the characteristics found in the supervisor study only on the items about behaviour patterns and parenting.

Table 3.3

Entry characteristics as rated by second-career teachers

Entry characteristics	Frequencies "Applicable" (N=8)
1. I have work experience.	8
2. Before entering the programme, I made a conscious choice for working with pupils.	8
3. My motives for entering teaching are based (in part) on earlier work experiences.	6
4. I go about learning in a focussed way.	8
5. Considering the tension between being in training and being an employee, I take my responsibility for my own learning.	8
6. I possess competencies that I acquired elsewhere, especially in the domain of interaction.	8
7. I have non-recent experiences as a pupil with frontal, teacher-centered schooling, which makes me open to instructional innovation.	7
8. Because of my earlier experiences in work and life, I can determine my place in the school organisation more quickly and precisely.	7
9. I have life experience: I have been shaped and I have developed behaviour patterns, which are hard to change.	2
10. I have life experience: I have children.	4

Most of our interviewees denied having developed behaviour patterns that were hard to change (item 9). This might be due to the social undesirability of the item wording. Also, half of our respondents were parents (item 10).

3.4.2.2 Winding roads
In their biographical interviews, the career changers reported having followed winding roads in their earlier professions and lives. Teaching offered them a perspective of finding a relatively stable position after more or less frequent changes of direction in life and work. The respondents were: a former project manager in the IT industry, who went to work as a teacher of business economy; a former solo hoboist, who became a music teacher; a former cultural manager, now a teacher of geography; a former communication consultant, who moved to being a teacher of history; a former conference manager, who began to work as a teacher of German; a former chef de cuisine, now a teacher of household management; a social worker who became first an international transport representative, then a teacher of French; and a home coach, who became a teacher of health care.

The heterogeneous backgrounds of our respondents is illustrated by the following extracts from two of the portraits written about each person.

> *The former international transport representative, teacher of French*
> After graduating as a social worker, this career changer moved to Paris, where he married a Frenchwoman and lived for 19 years. Because in France, his degree proved to be of hardly any practical value, he worked in a hotel during the first few months. There he was dismissed during his trial period. Through an employment agency, he had an offer from an international transport firm. In retrospect, he felt the transport sector was a bad one to be employed in, as it had been under pressure of reorganisations for years. Nine years after his move to France, he became unemployed for two years, receiving no allowances anymore during the last months. During the following ten years, he had a high commercial position in the French transportation sector, acquiring large contracts for his firm. Then he moved back to the Netherlands with his family, where he represented an international parcels delivery company for three years. During this time, he discovered in himself an early affinity with teaching and began his career change.

> *The former home coach, teacher of health care*
> After graduating from secondary school, the home coach trained as a social worker, but instead of graduating for this profession, she worked with drug addicts in a health care job and with asylum seekers in migrant centres. It was in this last job that she repeatedly found herself taking on teacher duties, working with Moroccan and Turkish women. Still seeing herself as a social worker, the idea of becoming a teacher did not occur to her until later. At the time of interviewing, she combined 15 hours of teaching per week with her earlier occupation as a home coach of mentally handicapped people. She chose this combination, because as a divorced mother she could not balance her budget with 15 hours of teaching alone. Being a fulltime teacher offers her the perspective of financial stability and the opportunities she needs to care for her children.

3.4.2.3 Motives and images of teaching

In the motives which the career changers reported for entering teaching, the individual differences between them become apparent, depending on their life and work circumstances. The questionnaire results about motives for entering teaching and wanting to work with children (see Table 3.3, items 3 and 2 respectively) became understandable through interview statements in which the second-career teacher expressed that "something has always has been in me", meaning aspects of the profession such as teaching lessons, love or passion for the subject matter or social aspects of being a teacher. These statements have a bearing at the

levels of identity and mission.

Seven career changers reported that they based their image of the profession partly on earlier experiences as a child. Only the former home mentor of socially handicapped adolescents described her image of the profession more in connection to recent work experiences. Six of these seven respondents referred to an image of a teacher as transmitter. Subsequently, their own practical experiences in teaching had shown them the need to adjust such images to those of the teacher as a facilitator of learning. These adjustments were sometimes experienced as drastic. These interview statements were confirmed by questionnaire item 7 about changes in early images of teaching. The former cultural manager is an exception in this respect, probably due to his childhood experiences in a reform-oriented school.

3.4.3 Continuity and change in second-career teachers' development

In this section, we describe how the career changers in this study experienced working and learning as a teacher in contrast to their earlier work and lives. The categories developed during the data analysis revealed five themes of continuity and change in their personal development. which we will illustrate by representative quotes from the interviews and combined with the questionnaire findings in Table 3.3.

3.4.3.1 Complexity and workload

Six of the eight respondents reported about changes at the level of the demands of the new professional environment. They reported that for them, teaching was complex and quite different in nature, compared to their previous jobs. They also experienced the job as "sometimes heavy". These experiences had to do specifically with changes in the rhythm of their day, both at work and in their private lives, in their daily routines and in the demands on their flexibility. The former international transport representative said for example:

> Teaching is much more complex and much more tiring than I have ever experienced before, in my previous jobs. Nowadays I'm working even in the evening. My wife and I had a quarrel about that. You are always busy with school, she said, even when you are home, you are fixed on school.

The former chef de cuisine, too, experienced a change in his daily rhythm, but he reported feelings of relief. Teaching was less hectic to him and gave more structure to his life than he was used to in his earlier work.

3.4.3.2 Dealing with groups of adolescents

Because of their varied backgrounds, the career changers brought a wealth of "knowledge about people" with them, which benefitted them in their transition to teaching and their functioning in the school organisation. As apparent from the questionnaire findings, they all felt they already possessed useful competencies in the domain of interaction (Table 3.3, item 6). This experience of continuity went hand in hand, however, with experiences of change related to specifics in the work of teaching. Teaching, the career changers felt, placed drastic new demands on them, when it came to managing adolescents.

Seven respondents reported experiencing continuity at the levels of behaviour and competencies in managing groups, because they had developed and used skills in working with teams. Yet, the relevant concrete behaviours and skills they mentioned in relation to teaching all had to be adapted to the teaching setting: presentation skills; skills in establishing learning goals and working up to a certain goal with a group; being able to survey a group; being able to empathise with different individuals while working with a whole group; being able to distinguish between pupils; making eye contact deliberately; dealing with lively or sometimes malicious behaviour; using humour in interaction deliberately.

What the career changers experienced as different in dealing with adolescents was that their behaviour was "intense, pure, honest, direct, spontaneous, confronting, not as sly as adult behaviour". All respondents reported feelings of tension being aroused by adolescents' behaviour. For instance:

> It touches me personally. It evokes my feelings of care. I feel responsibility for their
> development. It absorbs all my energy and I feel vulnerable. Sometimes it is scary. I
> have feelings of being disarmed. Their outspokenness makes me feel good.

In dealing with the appeals made on them by pupils, the career changers sought ways to adapt their own behaviour. For example, the former manager said:

> Working with people at the age of adolescents triggers different problems. Teaching
> people something, I have gone through that, but at a very different level. Now, I feel
> much more nearness to them, compared to my former clients in business. Yes, I have
> client contact, that's the same. Nevertheless, the client contact in school is much
> more intense. Really much more intense, it has a personal impact on me.

3.4.3.3 Sharing subject-matter expertise

Six of the interviewees reported continuity in how they could use subject-specific expertise from their earlier professions in the classroom. In their stories about transferring the kinds of competencies involved, also the levels of beliefs and

mission were surfacing, as they expressed their willingness to pass on expertise from their earlier professions to their pupils. For example, the former home coach told us:

> Last week I had to substitute for a colleague. I didn't know what to do in class, so I just sat down. … Well, they wanted to know about what it is like to be in an apprenticeship [as a home coach]. So I told them something about my previous job. And they were listening attentively. I felt deeply satisfied being able to pass on my experience. They want to know what it means and I can tell them. I can tell them about certain values. I tell them being a home coach is not only dealing with children in a friendly way. You must have patience; you must be able to listen.

The former project manager said:

> The connection I make with business life, which I can make on a daily basis, that is important. Look, eighty percent of my pupils will have a future job in business. And afterwards, looking back, they will remember: Oh that's what Mrs. E. told us.

3.4.3.4 Autonomy and team work

As apparent from the questionnaire findings, the career changers in our study felt they could determine their place in the school organisation relatively quickly and precisely (Table 3.3, item 8). However, in the contacts with the new team of colleagues, all but one reported experiences of change, which had to do with the large extent of autonomy allowed to them at work. This touched on the level of professional identity in work. Depending on different former experiences, the feelings reported here ranged from disappointment to relief. The former communication consultant said:

> Working without a team, being independent, that's a change. I have always worked in teams. I was so used to working in a team, standing together for something, and working towards a result together. That's not the feeling I have here. We should work together, though, in our school team, we should do that, but I don't experience it, and I miss it.

The former cultural manager stated:

> What I experience is: in the classroom you are the director, the moviemaker, you are the one who decides what happens, what to do… observing a video, giving an instruction, giving them a group assignment. There is nobody who sticks his nose into everything. In my previous business work, if you intended to do something, you always had to negotiate. You could never be the chef in your own kitchen.

All of our respondents reported experiences of continuity in feelings of self-confidence, they knew themselves because of all the experiences they had in life and work. They displayed a certain basic self-confidence, a kind of "ego-strength" (cf. Freud, 1972). The former cultural manager stated:

> I have insight in human nature, that's what I bring along. But the most important thing is, once you know yourself, and you know yourself because of all the experiences you have had in life and work … once you know who you are and you know your weaknesses and strengths, you can project yourself in the classroom. … My self-confidence, that's what I bring with me.

3.4.3.5 Long-standing aspirations

All career changers reported continuity in long-standing and deep-seated aspirations to make socially useful contributions through their work. The former project manager, for example, wanted to show her pupils that economics is a real-life subject. The former solo hoboist wanted to pass on a deeper awareness of the values of other cultures. The former chef de cuisine wanted to pass on his passion for cooking. The former cultural manager wanted to pass on the message "Don't be afraid to be critical". Four of the career changers stated that in this respect, teaching offered them more satisfying opportunities for contributing socially than their earlier work. However, the other four respondents also reported feelings of vulnerability and disappointment in connection with their ideals. For example, the former international transport representative said:

> Certain behaviour, to deal with that… I can give you a few examples. Pupils who are offending you in a very bitchy way at a particular moment, who treat you without showing any respect, who are provoking you… being offended in such a bitchy way that I have to take the pupil apart and have to say "Listen, this is not the way we treat each other here… this is not the way I want to be treated", that is very unpleasant. It absorbs all my energy (…) and it makes me feel vulnerable.

3.4.4 The contribution of teacher education

In this section, we report in what respects the career changers experienced their ACPs as supportive for their transition to teaching. In this account, questionnaire and interview findings are combined. Table 3.4 contains the questionnaire results. The response percentages for the items 1 through 9 in Table 3.4 range from 75% to 100%. For item 10, a non-response of 50% was found. This represents the fact that half of our respondents were parents.

Table 3.4

Support experienced in alternative certification programmes

Cf. entry charac- teristic [a]	Questionnaire item	"Applicable" (N=8)	
		Average	Standard deviation
1.	My teacher educators do something with my earlier work experiences.	2,6	1,1
2.	In the programme, my teacher educators do something with my conscious choice for working with pupils.	3,3	1,2
3.	In the programme, my teacher educators do something with my motives for entering teaching.	3,1	1,1
4.	My teacher educators adjust the programme to what I want to learn.	3,8	0,7
5.	My teacher educators give me real opportunities for being responsible for my own learning.	3,1	1,5
6.	My teacher educators adjust the programme to the competencies I possess because of my earlier experiences.	2,0	2,0
7.	My teacher educators adjust the programme to my wish to teach differently from what I experienced myself as a pupil.	3,0	3,0
8.	My teacher educators do something with the fact that I quickly find my place in the school organisation.	2,9	2,9
9.	My teacher educators do something with the fact that I have sufficient self-knowledge.	3,5	3,5
10.	My teacher educators do something with my experience in raising children.	2,0	2,0

[a] Cf. Tables 3.1 and 3.3

3.4.4.1 Adjusting ACPs to second-career teachers' backgrounds, motives and images of teaching

As a group, the second-career teachers were moderately positive about how their teacher educators took account of their backgrounds, motives and images of teaching, as expressed in their wish to teach in ways different from what they themselves had experienced as pupils, in their motives for entering teaching and in their conscious choice for working with pupils (see in Table 3.4 the averages found just above the middle of the five-point scale on items 7, 3 and 2). The second-career teachers varied considerably in their desire to teach in ways different from what they themselves had experienced as pupils (see in Table 3.4 the considerable standard deviation found on item 7). In the interviews, five career

changers reported that their ACPs paid attention to their backgrounds, motives and their images of the profession, but three of them noted that this attention was restricted to the beginning of the programme.

3.4.4.2 Addressing second-career teachers' individual learning needs

The second-career teachers' most favourable judgments about the contribution of their ACPs referred to how their teacher educators adjusted the programme to what they wanted to learn and to the opportunities they were given to build on their self-knowledge and take responsibility for their own learning (see in Table 3.4 the averages found well above the scale middle on items 4, 5 and 9). The interviews showed that the respondents' ACPs varied to a large extent in design and in their approach to the phenomenon of teaching as a second career. Seven interviewees reported about the good intentions they perceived in their teacher educators to address their individual learning needs. From their side, they specifically mentioned a wish to deepen their knowledge in relation to their teaching experiences in the following areas: pedagogical content knowledge (3 times), classroom management (4 times) and dealing with adolescents (5 times). In addition, they experienced practicing with real-life situations as supportive, for example trying out activity settings and formats for working with pupils (3 times). Seven career changers mentioned different forms of peer learning as supportive.

The respondents' interview statements were permeated by a tendency which can be described as: "the more concrete, the better". Those career changers who had completed a basic skills training before entering teaching indicated having experienced this as very supportive (3 times). One respondent said – unsollicited – that she would have preferred such a training. Three second-career teachers indicated that they wished to receive more concrete and personally focussed feedback and suggestions. One of them said:

> I guess you got a taste of how engaged I am as a person in everything I do. That has a strong influence on my behaviour. ... And yet, I have to figure out a lot by myself. To really touch upon that, you need almost personal mentoring. They don't go as deep as that in the programme. When we talk about my style, the conversation soon shifts to something you have in common. And then there's the fact that they don't see you functioning personally in a classroom at all. (Interviewer: Would you like that?) Yes, for instance with a video. I talked to another pupil recently, who had made a video recording. ... I think that by viewing videos together, you can better analyse what your current proficiency is.

3.4.4.3 Transferring competencies acquired earlier to teaching

In the interview statements, all our respondents considered it important or very important that their teacher educators did something with the competencies they brought to teaching. As the questionnaire showed, however, they valued least what their teacher educators actually did to support them in transferring these competencies to teaching. These were competencies acquired in work and particularly in parenting (see in Table 3.4 the averages found on items 6, 10, 1 and 8, two of which are under and two of which are just above the scale middle).

Seven second-career teachers reported that no attention was paid in their ACPs to the transfer of earlier work experiences. The chef de cuisine reported that this was a theme in small peer sessions, but:

> About the transfer, no, actually we didn't talk about that. I think everyone has his own advantages because of his prior experiences, but in our programme we focussed more on the difficulties we experienced.

3.5 The transfer to teaching, a challenging mission

In the two studies reported here, we have examined characteristics of second-career teachers entering alternative certification programmes (ACPs) and the kinds of experiences that shape their transition to teaching. In this final section, we first discuss our findings in light of the evidence available in the literature. Then, we explore their implications for designing and implementing teacher education programmes for second-career teachers. The article concludes with suggestions for further research.

3.5.1 Conclusions

The supervisor study has yielded a typology defining "career changers" as one category of ACP participants with specific backgrounds, motives and images of teaching. In the career-changer study, characteristic learning experiences and learning needs of second-career teachers were identified.

3.5.1.1 How to define career changers to teaching

As shown in Table 3.1, the supervisors interviewed attributed characteristics to second-career teachers distinguishing them markedly from first-career teachers. In addition, their statements allowed us to define recognisable categories among ACP participants. Table 3.2 shows the resulting typology. As the supervisors explained, the differences explicated in this typology are related to second-career teachers' learning needs and learning styles. These findings confirm both the distinct characteristics of ACP participants and the heterogeneity within this group reported in the available research, summarised in section 3.2.

At least in the Netherlands, where this research was carried out, a group of "career changers in a strict sense" could be distinguished from other ACP participants, i.e. candidates aged over 32, having previous careers of at least five years as well as recent work experience outside education. The supervisors in our first study reported that during their transition to teaching, this group of career changers experiences specific challenges in transferring competencies acquired earlier to their new profession. These career changers are defined in Table 3.2 as type 5. These findings can contribute towards arriving at precise definitions of "alternative" candidates and programmes as called for in the literature (Zeichner & Schulte, 2001; Cochran-Smith & Zeichner, 2005). Not all ACP participants are career changers, as Chin & Young (2007) have rightly noted. Our findings have brought us closer to answering the question: "Who are real career changers?" From the typology in Table 3.2, two underlying criteria can be derived that, in terms of backgrounds, may really matter for answering this question: having recent work experience outside education and lacking any kind of teaching experience. Compared to these criteria, other characteristics may be considered of secondary importance, notably age and having non-recent work experience.

3.5.1.2 Relevant aspects of the transition to teaching

The second study reported here was directed at career changers themselves and began by checking if the respondents in our sample matched the characteristics found in the supervisor study. Table 3.3 shows that this match was almost perfect. The respondents in the career-changer study had followed winding roads in their previous careers and lives. They had made a conscious choice to shift their careers towards working with youngsters. Their motives to become teachers were clearly related to their earlier experiences in work and life and influenced the ways in which they became teachers.

The transfer of competencies acquired in earlier careers to the world of teaching was shown to involve a challenging interplay between continuity and change on the six levels of the "onion model" underlying our theoretical framework: environment, behaviour, competencies, beliefs, professional identity and mission. We found five themes to play a significant role in the career changers' transition to teaching: (1) complexity and workload; (2) dealing with groups of adolescents; (3) sharing subject-matter expertise; (4) autonomy and teamwork; and (5) long-standing aspirations.

The complexity of their daily tasks as teachers and the workload the career changers encountered in their new profession (theme 1) confronted them with thorough change at the level of the environment. In particular, their daily rhythms changed and they had to muster considerable flexibility in dealing with unpredictable situations. More than once, they underestimated how demanding

teaching can be. These findings are in line with those reported by Novak & Knowles (1992), Freidus (1994) and Dickar (2005).

Interestingly, theme 2 (dealing with groups of adolescents) placed demands on the career changers in our study, which were at once new and familiar to them. They experienced continuity with their earlier work in the sense that they could transfer complex behaviours and competencies, notably in the form of routines in dealing with groups. In doing so, they resorted to earlier work experiences in teamwork settings. This aspect is also found in earlier research (Freidus and Krasnow, 1991; Mayotte, 2003; Madfes, 1989). At the same time, the intensity of interacting with adolescents generated experiences of change, which had a strong personal impact at the level of identity. Similar findings were reported by Dickar (2005), Freidus (1994) and Novak & Knowles (1992). Despite their outspoken motives to work with and serve fellow human beings, the career changers appeared to a certain degree to experience a "practice shock" as it is known among graduates from regular teacher education programmes (cf. Brouwer & Korthagen, 2005).

With regard to theme 3, our respondents expressed a clear willingness to pass on knowledge and experience acquired in their earlier professions to their pupils. In this way, they could transfer and transform subject-matter expertise in the classroom. Such findings are also reported by Murray (1989). Here, the levels of beliefs and in some cases also of mission, are surfacing.

As regards autonomy and teamwork (theme 4), the respondents in our study experienced both continuity and change, compared to their earlier careers. In the school environment, they found their place in relation to colleagues with relative ease, benefitting from self-confidence developed in their earlier work. In this respect, continuity was found at the levels of environment and behaviour. However, the career changers also reported surprising experiences of change at the level of identity because of the large extent of autonomy allowed to them at work. Even though they knew how to find their way in their schools, they could also feel isolated. Depending on their former work, the feelings involved range from relief to disappointment. These findings confirm those of several other researchers (Resta, Huling & Rainwater, 2001; Murray, 1989; Freidus, 1992 and 1994; Freidus & Krasnow, 1991).

The career changers in our study clearly expressed long-standing aspirations to make socially useful contributions through their work (theme 5). This result confirms findings of Freidus and Krasnow (1991), Gordon (1993) and Resta, Huling and Rainwater (2001). Yet, the feelings of disappointment reported in connection with dealing with adolescents and isolation among colleagues show that changes in the environment negatively affected the continuity they experienced at the level of mission.

All in all, what stands out in the experiences reported by the career changers in our study is not so much pure continuity or change, but rather a mixture of both involving in part an opposition between the two. The transition to teaching experienced by our respondents is dominated by a juxtaposition of feelings of alignment and harmony on the one hand and feelings of discrepancies and tensions on the other. In terms of the onion model, they met with continuity as well as change at both the outer and the inner levels. This partly uneasy coexistence of experiences can also be found in the work of Mayotte (2003).

In the face of these findings, the assumption that career changers participating in ACPs may attain professional teaching competence in abridged time spans becomes even less self-evident than the available research literature already suggests. What this study adds to our knowledge is a specification of challenges posed to career changers as they transition into teaching. These challenges may affect their well-being, their learning and eventually also their professional success as teachers and motivation for the profession.

3.5.2 Implications for alternative certification programmes
If we want to promote retention and professionalism among second-career teachers, how can ACPs support and equip them so as to make their transition to teaching a success? Both Zeichner and Schulte (2001) in their discussion of peer-reviewed research into ACPs and the AERA Panel for Research on Teacher Education (Cochran-Smith & Zeichner, 2005) have called for research-based recommendations on this issue focussing on effective programme features.

3.5.2.1 Admission, intake and advice
First, we found recent work experience outside education and lack of teaching experience appear to be influential characteristics with which career changers enter ACPs, as shown by the typology in Table 3.2. We recommend using these two entry characteristics as criteria for admitting and allocating career changers to tailor-made teacher education programmes, which cater for their specific learning needs. Career changers have become a source of teacher candidates, which is here to stay. This is why in our view, ACPs should make possible more differentiation and flexibility in choosing which types of programmes candidates might best participate in. On the other hand, it might be wise to stimulate candidates without any earlier work experience, independently of age, to participate in regular teacher education programmes or in regular programmes specifically designed for older candidates (cf. the synthesis by Eifler and Potthoff (1998, p. 193).

Once candidates are admitted and allocated on the basis of evidence-based criteria, teacher educators would do well to recognise and take into account more explicitly that career changers face the necessity to traverse, as it were, a

new experiential landscape, replacing old for new horizons. Teacher educators may underestimate how challenging this endeavour is, because they may be inclined to focus, predominantly or even exclusively, on the new horizon, the profession of teaching. However, career changers will, at least during the beginning of their career switch, operate with their earlier experiences in work and life as their main frame of reference. Teacher educators, therefore, should actively show an interest in how career changers' backgrounds, motives and images of teaching shape their transition to teaching and invite them to make explicit links between their earlier and their current experiences.

The processes of negotiation that career changers are engaged in while they move from old to new settings can be supported by ACPs, when they offer candidates opportunities to orient themselves on the specific demands which teaching makes on them. ACPs could devote the first few weeks to such orientation and invite candidates to discover, given their own backgrounds, with which challenges and learning goals teaching confronts them. Simultaneously, person-oriented forms of intake assessment, coupled with advice pointing out knowledge, skills and attitudes to be developed, should enable career changers to decide if teaching is a worthwhile and realistic career perspective for them to pursue.

Instead of a one-shot decision moment, admission to ACPs could become more of a process, in which career changers and teacher educators mutually explicate expectations and cooperate in order to arrive at a well-motivated go or no-go decision. Convincing examples of this approach have been piloted in the Netherlands in ACPs serving steel workers to become teachers in lower secondary occupational schools (Bolhuis, Doornbos & Van Vonderen, 2001) and higher education graduates moving to teaching in general secondary schools (Tigchelaar, 2003).

3.5.2.2 Curriculum and pedagogy

Since adjusting to a new work environment, dealing with groups of adolescents and the other aspects detailed in section 3.4.3 pose particular challenges for career changers, they should be focal points to which ACPs turn their attention in designing, redesigning and implementing ACPs. Quite relevant in this respect is what the career changers whom we interviewed reported as being supportive or less supportive features of their ACPs, while they worked on their transition to teaching. These findings indicate that there was room for improvement. The career changers in our study felt that most gains could be made in addressing specifically how they could transfer competencies acquired during their earlier careers to teaching. A second avenue for improvement suggested by them was taking their backgrounds, motives and images of teaching more into account. While providing such opportunities, teacher educators should be aware of the considerable interindividual variability in how career changers go about their learning. A sensible

ambition to have in this respect is to seek and maintain throughout the ACP a dialogue with every candidate about what is a sensible course to take and what are fruitful activities to engage in. Support of this kind can and should be provided to career changers also in the workplace. We believe that the availability and quality of mentoring, collegial consultation and peer support are important conditions of teacher learning in the workplace (cf. Smith & Ingersoll, 2004 and McCabe, 2004), which are especially important to career changers.

What stands out in the findings of the career-changer study is that during the shift to teaching, experiences of change and continuity are interwoven. Moreover, how these experiences merge with another is recognisably different for each individual teacher candidate. Each person confronts in his or her own way the challenge of fulfilling the social demands and expectations inherent in the teaching profession. This interplay of earlier and new experiences could well provide a leading perspective in programming ACPs for career changers and supporting them in their personal learning trajectories.

3.5.3 Suggestions for further research

Our suggestion that the criteria of recent work experience outside education and lack of teaching experience gleaned from the supervisor study could guide allocation to different kinds of ACPs is a proposition based on a small-scale study. As such, it requires further exploration and testing in other contexts. Another question worthy of research is if and what such allocation criteria might contribute to pinpointing relevant predictors of success in teacher education and in teaching (cf. Ackley et al., 2007).

Important issues for further research are also raised by the career-changer study. There is a real risk that graduates from ACPs may fall victim to the "revolving door effect" pointed out by Ingersoll (2001; cf. also Ingersoll & Smith, 2003). This risk might be aggravated if ACPs do not meet minimal quality standards in the sense that they equip career changers to function as effective teachers. Sufficient starting competence as a programme outcome could well be an influential condition for staying in teaching in the longer run, especially for those participants and graduates who incur losses in salary or other setbacks. From this perspective, it is important to know more about the kinds of experiences that ACP graduates encounter in the course of their further careers as teachers, especially when they span two or more years. Which kinds of environments and experiences in particular promote dropout from the profession and to what extent and in which respects is this undesirable outcome related to features of and deficiencies in teacher education programmes as perceived by career changers?

Longitudinal as well as retrospective follow-up studies can elucidate the issues put forward above. Such research into learning to teach by career changers

should preferably cover all stages in their further careers and attend to turning points between those stages as well as the interplay of personal development and context factors (cf. the plea for an ecological approach made by Chin & Young, 2007).

Finally, the career-changer study illustrates that there is merit in probing the innermost, subjective interpretations accompanying career changers' learning. The onion model is one suitable theoretical framework for taking these into account in studies of teachers' professional competence and motivation. The levels in this model offer teacher educators and researchers a perspective on relevant influences on personal development that might otherwise escape attention.

Chapter 4

Tailor-made: Towards a pedagogy for educating second-career teachers [1]

Abstract

Many countries suffer from teacher shortages. One possible solution to this problem is to recruit second-career teachers. These second-career teachers form an intriguing group. They bring an abundance of previous experiences into a new, professional domain. The purpose of this study is to identify pedagogical principles that support the training of second-career teachers. Special attention is given to the transfer of previous experiences obtained in different professional contexts. The literature on alternative certification programmes is reviewed from a pedagogical perspective. The results indicate that second-career teachers differ from first-career teachers in several respects. These differences appear to be related to their previous experiences. The differences also appear to influence their professional development. The study suggests that a tailor-made pedagogy for second-career teachers is needed, along with certain programme features, which take into account the specific needs of this group of students. Four design principles were identified, i.e.: addressing expectations, addressing challenges related to the transition to teaching, addressing transfer and developing a theory of practice.

4.1 Introduction

There are an increasing number of people being employed as teachers during their careers. This is related to a growing interest in changing careers. Teaching careers and lifelong learning are attracting more and more interest from researchers (e.g. Bakkenes, Vermunt, & Wubbels, 2010). In many countries, teacher shortages form a serious problem (ETUCE, 2001). Therefore, attracting people to become teachers as a subsequent step in their career, is viewed as one possible solution to this problem. In this study, we focus on those professionals who leave a job to become a teacher. They form an intriguing group of new candidates, bringing many previous experiences with them into the teaching profession. What does this mean for their professional development? How do they make the shift into education? How do teacher education programmes adjust themselves to this phenomenon?

Second-career teachers are entering teacher education programmes where new courses have been developed. Over the last decade, the development of flexible, dual routes into teaching has expanded enormously. In these programmes, workplace learning is combined with teacher education programmes. From a pedagogical perspective, dual programmes aim to integrate practical experiences and theoretical insights. Special kinds of dual programming have become alternative certification programmes (ACPs). They have been developed for second-career teachers in order for them to obtain certification within a short period of time (Zeichner, 2001; Zumwalt, 1991, 1996). Programme participants show a great heterogeneity (Feistritzer 2005). They differ in age, life experiences and work experiences and they encounter specific problems (Eifler & Potthoff, 1998). They are adult learners that are making the transfer into teaching; but how do they make this transfer? We know a certain amount about learning from previous experiences, but less is known about learning from experiences, which are not directly related to the domain of teaching. In this study, we want to make a contribution to the development of a pedagogy for educating second-career teachers, particularly in relation to the transfer of previous experiences that have been obtained in another professional context.

4.1.1 Research on alternative certification

Empirical research on alternative certification is gradually growing, especially in the U.S.A. (less so in Europe), where a tradition of two and a half decades of ACPs exists. In this discourse, the following topics can be distinguished: recruitment and retention of participants, effectiveness of programmes – often compared to traditional programmes – and teacher performance (Birkeland & Peske, 2004; Dill, 1996; Zeichner & Schulte, 2001; Zumwalt, 1996). This type of programme became a solution to teacher shortages, because it offered a way to expand a pool of qualified teachers using individuals who might otherwise not have become

teachers. It has been suggested that the principle virtue of ACPs is that they are labour-market sensitive and can be tailored to address specific shortages (Adcock & Mahlios, 2005). There is evidence that ACPs support the need for teachers in specific fields, such as mathematics and science, and in regional shortages in rural and urban schools (Dill, 1996; Shen 1997; Zeichner & Schulte, 2001).

Research has also demonstrated that there are great differences between the programmes – ranging from little more than dressed-up emergency licensing procedures, to programmes that closely resemble more professionally-defensible, one-year masters programmes (Zumwalt, 1991, 1996). Despite these differences, Feistritzer (2005) suggests that ACPs also share a few characteristics. In general, many ACPs require that participants have a bachelor's degree, pass a screening process, begin full-time teaching and engage in on-the-job-training, complete education coursework while simultaneously teaching, work with mentor teachers and meet performance standards.

In addition, Shen and Palmer (2005) show that the drop-out rates among participants of ACPs tend to be high. As several authors, notably Ingersoll (1997,2001), have signalled, a "revolving door effect" is at work, meaning that people who change careers and move into teaching, may disappear from the profession at a future date. Those who enter teaching with little professional preparation have greater difficulties in the classroom and tend to leave teaching at higher rates than those with a substantial professional preparation (Darling-Hammond, Chung & Frelow, 2002). Moore, Birkeland and Peske (2003) suggest that the demands for focussed preparation are even greater for prospective teachers in fast-track programmes than for candidates in traditional programmes. Researchers agree that it is necessary to prepare participants in ACPs to teach using specific methods. What these methods should be depends on what we know about how second-career teachers learn. In their review of the research on alternative certification, Birkeland and Peske (2004) conclude that much of the research on alternative certification "focused on the macro effects of the policy, rather than examining the specifics of the programmes and the participants' experiences" (p.30). They, and others (Wilson, Floden & Ferrini-Mundy, 2001) have called for a better understanding of how alternative certification programmes should be designed and implemented. But what are productive guiding principles for such a design?

4.1.2 Research questions

In this study, we reviewed the literature on ACPs from a pedagogical perspective, i.e., the main purpose of the study was to identify principles that were specifically useful for programming ACPs and guiding the teacher educators' approach within such programmes. We wanted to answer the question: is there a need for

a pedagogy specifically for second-career teachers? First, we focussed on the differences between first-career teachers and second-career teachers, and on possible problems and challenges relating to the learning processes facing second-career teachers. This review was aimed at the following research questions:

1. What are the characteristic differences between first-career trainee teachers and second-career trainee teachers?

2. What are the characteristic problems and challenges faced by second-career trainee teachers?

Research shows great differences between ACPs with only a few sharing some general characteristics. The study by Feistritzer (2005) indicated that there were also great differences in the frequency of the support second-career teachers received. This study revealed that school-based personnel provided the most frequent and helpful support to candidates who followed alternative routes. Freidus (1994) showed that second-career teachers needed as much support as first-career teachers. Therefore, we also decided to focus on the support that second-career trainee teachers perceived they needed. In addition, it is known that second-career teachers often combine full-time positions with alternative teacher education courses. In a study of the strengths and weaknesses of alternative teacher education programmes, introduced in the Netherlands, Brouwer (2007) highlighted the problem that the workload often takes priority over workplace learning. Therefore, we were interested to find out to what extent teacher education programmes succeeded in fostering the learning of this specific group of new teachers. These findings led us to add two more research questions to guide our review:

3. How do second-career teachers perceive the support they are given while in training?

4. In what way is the learning-to-teach process of second-career teachers fostered in alternative certification programmes?

In the following section, we describe the selection of the studies and how we analysed the literature. Then we present the findings on differences between first-career teachers and second-career teachers, the characteristics of second-career teachers who are learning to teach, their perceived support and the fostering of learning. Finally, we report our conclusions, discuss the implications for teacher education and make suggestions for further research.

4.2 Method

4.2.1 Selection of the sources

As a first step in the selection process, we searched the computerized database, Web of Science, to find studies based on empirical research. We composed a list of terms and divided them into four fields: alternative certification in teacher education (field 1); participants (field 2); support (field 3); and learning (field 4). In field 1, we looked for a broad entrance into teacher education and alternative routes, using the following search terms: alternative certification/routes/ programmes, teacher, teacher education and teacher shortage. Field 2 contained a wide range of terms, because we knew, from previous studies on alternative certification that participants in these kinds of programmes were referred to in different ways (Birkeland & Peske, 2004; Dill, 1996; Zeichner & Schulte, 2001). For example, in recruitment programmes, participants were mostly referred to as "non-traditional students". In ACPs, participants were more likely to be referred to as "second-career teachers". Also, terms, such as, "career changers" or "participants or candidates of ACPs" were used. Therefore, in field 2 we used the following terms: participants, candidates, non(-)traditional student, second(-) career, first(-)career, mid(-)career and career change(r). In field 3, we used the following terms: support, needs, mentor, supervision and pedagogy. Finally, in field 4, we used terms referring to the learning process of second-career teachers: previous/previous experiences, professional identity, transfer, transition and learn. Each field functioned as an entrance level, in which each term was combined with each term from the other fields.

For example, one of the terms from field 1 was "teacher education" (teach* educat*). This yielded 31,285 hits (#). First, we combined these results with: second AND career (#55). Second, we combined the results (teach* educat* #31,285) with non-traditional (#23), third, with non-traditional (#63), previous experiences (#63), previous experiences (#108), and so on, with the terms of the other fields.

4.2.2 Criteria for selection

In relation to time, we limited the search to1996–2007 (July) since the study by Dill (1996) provided information about the research on alternative certification, until 1996.

Shen (1997) and Eifler and Potthoff (1998) showed that the group of ACP participants was heterogeneous in previous experiences and backgrounds. In a large-scale study (N=47,105), Shen (1997) compared the characteristics of teachers who had been prepared to teach through traditional college-based programmes with those teachers who had been prepared through alternative

routes. The main activities of alternative certification candidates, before entering teaching, were a surprise: "51 percent came right out of college, another (nearly) 24 percent already held teaching or education-related positions, and only (just over) 22 percent came from occupations other than education" (p.279). Eifler and Potthoff (1998) highlighted the same problem in a slightly different way. They stated that the meaning of "non-traditional teacher candidate" needed more clarity for shared understanding. In an exploratory study (Tigchelaar, Brouwer & Korthagen, 2008), we found that participants in ACPs could be categorized into five types: regular teacher education student (without work experience); parent (without any or without recent work experience); reintegrating employee (with non-recent work experience); employee with teaching expertise (with work experience and competence in teaching) and employee from a different sector (with recent work experience, but not in education). In this study, we decided to focus on the last type, the career changer who was interested, as we were, in the transfer of previous experiences from another professional domain. Consequently, only studies were selected in which the respondents had a previous career in a different sector (described in the method section or in the result section of the articles). For that reason, for example, we did not select for our database, the abovementioned synthesis of the literature on the characteristics and needs of older students by Eifler and Potthoff (1998), or the comparative study of Miller, McKenna and McKenna (1998).

   The first search resulted in a list of 12 studies. In addition, we studied the indices (1997–2007) of three journals not included in the Web of Science corps, but containing research reports relevant to our review questions. First, we focussed on the Journal of Science Teacher Education and the Journal of Mathematics Teacher Education, because we knew that in these subject fields, teacher shortages were a serious problem. Next, we studied the European Journal of Teacher Education in order to include European research on alternative certification and second-career teachers. This step revealed three, new relevant studies.

   Subsequently, we checked the references of the studies that had been found. As we found new relevant studies, some of them published before 1996, we decided to include these studies also, although they were not all peer reviewed. We did so because the number of studies in which second-career teachers were distinguished, appeared to be small. As a final check, we retrieved the citations of all the studies found, both in Web of Science and through Google Scholar. The search eventually resulted in a data base of 36 relevant studies (see Appendix).

4.2.3 Analysis

We summarized the studies in the database using a range of characteristics: facts (author, title, year of publication, number of times cited); purpose of the study; theoretical perspective; methodology and findings. This resulted in an alphabetically-ranked table of all 36 studies. The Appendix contains a résumé of the purpose, participants and main findings. Most of the studies were exploratory, qualitative case studies. The results sections of all the studies were analysed regarding the differences between first-career teachers and second-career teachers (research question 1), characteristics of second-career teachers' learning (research question 2), perceived support (research question 3) and the fostering of learning (research question 4). This bottom-up analysis concluded with four sets of findings. Through discussion with several researchers, main categories were identified within every set. In the following section, we report the results for each research question.

4.3 Results

4.3.1 Differences between first-career and second-career teachers

Five studies, comparing first-career teachers and second-career teachers were analysed. Bendixen-Noe and Redick (1995), examined the career development of both groups and revealed quite different patterns in how the two groups (N=430, N=430) acquired the appropriate education to be eligible to enter into teaching. Also, Gonzales Rodriguez and Sjostrom (1998) demonstrated marked differences in the developmental process of becoming a teacher by comparing the professional beliefs and teaching behaviour of 27 traditional and 18 non-traditional adult teacher candidates. Powell (1992), studying the influence of previous experiences on personal constructs, found these to be an important influence on lesson planning and teaching. These findings were confirmed in a case study (N=2) by the same author (Powell, 1997). Finally, Dickar (2005) focussed on differences in levels of success. The career changers involved (N=26) appeared to congregate at the ends of the performance spectrum, ranging from "exceeding expectation" to "below expectation", whereas recent college graduates (N=30) tended to be more evenly distributed across the spectrum.

  The five comparative studies pointed to distinct differences between both groups in their professional development. The following four categories of differences emerged from these studies: motives; skills; knowledge and beliefs and autonomy. Apart from the comparative studies mentioned above, other studies in the database endorsed these categories, as is reported below.

4.3.1.1 Motives

Gonzales, Rodriguez and Sjostrom (1998) found differences between both groups in the motivational process of becoming a teacher. Most of the non-traditional students involved were convinced they wanted to teach after a week in the teacher education programme. In contrast, the majority of the traditional candidates expressed doubts at that point.

Other studies provided more information about these differences. Second-career teachers were shown to bring a more articulated, intrinsic motivation derived from their previous experiences (Chambers, 2002; Crow, Levine & Nager, 1990; Dietrich & Panton, 1996; Freidus & Krasnow, 1991; Serow & Forrest, 1994). A sense of mission was evident, first in terms of a desire to pass on knowledge about subject matter (Bullough & Knowles, 1990; Proweller & Mitchener, 2004). The participant in the study by Bullough and Knowles (1990), for example, wanted to continue his long and loving association with science. Second-career changers articulated a commitment in terms of love for children or helping young people (Chambers, 2002; Dietrich & Panton, 1996; Powers, 2002; Schwab, 2002). Finally, Dietrich and Panton (1996) and Richardson and Watt (2005) showed that intrinsic motivation was also expressed as wanting to contribute to society.

4.3.1.2 Skills

Authors of six studies agreed that the career changers they studied drew on valuable, transferable skills and complex routines developed during their previous careers (Chambers, 2002; Crow Levine & Nager, 1990; Freidus & Krasnow, 1991; Madfes, 1989; Mayotte, 2003; Novak & Knowles, 1992; Schwab, 2002), whereas first-career teachers still had to develop skills and build up certain routines. The transferable skills mentioned in the studies involved were: communication skills, skills in problem solving and negotiation, coping skills, planning skills, managing skills, technical skills, skills in curriculum design and thinking skills.

Mayotte (2003) examined second-career teachers' (N=4) recognition of competencies and attitudes developed within their previous careers and their transfer to teaching. This study showed the complexity in the transfer of competencies. On the one hand, competencies appeared to be very personal, detailed and directly related to previous work settings. For example, a former employee in the publishing business mentioned "knowing how to find a subtext of a work of literature" (p. 688). On the other hand, the participants described the skills as rather complex routines. For example: "Working as a staff psychologist, I was basically responsible for a group of people […] I pretty much had to wing it and found that that is something I'm pretty good at. Kind of thinking on the fly and this whole concept of multidimensional thinking […]. And I think the same is true with teaching" (p. 689).

4.3.1.2 Knowledge and beliefs

Shulman (1986) has described four major sources for the knowledge base of teachers. The last of these was "the wisdom of practice itself" (p. 8). In this respect, second- career teachers were shown to differ from first-career teachers, due to their previous work experiences. Five studies demonstrated differences in practical wisdom and beliefs.

Second-career teachers brought practical expertise into the classroom (Chambers, 2002; Novak & Knowles, 1992; Schwab, 2002). Schwab, for example, found second-career teachers introducing expert knowledge into the classroom: "When there was a direct connection between previous work experiences and the participants' teaching field, the experience added a special beneficial dimension to their teaching. They were able to share with students concrete examples of why various concepts were important in the world outside the classroom" (p.148). In the study by Chambers (2002) on the attractions in teaching for career changers, the ten respondents emphasized another interesting aspect: the importance of helping students understand the real world application of the school subject at hand. One of the participants stated: "It is not what you do inside the classroom. It's what you do when you leave the classroom" (p. 4).

Second, career changers appeared to be more outspoken in their beliefs about teaching and the value of education in students' lives than first-career teachers (Chambers, 2002; Greenwood, 2003; Powell, 1992). In a comparative study, Powell (1992) showed that the traditional preservice teachers, who he had studied, needed assistance in developing and articulating their beliefs about teaching, whereas the non-traditional students were outspoken in their beliefs.

4.3.1.3 Autonomy

Three studies showed that in learning to teach and while functioning within the school, second-career teachers showed more autonomy than first career teachers (Bendixen-Noe & Redick, 1995; Dickar, 2005; Gonzales Rodriguez & Sjostrom, 1998). This autonomy appeared to have three aspects: self-responsibility in learning and awareness of being an employee in an organization.

Bendixen-Noe and Redick (1995) found in their comparative, quantitative study that second-career teachers exhibited self-confidence in their goals, capabilities and desire to teach. Compared to first-career teachers, they had fewer self concerns and showed responsibility in learning and teaching. In addition, Dickar (2005) revealed that first-career teachers struggled with taking on authority, whereas second-career teachers did not.

These results were confirmed by Gonzales Rodriguez and Sjostrom (1998). The second-career teachers they studied were more self-initiating and self-confident about goals and capabilities than first-career teachers. Moreover, they were more aware of the social, cultural and political consequences of their behaviour.

The differences between first- and second-career teachers are summarized in Table 4.1.

Table 4.1

Summary of differences between second-career teachers and first-career teachers

Categories	First-career teachers	Second-career teachers

Motives	Developing motivation	Being strongly motivated
		    to pass on (subject) expertise
		    to help young people
		    to make a contribution to society

Skills	Developing skills	Bringing transferable skills, which are personal and related to previous careers, either very detailed or complex routines.
		    communication skills
		    skills in problem solving
		    skills in negotiation
		    coping skills
		    planning skills
		    managing skills
		    technical skills
		    skills in curriculum design
		    thinking skills

Knowledge and beliefs	Developing practical expertise and beliefs	Bringing
		    practical expertise
		    real-world applications
		Having strongly developed beliefs about
		    teaching
		    the value of education in students' lives

Autonomy	Less autonomous	Autonomous learners
		    self-responsible
		    awareness of being an employee in an organization

4.3.2 Challenges in professional development

Concerning the characteristics of second-career teachers who are learning to teach, the relevant studies revealed five possible, underlying challenges in their professional development: motivation and reality, the transferability of skills and routines; linking practical experiences to the classroom; beliefs and change and autonomy and adaptation.

4.3.2.1 The challenge of motivation and reality

Five studies in the database focussed on second-career teachers' motives and their decisions to enter teaching. Three of these studies developed profiles based on differences in motivation (Chin & Young, 2007; Crow, Levine & Nager, 1990; Richardson & Watt, 2005). In these studies, the picture of the career changer having a strong intrinsic motivation and a sense of mission, was confirmed and refined. Yet, Schwab (2002) described, in an exploratory study, the "tremendous culture shock" (p.165) that twelve second-career teachers had experienced. Despite deep-rooted motivations, the participants in this study had to face the gap between their motives, ideals and reality. This culture shock was confirmed by four other studies, describing students' survival during the first months of training and their feelings of frustration (Bullough & Knowles, 1990; Crow, Levine & Nager, 1990; Novak & Knowles, 1992; Powers, 2002).

At the same time, three studies (Crow, Levine & Nager, 1990; Dietrich & Panton, 1996; Richardson & Watt, 2005) showed second-career teachers' motivation for teaching could also be based on external reasons rather than intrinsic motives. Examples of external reasons were career advancement, burnout in a persons' current career and job security. Two studies suggested there was a relationship between motivation and success. For example, Crow, Levine and Nager (1990), studying career changers' motives (N=15), during their transition to teaching, found a small, problematic group of second-career teachers: the "unconverted" individuals who had achieved high status in other occupations and whose decision to become a teachers was based on dissatisfaction with aspects of their previous business careers and a broad, somewhat vague interest in education. These candidates did not express an initial commitment to a teaching career and they soon appeared to become disenchanted. In addition, Dickar (2005) showed that a strong motive and previous professional success were strong indicators of who was going to be successful amongst the career changers. Eight of the eleven career changers involved in her study were attracted to the programme because of past employment problems, rather than due to positive aspects of teaching; and they were performing below expectation.

4.3.2.2 The challenge of the transferability of skills

In their review, Eifler and Pothoff (1998) stated that the skills, which second-career teachers brought from previous careers, might not be the same skills necessary for successful teaching. In this respect, the studies in our database revealed mixed findings. Second-career teachers were shown to bring various valuable transferable skills, which were personal in nature and were particularly related to their previous careers. Five other studies showed that transferring skills into teaching was not an automatic process. Different experiences of transfer were reported, ranging from successful to unsuccessful practices. In the study by Novak and Knowles (1992), who were investigating computer use among beginning elementary teachers at the outset of their training (N=4), this range was explicitly shown. Whereas Lilian, a former school secretary, reported a successful transfer: "I had many opportunities to hone my skills in communicating with kids," Michael, who used to work in a metal shop, stated: "These interactions were always one to one, not like the complex interplay of goings-on that occurs in classrooms" (p.30). The other second-career teachers involved in this study felt able to handle some of the demands of teaching by drawing on skills developed during their previous careers, but only to a small extent. For example, all of them had previous experience in using computers, before entering their classrooms. Computer use in previous careers, however, was typically of a kind that was very specific to that job or business and did not relate to using computers with students.

Freidus and Krasnow (1991), characterizing second-career teachers' qualities and perceptions (N=20), showed that participants realized they brought valuable skills with them from their previous careers. At the same time, participants did not intuitively understand how to translate these into effective classroom practice. Mayotte (2003), in contrast, found that competencies developed in one organization were readily available and applicable to another. The four novice second-career teachers in this study named competencies developed in their previous careers that benefited their teaching, including "knowing-why, knowing-how and knowing-whom competencies".

Finally, Schwab (2002) and Dickar (2005) studied second-career teachers' inflexibility in terms of continuously repeating familiar, traditional strategies. The two teacher educators involved in Schwab's study (2002), signalled that career changers frequently fell victim to the familiarity pitfall of over-using traditional strategies, such as lecture and recitation. In addition, the participants in Dickar's study (2005) found themselves unable to implement a literacy programme existing of a reading and writing workshop. They kept focusing on grammar drills and aspects of teaching English that were more familiar to them.

4.3.2.3 The challenge of linking practical expertise to the classroom

Second-career teachers were shown to bring practical expertise into the classroom. However, six studies showed mixed results in the benefit of this for the teaching practice of the second-career teachers. Sometimes, linking previous experiences and actual experiences was shown to be problematic. Three studies suggested that this was due to the influence of the school culture. The other three studies revealed a possible lack of pedagogical knowledge by the candidates.

Powell's study (1997) suggested that extensive work experience had not necessarily helped the second-career teachers to create and implement conceptually-rich teaching – probably due to the conventional school culture. However, opposing evidence was discovered by Proweller and Mitchener (2004) who investigated second-career teachers' professional identity (N=15). They found that out of varied professional experiences within science and related fields, second-career teachers began to "craft linkages between their own personal and professional experiences with and relationships to science and interactions with their students that helped them begin to shape a visionary orientation towards science learning" (p. 1056).

Next, second-career teachers did not necessarily apply the content knowledge of their former careers to teaching, as found by Madfes (1989). In addition, Schwab (2002) described how second-career teachers believed that their subject-matter expertise was, to some extent, a compensating strength while acquiring the necessary pedagogical skills. One of the respondents sighed: "I do think deep knowledge of the subject area, particularly at the high school level, is a great advantage" (p. 150). Despite the general endorsement of the important role of subject-matter expertise in the induction process, one respondent stated that it could be a double-edged sword: "I've found on the job that it doesn't matter how much you know about the subject matter. If you don't have the right tools to teach it, you're fighting a losing battle" (p. 150).

Jenne (1997), studying the educational perspectives and career attractions of second-career teachers with previous military experience (N=4). This study found that the participants relied on personal life experiences, rather than content or professional education preparation, as the primary knowledge base for their teaching. This study assumed the transfer of previous experiences led to the appearance of a smooth and seemingly unproblematic transition from a previous career to a career in teaching. However, the participants had only mastered the "form" of teaching while remaining ignorant about the substantive issues of teaching and learning.

4.3.2.4 The challenge of strong beliefs and change

Second-career teachers were shown to have strong, developed conceptions and personal beliefs by virtue of their previous experiences. Four studies reported on different characteristics of these conceptions and eight studies found mixed results in their benefits to the novice teachers' professional development.

The studies by Gomez, Walker and Page (2000) and Powell (1992) revealed the influence of personal life experience on second-career teachers' beliefs. Bullough and Knowles (1990; 1991), Powell (1996), Proweler and Mitchener (2004) and Koballa, Glynn, Upson and Coleman (2005) found an important relationship between teachers' personal belief systems about teaching and learning and the nature of their classroom teaching. Koballa et al. (2005) determined how second-career teachers' conceptions of teaching science influenced their classroom practices. They distinguished the following beliefs as prominent in the participants' conception of teaching science (N=3): the control of the lesson content; whether student learning should be active or passive; the role of the learners' existing science conceptions and the expected outcomes of the instructional process. In the case study by Greenwood (2003) describing the science practice of three second-career teachers, two participants, aged over 40 years, had strong, developed conceptions of science because of their previous work. One participant, on the other hand, in his late twenties, did not seem to have developed a conception of science beyond his own classroom experiences. These findings are, in a slightly different way, confirmed by Dickar (2005), who found that older participants were less open to change their attitudes. In other studies this problem of change was also demonstrated. The respondents in the studies of Koballa et al. (2005), Powell (1994), and Bullough and Knowles (1990, 1991) firmly held their personal world views and conceptions of teaching during their first years of teaching. On the other hand, Bennett (1991) showed in her study on the Teacher as Decision Maker Program, that career changers developed schematic conceptions of teaching that integrated work schemata, developed in previous careers, with pedagogical schemata. Most second-career teachers in this study held naïve and idealistic preconceptions of teaching that were rapidly transformed to a more theoretical and practical view.

4.3.2.5 The challenge of autonomy and adaptation

The studies involved in this review portrayed second-career teachers as autonomous learners (Gonzales Rodriguez & Sjostrom, 1998), consistently using a see-plan-act sequence (Cole White, 2002). However, the other side of this autonomy appeared to be the struggle to become accustomed to the school culture, the workloads overriding the process of learning-to-teach and dealing with the novice status.

To begin with, four studies reported on second-career teachers' struggle in "adapting to a school culture". Dickar (2005), Haggard, Slostad and Winterton (2006), Madfes (1989) and Powell (1994) described the feelings of frustration that second-career teachers experienced at being confronted with the bureaucratic hierarchy in a school. In Powell's (1994) case study of Dan, a second-career teacher, who had been a hydro geologist for six years in an international science corporation, Dan's feelings of frustration were apparent. Dan had assumed that the freedom and autonomy he had enjoyed as a scientist would remain with him as a science teacher. In reality however, he was confronted with a bureaucratic hierarchy and power distributions within a public school.

In addition, three studies highlighted the problem of workload overriding the process of learning (Bullough & Knowles, 1990; Powell, 1994; Powers, 1992). The participants involved in these studies were often "forced" by family and financial circumstances to enter teaching and teacher education programmes while occupying full-time employment.

Finally, two studies highlighted the struggle of being a novice after having developed successful careers in another profession (Crow, Levine & Nager, 1990; Mayotte, 2003). Age, appeared to be a mixed blessing. On the one hand, it seemed to afford teacher candidates respect from students. On the other hand, older, second-career teachers were not always recognized as novices (Crow, Levine & Nager, 1990). These researchers found that career changers, who perceived continuity between past skills and present demands, were more likely to negotiate the novice role more successfully than those who emphasized a disparity between the past and the present.

In Table 4.2, the described challenges of professional development are related to the characteristics of second-career teachers from Table 4.1.

Table 4.2

Challenges of professional development related to characteristics of second-career teachers

Categories	Characteristics of second-career teachers	Challenges of professional development

Motives	Being strongly motivated
	    to pass on (subject) expertise
	    to help young people
	    to make a contribution to society
		The challenge of motivation and reality:
		        second-career teachers' reality shock: facing the gap between ideals and reality
		        motivation as a possible indicator for failure or success

Skills	Bringing transferable skills, which are personal and related to previous careers, either very detailed or complex routines.	The challenge of the transferability of skills
		        experiences range from successful transfers to no transfer
		        inflexibility: repeating familiar traditional strategies

Knowledge	Bringing
	        practical expertise
	        real-world applications
		The challenge of linking practical expertise to the classroom
		        school culture as an impeding or enriching factor
		        the influence of pedagogical knowledge

Beliefs	Having strongly developed beliefs about
	        teaching
	        the value of education in students' lives
		The challenge of beliefs and change
		        possible relation between age and strong beliefs
		        strong beliefs, based on personal and professional experience, were apparently hard to change

Learning	Autonomous learners
	        are self-responsible
	        are aware of being an employee in an organization
	        collaborate in professional relationships
		The challenge of autonomy and adaptation
		Struggling with
		        adapting to the school culture
		        workload
		        novice status

4.3.3 Perceived support

In their conclusions, several authors expressed a range of suggestions to ensure better support for second-career teachers. However, the sources in our data base revealed little empirical evidence about how second-career teachers themselves perceived and experienced such support. We found six studies (Cole White, 2002; Jorissen, 2002, 2003; Koballa, Upson, Mechew & Glynn, 2006; Mayotte, 2003; Schwab, 2002) in which second-career teachers mentioned five sources of support: the school mentor, the principal, the teacher educator, the cohort members and the family.

4.3.3.1 The school mentor

First, the mentor, being an experienced veteran teacher in the school, was mentioned by the participants in four studies (Jorissen, 2002, 2003; Koballa et al. 2006; Mayotte, 2003; Schwab 2002). Here, the picture of the mentor arose as the "heart and soul" of alternative certification programmes. Jorissen (2003) for example, investigated the perceptions of six elementary teachers during their induction into teaching, six years after they had received their initial teaching qualifications. The participants reported different contributions of the school mentor's support to their learning process: development of competence and identity through improvement of teaching performance, the promotion of personal and professional well-being and socialization into the institutional culture. An important result was that the second-career changers also saw the mentor as a facilitator of the transfer of knowledge from the college components of their alternative teacher education programmes. The participants in another study by Jorissen (2002) and Mayotte (2003) confirmed the importance of the role played by the experienced teacher mentor, but in an opposing way. These respondents reported a lack of support from their mentors. In addition, Mayotte (2003) found an interesting difference between two mid-career changers and two younger career switchers. In this study, the older participants did not perceive the support, provided to them at their respective schools, to be adequate, whereas the two younger participants acknowledged a greater satisfaction.

The importance of the mentor was confirmed by Koballa et al. (2006), who explored the conceptions of school-based mentoring held by mentoring pairs (N=6), consisting of a beginning second-career science teacher and a mentor. In this study, three conceptions were found, which provided insights into the nature of the mentor's role, the mentoring context and the outcomes associated with mentoring. Apprenticeship was the dominant conception, in which the role of the mentor was that of a model, guide and leader – with an emphasis on advising. The outcome was a teacher who improved significantly in specific areas, such as classroom management. The next dominant conception was personal support. In

this conception, the mentor was considered to be an advocate, counsellor and champion. This support functioned best when the classrooms of the new teacher and mentor were in close, physical proximity. The outcome was a teacher who felt better about himself both as a teacher and a person. In the least dominant conception, co-learning, mentoring was viewed as a collaborative partnership, where the second-career teacher and mentor brought different kinds of knowledge to the mentoring relationship and both grew in their understanding of their teaching practice. The outcome was a beginning teacher who felt empowered and who had developed broad-based understandings of teaching and learning.

4.3.3.2 The principal

The studies by Cole White (2002) and Jorissen (2002) showed that the support from the principal was particularly important for second-career teachers. First, participants in both studies reported the significance of the time release opportunities that they received from their principals – for example, to attend seminars, to visit other schools or to observe lessons from colleagues. Second, they mentioned the value of the school climate that was created by the principal. Principals providing a professional-growth environment functioned as leaders and guides for the participants in their professional development. The participants in Jorissen's study also reported the active support they received from their principals in overcoming resistance that they had experienced from parents and colleagues. Finally, Cole White (2002) explored the experiences of beginning minority teachers who had experienced previous careers as paraeducators. The participants in this study (N=5) reported that their principals had provided them with financial support, such as information about financial resources or paid employment following a period of internship.

4.3.3.3 The teacher educator

The teacher educator was mentioned in two studies, as another source of support (Jorissen, 2003; Powell, 1992) and as a role model for second-career teachers. Powell (1992) showed that the participants involved were primarily influenced by teacher education sessions on professional pedagogical knowledge. The career changers, for example, often referred to the principles of teaching and learning given to them in their teacher education course work. In addition, Jorissen (2003) showed that the six second-career teachers involved in the study, reported on the support they received from the teacher education programme staff and how they functioned as role models for them. The participants stated that they learned a lot when they were taught by teachers who were employing best practice in their own teaching strategies. One of the career changers stated: "The professors seemed to be modelling what they expected us to do. In addition to teaching us what was

in the curriculum, they tended to model. Like when they wanted to teach you about students constructing their own knowledge, instead of telling us what was up, they tried to pry it out of us" (p. 45).

4.3.3.4 The cohort members

Jorissen (2003) and Rintell and Pierce (2003) showed how cohort members functioned as a source of support in second-career teachers' professional development. Rintell and Pierce, investigating the experiences of paraeducators becoming teachers (N=15), even noticed that the participants perceived their cohort members as a "second family" (p.10). The support of the cohort was described by all of the participants in Jorissen's study as "the most important as far as developing a sense of collegiality" (p.47). Both studies showed that, for the members of alternate route programmes, a cohort model that brought the members of the cohort together became a powerful aspect of their teacher preparation programme and it reduced their isolation. The second-career teachers, involved in both studies, developed trusting, collegial and personal relationships with each other, respecting individual differences and taking pride in their identity as a group. In addition to socializing, the cohort also served as a source of strength for its members in difficult times, and thus acted as an influencing factor for each of them in the completion of the programme.

4.3.3.5 Family

Finally, two studies underlined the particularly stressful situation of career changers having to combine three distinct "lives": working in schools, participating in the teacher education programme, and being a parent at home (Cole White, 2002; Rintell and Pierce, 2003). The five participants in Cole White's study showed how their immediate family provided a wide range of support. The participants' spouses, mothers, sisters and cousins, for example, were "sources of never ending wisdom, encouragement, and running interference when necessary" (p.133). In addition, Rintell and Pierce (2003) described the role of the family as one of the "keys to success" (p.11). In Table 4.3, we summarize the main sources and characteristic of support as perceived by second-career teachers.

Table 4.3

Sources and characteristics of support as perceived by second-career teachers

Sources of perceived support	Characteristics of perceived support
School mentor	Being an experienced, older teacher
	Facilitator of the transfer of knowledge from teacher education
	Aspects of the school mentor's role
	learning in apprenticeship
	giving personal support
	creating co-learning
Principals	Financial support
	Providing release time
	Providing a professional growth environment
Teacher educators	Model in teaching
Cohort members	Emotional support
	Collegial perspective
	A sense of professional community
Family	Providing a wide range of personal support

4.3.4 Fostering learning

Only a small number of the studies involved in this review described findings about ways of fostering second-career teachers' learning. Three studies focussed on programme characteristics and programme development in alternative routes (Bennett, 1991; Bolhuis, 2002; Haggard et al., 2006). One study (Schwab, 2002) explored patterns of practice supporting the induction process of second-career teachers in a large, suburban school district. From these studies we derived four pedagogical tendencies in fostering the learning of second-career teachers.

4.3.4.1 Advanced and tailored preparation

Bennett (1991), who described the development of a graduate teacher education programme for career changers (N=12), showed that preparation in advance, tailored to the learning needs of second-career teachers, could be effective for the learning process. During the first summer of the alternative route described in this study, the second-career teachers completed course work that focussed on special themes, for example on the nature of middle school and secondary school learners, teaching and learning styles and alternative conceptions of intelligence. Also, case studies were used to develop problem-solving and decision-making skills related to middle and secondary school classrooms. An educational laboratory was

integrated into the course work, containing a microteaching laboratory to develop instructional decision-making skills and a one-week workshop on computers in education was organized. The findings showed that a major cognitive restructuring occurred during this practicum school experience, prior to teaching.

In a different way, this was confirmed by the study by Haggard et al. (2006), updating and revising a teacher education programme. The career changers involved (N=24) "overwhelmingly requested more clinical field experiences. One student stated: 'Even though I was working full time, I would have liked to have some observation hours previous to student teaching'…" (p. 324).

4.3.4.2 Taking into account special needs

The study by Schwab (2002) pointed out the importance of taking into account specific second-career teachers' learning needs. Schwab first showed that the administrators organizing the programme emphasized the importance of setting career changers apart – as a group with specific needs – in order to promote retention. One of the participants stated: "I think one of the biggest strengths of the programme is providing flexibility from school to school and from individual to individual while maintaining an overall framework for the school district" (p.115). In addition, administrators, attempting to meet the specific needs of second-career teachers, were shown to influence them in positive ways. For example, they provided a similar kind of support that graduates from regular teacher education programmes received.

4.3.4.3 Integrating previous career experiences with new experiences

Two studies suggested that integrating previous career experiences with new experiences had a positive influence on second-career teachers' learning. In research by Bolhuis (2002), for example, three alternative programmes for second career-teachers were analysed and compared; here, workplace learning was implemented as the main principle. This study showed an important difference in approach between two alternative routes, the so-called "side-entry" route, and the "artisan" route. In these routes, the teacher educators involved were not fully prepared to deal with participants' previous experiences. The starting point for them was the second-career teachers' perceived lack of competencies. The approach to the teacher educators in the artisan route was shown to be more effective. The artisans were approached as experts wanting to develop an interesting career. The competencies they brought were seen as a starting point in their professional development, which had a positive influence on their learning. From another point of view, Bennett (1991) showed that the use of research

tools, some of which aimed to make previous experiences and conceptions explicit, helped second-career teachers chart their process of socialization into the teaching profession by connecting with previous experiences. The career-changers developed schematic conceptions of teaching that integrated work schemata, developed in previous careers, with pedagogical schemata, developed in the alternative programme. Although Mayotte's study (2003) did not describe or evaluate a programme , it did refer to an interesting framework, which might be helpful in building upon previous competencies during second-career teachers' transition to teaching and their professional development in the new profession.

4.3.4.4 Integrating theory and practice

The participants in Schwab's study (2002) agreed that second-career teachers' had a clear set of needs, which aimed to forge tighter relationships between university educators and school practitioners. One of the participants stated: "We sat down and brainstormed ways that the partnership could work and ways to blend the theoretical perspective with the practical aspects of the profession. Mentor coordinator training conducted by university personnel and a fall behaviour management workshop for new teachers, were two important by-products of the strengthened relationship" (p.117). In addition, this study pointed out that a special, formal mentor training programme, aimed at mentors of second-career teachers – specifying responsibilities for all members of the mentoring team and supported by financial and time resources – was regarded as essential to the successful induction of second-career teachers. One of the professors of education involved emphasized the way in which the district's mentoring programme, for which he served as an advisor and consultant, was training experienced teachers to do things that, in the past, would have been done by university faculty and student teaching staff. One university professor stated that "the key for any alternative certification programme to work is going to be how good the mentoring system is" (p.104). Veteran teachers, as mentors, were shown to provide second-career teachers in-depth teacher educational experiences and meaningful learning.

The study by Bolhuis (2002) confirmed these findings, albeit in a slightly different way. Here, a difference was reported between the "side-entry" route and the "artisan" route. Only in the latter route did the mentors, the second-career teachers and the teacher educators work in "partnership", meaning that there was frequent interaction between school, teacher and institute about these particular participants. This provided the second-career teachers with an opportunity to integrate school experiences and their learning within the institute.

Table 4.4 summarizes the four pedagogical tendencies, examples and possible effects.

Table 4.4
Fostering learning

Pedagogical tendencies	Examples and possible effects
Tailored preparation in advance	Course work on special themes Using cases Clinical experiences Possible effect: cognitive restructuring
Taking into account special needs	Setting second-career teachers apart as a group with specific needs Differentiating individual needs Possible effect: preventing retention
Integrating previous career experiences with new experiences	Earlier competencies as a starting point Possible effect: continuous professional development Using research tools aimed at integration Possible effect: developing rich pedagogical schemata
Integrating theory and practice	Tight relationships between university educators and school practitioners Mentor training Possible effect: in-depth teacher education experiences and meaningful learning

4.4 Conclusions and recommendations

The overall aim of this review was to contribute towards the development of a pedagogy for educating second-career teachers, especially in relation to the transfer of previous experiences obtained in different professional contexts. The review was restricted to second-career teachers (defined by tight criteria) and based on, mainly qualitative, studies. The findings confirmed and refined earlier research. Second-career teachers appeared to differ from first-career teachers in several respects. These differences related to their previous experiences and influenced their professional development. Second-career teachers faced specific problems and challenges (cf. Eiffler & Potthoff, 1998). Concerning the support they perceived to receive and what fostered their learning, the results suggest that, in addition to certain programme features (cf. Feistritzer, 2005), a tailor-made pedagogy for second-career teachers (taking into account their specific needs) is needed. Four design principles for such a pedagogy were derived from the findings of this review and are discussed in the conclusions below: addressing expectations, addressing challenges of the transition to teaching, addressing transfer and developing a theory of practice.

4.4.1 Addressing expectations

Second-career teachers appeared to bring to the learning process a strong work ethic and a desire to serve fellow human beings. Despite their motivational strength, second-career teachers experienced a practice shock – a phenomenon known amongby graduates from regular teacher education programmes (cf. Brouwer & Korthagen, 2005). Second-career teachers' practice shock was shown to be like a "realityshock" (cf. Schwab, 2002) where their expectations collided with the reality of the classroom. These expectations were influenced by a strong and deep motivation and the life-changing decision to learn to teach, which had been made, often in specific financial and family circumstances. Moreover, the assets, which second-career teachers were said to bring to teaching, for example, particular skills and practical expertise affected the high expectations.

All in all, these findings indicate the necessity to carefully address second-career teachers' expectations. One way might be to further develop the induction periods of teacher educating programmes. Before an immersion into practice, second-career teachers should be enabled to orient themselves on the specific demands that teaching expects. In certain respects, the studies by Wilson, Floden and Ferrini-Mundy (2002) and Brouwer (2007) confirm this. They concluded that one of the features of high quality alternative certification programmes was a frequent, substantial evaluation and practice in lesson planning and teaching in advance, as a first step in teacher education programmes.

Another way of addressing expectations might be to support second-career teachers' process of decision-making. This review indicated that second-career teachers' decisions to become teachers were made before entering teacher education programmes. In this process of decision-making, strong motives, and rather idealistic images of the profession, appeared to play an important role. Therefore, it would be beneficial if teacher educators could develop individually-orientated induction procedures where second-career teachers are enabled to decide if teaching is a worthwhile and realistic career for them to pursue. Participation in real school activities could be part of such an induction. In this respect, the study by Dieterich and Panton (1996) suggested that specific advising strategies, as used by career-changer counsellors, could help address second-career teachers' expectations and ambitions in the initial training period. One of the strategies described involves exploring the new profession in real settings.

Addressing expectations during an orientation or induction period might diminish second-career teachers' culture shock, feelings of disenchantment and accompanying obstacles in workplace learning. Therefore, it would be useful if teacher educators could develop these activities in cooperation with schools. This would enable the teacher educators and the schools to develop better

understandings of second-career teachers' previous experiences. In the next two sections, we describe the pedagogical implications of taking these previous experiences into account.

4.4.2 Addressing challenges of the transition to teaching

Several studies involved in this review revealed that second-career teachers had developed strong beliefs about teaching and the value of education in students' lives. These beliefs were based on personal and professional experiences and had a strong impact on teacher behaviour and instructional management. Sometimes, they appeared hard to change. Also, adjusting to the school culture posed particular challenges to second-career teachers. These findings provide the empirical evidence for setting second-career teachers apart, as a group, with their own assets and needs in relation to the transition to teaching. Addressing the challenges of this transition implies that tailor-made programmes are needed. According to the findings in this review, teacher behaviour, instructional management and adapting to the school culture should be important topics in these programmes.

In addition, these findings are sustained and deepened by the theory on adult learning. Knowles, Holton and Swanson (2005) referred to adult learners as self-directed. According to Friend and Cook (2000), adult learners learn best when they are actively involved in designing and managing their own learning. A hallmark of a successful alternative teacher education programme may be the level of self-direction given to second-career teachers during their transition to teaching. Tailor-made programmes might provide second-career teachers with opportunities to direct their own learning.

Interestingly, the findings of two studies in our database (Greenwood, 2003; Mayotte, 2003) suggested a possible relation between age and strength of beliefs. These studies found that second-career teachers' beliefs became stronger and harder to change, as the age of the teacher increased. From a pedagogical point of view, teacher educators, as well as school mentors, may find it difficult to take into account possible differences between older and younger second-career teachers.

4.4.3 Addressing transfer

What stands out in the findings of this review is that second-career teachers share specific backgrounds. They bring transferable skills, which are personal and related to previous careers. These skills can be detailed or complex routines. Successful, as well as unsuccessful transfers were reported. Second-career teachers also bring practical expertise and real world knowledge to the school. However, the process of linking this expertise to the classroom situation can be a challenging enterprise.

In an earlier study, we suggested that this linking problem was connected to the phenomenon of "crossing horizons" (cf. Tigchelaar, Brouwer & Korthagen, 2008). They found that in the transition to teaching, career changers face the need to traverse a new experiential landscape, replacing old for new horizons. Teacher educators and school mentors may underestimate how challenging this endeavour is, because they may be inclined to focus predominantly, or even exclusively, on the new horizon – the profession of teaching. However, second-career teachers will, at least in the beginning, operate predominantly within their former horizons, using points of reference from their previous work experiences. The findings in this review confirm that teacher educators, as well as school mentors, should pay careful attention to the ways in which this complex process of transfer can be improved. An active and explicit exploration of this bridging process, in order to address this transfer should be a substantial part of supporting second-career teachers. In addition, we know adult learners learn best when they receive recognition for their wide-ranging experiences. This implies the need to recognize and acknowledge past experiences and integrate them in special programmes (Friend & Cook, 2000; Graham, Donaldson, Kasworm & Dirkx, 2000; Haggard et al., 2006; Knowles et al., 2005). In this respect, two studies involved in this review (Bolhuis, 2002; Mayotte, 2003) showed the importance of building upon existing competencies instead of proceeding from an attributed lack of competencies.

4.4.4 Developing a theory of practice

Within the school culture, the mentor, being a veteran teacher, appears to be the second-career teachers' most important source of support. This underlines and refines the findings of Moore Johnson, Birkeland and Peske (2003), which already showed the importance of the school culture and the school mentor. This study demonstrates that the school mentor plays a pivotal role in the professional development of second-career teachers, providing practical support, giving insights into daily routines and helping them to adapt to the new school culture. The results also suggest that the mentor could function as a bridge between teacher education and practice, facilitating the transfer of knowledge. In addition, one of the pedagogical tendencies we found was that tight relationships between teacher educators and school mentors could lead to effective practices in which theory and practice are linked. Moreover, the study of Schwab (2002) indicated that a special, formal mentor training programme, aimed at mentors of second-career teachers, was essential to a successful induction of second-career teachers.

In the interesting study of Koballa et al. (2006), the concepts of mentoring and "co-learning" were perceived as collaborative partnerships, in which

second-career teachers and mentors brought different kinds of knowledge to the mentoring relationship, both of them growing in the understanding of their own teaching practice.

Consequently, the development of a theory of practice might be beneficial in the support of second-career teachers. In this theory of practice, the concepts of complex routines and practical knowledge might be interesting starting points, both for second-career teachers, and school mentors (cf. Eraut, 2007). By making explicit the existing routines and underlying practical knowledge they bring, second-career teachers are enabled to change or enrich the routines, or even unlearn certain routines. In a collaborative mentorship, school mentors can support this process of change by sharing their routines and practical expertise by bridging theory and practice. According to Koballa et al. (2006), this could lead to co-learning, a reciprocal process of change. In this process, teacher educators should develop training programmes aimed at second-career teachers and school mentors, and support them in this reciprocal process of change.

4.4.5 Further research

In the discourse on alternative certification, the following topics can be distinguished: recruitment and retention of participants, effectiveness of programmes – often compared to traditional programmes – and teacher performance (Birkeland & Peske, 2004; Dill, 1996; Zeichner & Schulte, 2001; Zumwalt, 1996). Although the number of studies involved in this review was small – probably because it was limited to second-career teachers in a strict sense – it shows, above all, that the learning process of second-career teachers deserves more attention from researchers. Important issues for further research include the need to address second-career teachers' transition and to develop a theory of practice. In addition to the research reviewed, the body of knowledge on adult learners can support this research. Interesting topics could include self-directed learning, the transfer of prior experience and the role of peers (Friend & Cook, 2000; Graham et al., 2000; Kasworm, 2001; Knowles et al., 2005).

It is interesting that the discourse on alternative certification has almost exclusively been limited to the U.S.A. The number of European studies involved in this review is relatively small. However, a comparative study of the Directorate-General for Education and Culture of the European Commission (Eurydice, 2001) shows that the teacher shortages in various European countries are increasing. Policy makers are developing several plans to respond to these shortages. One of the possible solutions is the recruitment of second-career teachers and the development of alternative certification programmes. We suggest and hope that the development of these programmes in Europe will soon be sustained by more empirical research.

This review revealed a great heterogeneity in the experiences that second-career teachers bring to teaching. This heterogeneity is, amongst other things, related to their different, previous work experiences. For example, second-career teachers come from backgrounds in human services, business, industry, health, the arts, the military or child rearing. We know that alternative routes can help meet the need for teachers in specific areas of shortage, such as mathematics and science, and in regional shortages in rural and urban schools (Dill, 1996; Shen, 1997; Zeichner & Schulte, 2001). We suggest that the criterion of shared work experience could guide allocation to different kinds of alternative certification programmes, aimed at specific shortages. Further research would contribute to this issue by investigating arrangements tailored to second-career teachers with common working backgrounds. The studies by Jenne (1997), Bolhuis (2002) and Cole White (2002), for example, indicated the relevance of teacher education programmes aimed at second-career teachers with a common background in work experience, such as the military, artisans or paraeducators. Another question worthy of research is, if and what such allocation criteria might contribute to pinpointing relevant predictors of success in teacher education and in teaching (cf. Ackley, Fallon & Brouwer, 2007)? In this respect, this review also revealed another issue worthy of examination, i.e., the possible relationship between age and conceptual change. Perhaps younger second-career teachers need specific, tailor-made training approaches that are different to those for older candidates.

Finally, a relatively large amount of research has been done on the motives and expectations that second-career teachers bring to teaching. Less is known about the expectations of career changers and how to support them to build up realistic images of the teaching profession at the beginning of the teacher education programme. The body of knowledge about career development and career change (cf. Dietrich & Panton, 1996) could provide interesting starting points for further research on this topic.

Appendix

Nr	Studies	Purpose	Participants	Major findings
1	Bendixen-Noe, M.K., & Redick, S. (1995). Teacher development theory: A comparison…	To examine the career development of non traditional-aged new secondary teachers and traditional-aged new secondary teachers.	Non-traditional new secondary teachers (N=430, aged 28-57) and traditional new secondary teachers (N=430, age 22-25).	There appeared to be quite different patterns in how these two groups acquired the appropriate education to enter the teaching field.
2	Bennett, C. (1991). The teacher as decision maker programme: An alternative…	To describe research and programme development of a graduate teacher education programme for career changers.	A sample of six participants were selected from two cohorts (N=12, age 23-50).	Participants developed schematic pedagogical conceptions of teaching that integrated work schemata developed in previous careers.
3	Bolhuis, S. (2002). Alternative routes to teaching in secondary education in the Netherlands.	To distinguish the characteristics of the students in a three alternative certification routes and the adaptive characteristics of the alternative programmes.	Re-entry Route: Employment career changers (N=11, age above 30). Side-entry Route: Applying candidates (N=872, age above 30) including students (N=102) Side-Entry Route for employed artisans: Employers (N=15, age above 30) recruited by the Trade Union.	Participants of the Side-Entry Route for artisans were less heterogeneous. The teacher educators in the artisans' route worked closely together with the school mentors. The teacher educators in the re- and side-entry routes seemed more worried about their career changers' lack of competencies, while the artisans' programme seems to take the competencies that career changers had as a starting point.

4	Bullough, Jr., R.V., & Knowles, J.G. (1990). Becoming a teacher; Struggles of a second-career beginning teacher.	To explore how second-career teachers come to terms with the teacher role during the first year of teaching.	A case study of a male second-career teacher (N=1, age 37).	Participant entered teaching with a very limited understanding of teaching and a weak sense of himself as a teacher. He encountered a hostile situation and teaching assignments incompatible with his desired teaching role. He was not helped in determining what kind of a teacher he would become.
5	Bullough, Jr., R.V., & Knowles, J.G. (1991). Teaching and nurturing: Changing conceptions …	To explore the thinking of a second-career teacher in the struggle of coming to terms with the role and the responsibilities of a teacher.	A case-study of a female second-career teacher (N=1, age 34).	Participants' teacher education had very little impact on the images she brought. Only as she faced serious problems, did a conceptual change take place.
6	Chambers, D. (2002). The real world and the classroom: Second-career teachers.	To find 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.	Preservice and in-service secondary teachers working in suburban settings outside Chicago (N=10, age 33-59).	The motivations were complex and personal. What second-career teachers brought to their schools: transferable skills; the introduction of expert knowledge; a less traditional perspective on schools.

7	Chin, E., & Young, W. (2007). A person-orientated approach to characterizing beginning teachers in alternative certification programmes.	To develop typological profiles of interns who choose to enter teaching through ACPs, by using an ecological model of development.	Data were collected from interns (N=1.862) enrolled in 30 of California's more than 94 teacher internship programmes during 2001 – 2004.	Six profiles were distinguished: compatible life stylists (23%), mean age: 31.3; working-class activists (18%) on average, 34.0 years of age; romantic idealists (17%), mean age 30.5; followers in the family tradition (16%), mean age 34; second-career seekers (14 %), mean age 47.5; career explorers (12%), mean age 34.
8	Cole White, M. (2002). Making the transition from paraeducator to professional educator: five minority teachers share their stories.	To explore the experiences of new minority teachers who have made the transition within the classroom from paraeducators to qualified teachers.	African American female teachers (N=5, age 24-42).	Four elements emerged as beneficial in supporting the attainment of professional goals of the participants: leadership support; financial support; family support and personal power.
9	Crow, G.M., Levine, L., & Nager, N. (1990). No more business as usual: Career changers who become teachers.	To discover the meanings of the career change to teaching for those who are undertaking it.	Matriculated students in a one-year pre-service teacher education programme (N=15, age 24-43).	Three profiles of career changers were distinguished: home comers, converted and unconverted.

10	Dickar, M. (2005). When they are good… A comparison of career changers and recent college graduates in an alternative certification programme.	To compare the levels of success of career-changers and recent college graduates in the same Alternative Certification programme and teaching in the same schools.	Career changers (N=26, age above 30). Recent college graduates (N=30, age unknown), the majority graduated in the last year.	Career changers struggled with adapting to school cultures and relating to children. Other group struggled with taking on a teaching identity or with authority. Indicators of successful career changers: strong motivation to teach and previous professional success.
11	Dietrich, C.A., & Panton, C.L. (1996). Motivations of post-baccalaureate students seeking teacher certification…	To identify the factors that motivate post-baccalaureate students in a public institution of higher education who self select teaching as a career.	Participants (N=90, aged 22-54): students with at least a bachelor's degree in a field other than teaching requesting admission to teacher education during a five year period.	Fourteen categories (internal and external) of reasons for a career change to teaching. Internal reasons were mentioned most frequently.
12	Freidus, H., & Krasnow, M. (1991). Second-career teachers: Themes and variations.	To characterize the qualities and the perceptions of second-career teachers.	Career changers (N=20, aged up to 26), graduates of a programme specifically designed to recruit and meet the needs of those who enter teaching from other careers.	Second-career teachers understand their professional roles quickly; bring valuable knowledge and skills; care a great deal about children; are aware of social issues and have utilized research and reflection in deciding to become a teacher.

13	Gomez, M.L., Walker, A.B., & Page, M.L. (2000). Personal experience as a guide to teaching.	To investigate if greater work and life experiences made second-career teacher candidates more responsive and resilient to teaching challenges than their younger peers.	Two portraits were constructed of a group of prospective teachers (N=7, age 24-39) from an elementary school and its adjacent middle school.	Through their stories, both respondents simultaneously developed retrospective explanations and justifications for teaching practices. The narratives did not support self and peer critique.
14	Gonzales Rodriguez, Y.E., & Sjostrom, B.R. (1998). Critical reflection for professional development: A comparative study …	To compare the professional beliefs and teaching behaviours of traditional and non-traditional adult teacher candidates.	Elementary education preservice teacher candidates (N=45). Among them non-traditional adult teacher candidates (N=18, age above 25).	Marked differences were shown in the developmental process of becoming a teacher. Most of the non-traditional students were convinced they wanted to teach after a week, whereas the majority of the traditional candidates expressed doubts.
15	Greenwood, A. (2003). Factors influencing the development of career-change…	To describe the science teaching practices of three individuals who have entered teaching as a second career.	Second-career teachers (N=3, age above 40).	Different conceptions of science are to be expected from career-change science teachers who have worked in other science-related professions.
16	Haggard, C., Slostad, F., & Winterton, S. (2006). Transition to the school as workplace: Challenges of second-career teachers.	To update and revise a large post-baccalaureate teacher certification programme.	Post-baccalaureate certification student teaching candidates at the beginning of the student teaching experience. All had previous careers (N= 24 elementary education; N=16 secondary education).	The main needs of second-career teachers: increasing field experiences, providing classroom management and time management strategies.

17	Jenne, J.T. (1997). Conserving the status quo in social studies teaching: The case of second career military teachers.	To examine the educational perspectives and careers attractions of second-career teachers with prior military experience.	The participants (N=4, age 34-40) were prototypes of people with prior military career experience who were interested in teaching.	Career changers relied on personal life experiences, rather than content or professional education preparation as a primary knowledge base. Assumptions concerning desirable traits they bring were misleading.
18	Jorissen, K. T., (2002). Retaining alternate route teachers: The power of professional integration in teacher preparation …	To explore the factors, which contribute to second-career teachers' feelings of support and satisfaction in their jobs during their first two years of teaching.	The participants in the study were second-year teachers (N=7, age 28-44).	Main sources of support, mentioned by participants were: cohort, mentors and principals.
19	Jorissen, K. T. (2003). Successful career transitions: lessons from urban alternate route teachers who stayed.	To investigate the perceptions that alternate-route teachers held of their preparation, six years after they received their initial teaching qualifications.	Sixth year elementary teachers (N=6, age 28-44) who had completed their preparation together in an alternate route programme.	The relationships with mentors and with other members of the cohort were reported as most critical in developing professional skills and a professional identity.
20	Koballa et al., (2005). Conceptions of teaching science held by novice teachers in an ACP.	To determine how participants' conceptions of teaching science influence their classroom practice.	Participants (N=3, age 23, 41 and 48) enrolled in an alternative science teacher education programme from 2001 to 2003.	The conceptions of teaching science served as referents for their classroom practice. The conceptions of teaching science did not noticeably change during the period of investigation.

21	Koballa et al., (2006). Conceptions of mentoring and mentoring practice in alternative secondary science teacher education.	To explore the conceptions of mentoring held by mentors and new science teachers in an alternative certification programme.	From a cohort of new teachers (N=18, age 35-49) case studies were conducted of mentoring pairs (N=6), with each consisting of a new science teacher and a mentor.	Three conceptions of mentoring functioned as referent for mentoring practice. Science teacher mentoring as personal support, as apprenticeship and as co-learning. The conception of mentoring as apprenticeship pre-dominated.
22	Madfes, T.J. (1991). The Chevron Encore midcareer programme and the mid-life career change to teaching science and mathematics study.	To investigate if mid-life career changers are really viable candidates and if special programmes are having an impact on teacher quality and quantity.	Mid-life career changers, Encore recruits (N=18).	Retraining programmes are costly and do not train enough teachers to fill empty teaching slots. The career transition seemed to be too hard and the status and pay of teaching too low to make teaching attractive.
23	Madfes, T.J. (1989). Second careers-second challenges: Meeting the needs of the older teacher education student.	To explore what alterations to teacher programmes are needed to better accommodate the older, second-career person.	A group of mid-life career changers (N=16) who had been recruited from industry into a special science/mathematics teacher preparation programme.	Studying the induction year revealed many areas, which need to be addressed, in order better to prepare the career transition of each individual. They need support.

24	Madfes, T.J. (1990). Second career, second challenge: What do career switchers say about the work of teaching?	To compare the transition into teaching of three groups of first year teachers.	A group of mid-career teachers recruited into the Encore project, a group of mid-career teachers not in the Encore project, and a group of first career teachers. (N unknown).	First career teachers (lack of experience) made an easier transition to teaching. They were viewed as newcomers. Second career teachers (expectations and career baggage) struggled; they were viewed as new, but not as newcomers in the profession. Both groups needed support.
25	Mayotte, G.A. (2003). Stepping stones to success: previously developed …	To examine the influence of a previous career on classroom practice.	Second career teachers (N=4, age 25-48) were followed in a case study during their novice year of teaching.	Competencies developed through one organization were readily available and were used in another.
26	Novak, D., & Knowles, J.G. (1992). Life histories and the transition to teaching as a second career.	To investigate computer use among new elementary teachers.	New elementary teachers (N=4, age 27-42); with a previous career in computer technology (N=3).	There was found to be less of a relationship between using the computer in previous career and current career. To a small extent participants felt they were able to handle some of the demands of teaching by drawing on skills developed during their previous careers.

27	Powell, R.R. (1992). The influence of prior experiences on pedagogical constructs of traditional and non-traditional preservice teachers.	To examine the influence of prior experiences on traditional and non-traditional preservice teachers' constructs of planning and teaching.	Traditional preservice teachers (N=17, average age 22.8) and non traditional preservice teachers (N= 25, average age, 35.5).	The cognitive complexity of teaching is grounded in prior schooling experiences, personal features and life experiences. Traditional preservice teachers differ in important ways from non-traditional preservice teachers.
28	Powell, R.R. (1994). Case studies of second-career secondary student teachers.	To explore a second-career teacher's development as he moved from being a field hydro geologist to becoming a secondary science teacher.	A second career teacher (N=1, age 31).	Dan's initial preoccupation with the content and his strong commitment to his beliefs of science, led to assumptions that, in the end, created uncertainty about his decision to become a science teacher.
29	Powell, R. (1996). Epistemological antecedents to culturally relevant and constructivist classroom curricula: a longitudinal study …	To explore the professional development of two second-career teachers who differed in their world views of teaching.	Second career teachers (N=2, having 6–10 year work experience in a previous career).	Dan viewed the content as a central organizing factor for learning (a body of knowledge apart from the students' own realities). Amy viewed students as a central organizing factor for learning.
30	Powell, R.R. (1997). Teaching alike: a cross-case analysis of first-career and second-career …	To understand the nature of teachers' classroom curricula as they were constructed and implemented.	Second career teacher (N=1, age 31) and a first-career teacher, (N=1, age 26).	The results of this study suggest that the science lesson of Dan and Jill became similar by the end of the school year; that their classroom curricula emerged as textbook-centred.

31	Powers, F.W. (2002). Second-career teachers: perceptions and mission in their new careers.	To explore why middle-aged individuals left successful careers and entered the field of education.	Second career teachers (N=7, age 35-55).	Four themes were reported: life-changing events; differences between prior occupations and teaching; challenges; personal mission.
32	Proweller, A., & Mitchener, C.P. (2004). Building teacher identity with urban youth: Voices of …	To examine how new teacher interns, who are part of an alternative route to teacher certification, construct a professional identity as science educators in response to the needs and interests of urban youth.	Participants of the Middle-Grades Science programme (MGS) (N=15, age 24-57).	Out of varied professional experiences the teacher interns began to craft linkages between their own experiences and interactions with their students that helped them begin to shape a visionary orientation towards science learning.
33	Richardson, P.W., & Watt, H.M.G. (2005). "I've decided to become a teacher": Influences on career change.	To identify the factors that prompted career changers to undertake teacher education by asking participants to indicate their reasons and motives for deciding on this career change.	Two cohorts of students entering an ACP for secondary teachers. One cohort from distance education (N=119) and a cohort of a fulltime on-campus programme (N=33). 33% aged 20-29, 47% aged 30-39, 20% aged 40+.	Five factors to choosing teaching as a second career: personal and social status; career fit; prior considerations; financial reward; time for family. Social status appeared to be a less important factor.
34	Rintell, E.M., & Pierce, M. (2003). Becoming maestra Latina: Paraprofessionals as teacher candidates…	To investigate the experiences of participants in Title VII Project Para-Educators to Teachers (PET).	Latina paraprofessionals (N=15, age 30-55).	Key issues influencing participants' success were two groups of people: family and the Project PET cohort.

| 35 | Schwab, R.V. (2002). Examining the new layers of teacher education; a cross-case analysis of the high school induction process for ACTs. | To explore the patterns of practice, which support the induction process of Alternatively Certified Teachers (ACTs), in the total educational environment of a large suburban school district. | ACTs (N=12, age 25 or older) instructional supervisors (N=7); teacher educators (N=2) having five or more years experience working with ACTs. | Patterns of supportive practice to ACTs: practices blending theory and practice and infusing university expertise into the school; practices promoting formal and informal mentoring; practices differentiating support to meet the special needs of ACTs. |
| 36 | Serow, R.C., & Forrest, K.D. (1994). Motives and circumstances: Occupational-change experiences of … | To report results from a study of late-entrants who were attracted in to teaching. | Adult students (N=40, age 23-50) enrolled in a preservice teacher education programme at one university. | Participants reported being drawn primarily by teaching's intrinsic rewards. With the exception of only four participants, most viewed themselves as having a deep, longstanding desire to teach. |

Chapter 5

Patterns of development in second-career teachers' conceptions of teaching and learning [1]

Abstract

This study aimed to understand second-career teachers' conceptions of teaching and learning during their transition to teaching. In the support and education of second-career teachers, considering their conceptions of teaching and learning is important because these conceptions are shaped by previous experiences. These teachers' conceptions have rarely been the subject of research. The present study consisted of two parts. In the first part, the conceptions held by 207 prospective second-career teachers were explored. Data were collected using a semi-structured questionnaire that covered background characteristics and four themes concerning teaching and learning. For each theme, three to four different conceptions could be identified. These conceptions were related to background characteristics. The second part of the study focused on the development of conceptions of teaching and learning. In this part, 70 participants were asked to complete the same questionnaire before and after the first semester of an alternative teacher education programme (ACP). Three patterns of development in the conceptions were found. Pedagogical implications for ACPs are discussed.

5.1 Introduction

The views of teaching and learning held by second-career teachers should be considered in the support and education of these teacher candidates. This idea can be derived from research on the teachers' beliefs about teaching. Such research showed that the beliefs, i.e., teachers' ideas or thinking about teaching, are shaped by previous experiences and thus function as filters in interpreting new experiences and influencing behaviour (c.f. Kagan, 1992; Pajares, 1992; Kane et al., 2002). Second-career teachers bring previous experiences from work and life to their new profession, and these experiences are more extensive and diverse than those of traditional teacher candidates (cf. Feistritzer & Chester, 2000; Zeichner & Schulte, 2001). Therefore, studying second-career teachers' beliefs is an important topic for research.

Reviewing the literature on alternative certification from a pedagogical perspective, Tigchelaar et al. (2010) showed that our knowledge of second-career teachers' beliefs about teaching is limited to a few small-scale studies that focus on the initial beliefs and the development of these beliefs during alternative certification programmes (ACPs). In these studies, second-career teachers bring strongly developed beliefs that are based on previous experiences from work and life (f.e. Bullough & Knowles, 1991; Gomez et al., 2000; Powell, 1992). On the one hand, advanced beliefs about teaching were found, i.e., student-centred beliefs (e.g., Chambers, 2002; Parker & Brindley, 2008; Tigchelaar et al. 2008). On the other hand, more traditional, i.e., teacher-centred, ideas about teaching were found (f.e. Chambers et al., 2010; Greenwood, 2003; Jenne, 1997).

The respondents in the studies by Koballa et al. (2005), Powell (1994) and Bullough and Knowles (1990, 1991) firmly held traditional beliefs during their first years of teaching. The three participants in the study by Brindley and Parker (2010) had problems realizing their beliefs in classroom teaching. A few studies that examined the influence of teacher education programmes on the development of beliefs indicated that traditional beliefs were transformed into more advanced beliefs (e.g., Bennet, 1991; Hart, 2002; Proweller & Mitchener, 2004). In other studies, both the consolidation (cf. Jenne, 1996) and the transformation of beliefs (cf. Williams, 2010) were reported.

In a large-scale study of seven ACPs, Humphrey and Wechsler (2007) signalled the importance of examining not only the ACP participants' earlier experiences but also the learning opportunities offered to them in different programme components. They concluded that it was impossible to draw direct conclusions regarding the latter issue because the participants brought a great variety of previous experiences that influence their perceptions of learning opportunities.

Within another research domain that focused mainly on high school and university teachers and students, the beliefs of both teaching and learning held by participants have been the object of research. In this domain, the term 'conception' is current. As shown by review studies from both of the domains (Kagan, 1992; Kember, 1997; Kane et al., 2002), the terms 'belief' and 'conception' are used interchangeably to describe the views of teaching and learning that are held by teachers and students. A large number of studies showed that learning conceptions influence learning approaches and subsequently learning outcomes (f.e. Moore, 2002; Van Rossum & Hamer, 2010). In addition, parallel relationships have been found among teaching conceptions, approaches to teaching, and subsequently, student learning approaches and learning outcomes (Richardson, 1996; Kember, 1997; Van Rossum & Hamer 2010).

In the research on conceptions, a wide range of ideas about teaching and learning is categorised in a limited number of conceptions. In both teaching conceptions and in learning conceptions, a fundamental dichotomy is distinguished (cf. Van Rossum & Hamer, 2010). This dichotomy can be traced to an influential study conducted by Säljö (1979). He investigated the common sense conceptions about learning as perceived by adults who completed different levels of education (N=90). Regarding learning conceptions, Säljö (1979) described five categories that are based on two fundamental underlying differences, i.e., knowledge is external (learning is transferring knowledge from an external source into the head of the learner) or knowledge can be constructed (the learner abstracts meaning from a discourse and relates this meaning to an outside reality). This dichotomy is widely accepted within the literature on learning conceptions (cf. Van Rossum & Hamer, 2010). Regarding teaching conceptions, Kember (1997) reviewed the literature on the teaching conceptions of university academics and found five conceptions on a continuum that ranged from content oriented/teacher-centred (presenting subject content to be remembered) to learning oriented/student-centred (encouraging students to think about the subject).

The research on school teachers' beliefs about teaching as well as the conceptions about learning and teaching of academic lecturers and students has been separated in distinct domains. Focused on student teachers' (N=100) ideas about good teaching, Entwistle et al. (2000) intertwined the two domains. Remarkably, the sample in this study consisted of a "substantial proportion of mature students" (p. 13). Most of these mature students suggested that earlier experiences—as a pupil, as a parent or teaching practice—influenced their conceptions. The purpose of the present study was to broaden our understanding of second-career teachers' views of teaching and learning during their transition into teaching. Given the small number of studies on second-career teachers' beliefs, the mixed findings about relations with earlier experiences and the

development of these beliefs, and the lack of knowledge about second-career teachers' beliefs about learning and learning to teach, our research aimed to gain insight in the conceptions held by this specific group. Following Kember (1997), we used the term 'conceptions' in the definition by Pratt (1992) as "specific meanings attached to phenomena which mediate our response to situations involving these phenomena" (Pratt, 1992, p. 204). 'Development of conceptions' in this study was interpreted as "movements on a continuum ranging from traditional to progressive conceptions". 'Traditional' was seen as "content oriented/teacher-centred" and 'advanced' as "learning oriented/student-centred".

In the first part of the study, we explored second-career teachers' initial conceptions of teaching and learning in relation to their earlier experiences, with particular emphasis on background characteristics such as gender, age, and career experiences. In the second part of the study, we investigated the development of these conceptions during the first semester of an ACP.

5.1.2 Research question
The research questions of this study were threefold:
   a. What are second-career teacher candidates' initial conceptions about teaching and learning?
   b. What are the relations between second-career teacher candidates' background characteristics and their initial conceptions about teaching and learning?
   c. How do second-career teachers' conceptions about teaching and learning develop during the first semester of an Alternative Certification Programme?

The first part of the study, which explored the initial conceptions and relations with background characteristics, aimed to answer research questions 1 and 2. The second part of the study investigated the development of conceptions, the focus of research question 3.

5.2 Method
In the present study, we want to capture the variations in second-career teachers' initial conceptions of teaching and learning. In addition, we wanted to quantitatively relate them to background characteristics. Therefore, in our data analysis, we combined the methodological steps of phenomenographic research described by Åkerlind's review (2005) and the methodological steps of the verbal analysis of Chi (1997). The latter method aimed to quantify the subjective or qualitative coding of the contents of verbal utterances. In the following sections, we describe participants, context, data collection and data analysis.

5.2.1 Participants

The respondents of the first part of the study were people considering a career change into secondary school teaching (N=207, ages from 28 to 58) who were attending an information meeting designed for prospective second-career teachers. For the second part of the study, which explored development of conceptions, 70 participants of three cohorts of an ACP programme were selected on the basis of two criteria: (1) "having more than five years of experience in another career (including being a parent)", i.e., "career changers in a strict sense" (cf. Tigchelaar et al., 2008); and (2) "being a respondent of the first part of the study".

5.2.2 Context

The context for this study was the Dutch ACP of Utrecht University. The participants in this programme formed a heterogeneous group. They differed considerably in age, previous training, and work and life experiences.

Before entering the programme, all of the participants were involved in an informational meeting. These meetings were organised several times a year. Once admitted to the programme, the ACP participants spent in most cases 2½ days per week in a school (uncertified teaching or teaching in internship), 1½ days at the teacher education institute, plus 1 day on independent study, individually or in groups. The programme offered tailor-made curriculums, in which participants could strengthen specific deficiencies identified in intake assessments. To this end, candidates phrased personal development plans, wrote logbooks, and produced portfolios for reflection.

5.2.3 Data collection

In both parts of the study, data were collected through a semi-structured questionnaire. The respondents were invited to complete the questionnaire at two moments: (1) at the start of the information meeting and (2) after the first semester of the ACP.

In the first part of the questionnaire, the participants were asked about age, gender, and career backgrounds. The open questions in the second semi-structured part of the questionnaire focused on conceptions of teaching and learning. Four themes were addressed, and they tap into the role of second-career teachers' earlier experiences during their transition to teaching. The first theme was 'good teaching', for which we sought to make the participants' views of the teacher role explicit. The second theme was 'learning to teach'. Within this theme, we were interested in how second-career teachers considered their own learning process in becoming teachers. The third theme was 'learning from experiences'. By emphasising 'from experiences', we intended to open their minds to earlier

predominantly informal learning experiences. The fourth theme was 'mentoring second-career teachers' learning process'. This theme was chosen because mentoring by teacher educators from the university and experienced teachers in the schools is an essential component of teacher education programmes. The questions in the second part of the questionnaire addressed the four themes and were phrased as follows: (1) What does 'good teaching' mean to you? (2) What does 'learning to teach' mean to you? (3) What does 'learning from experiences' mean to you? (4) What does 'mentoring a second-career teacher' mean to you? To prevent the respondents from thinking that answers in the form of strict definitions were expected, we explicitly invited them to write down a text, a story, examples, or associations.

For the first part of the questionnaire, the response rate for the first measurement (N=207) was 100%. Regarding the themes, the response rates of the first measurement were as follows: 'good teaching' 88%, 'learning to teach' 92%, 'learning from experiences' 88%, and 'mentoring' 86%. The response rates of the second measurement (N=70) were as follows: 'good teaching' 94%, 'learning to teach' 92%, 'learning from experiences' 88%, and 'mentoring' 88%.

5.2.3 Data analysis

The data analysis was conducted in five stages. In this section, we first describe the approach taken for performing the data segmentation, identifying the conceptions, and determining the interrater reliability (cf. these aspects in the review by Åkerlind, 2005 and Chi's study, 1997). Next, we describe how the background characteristics were related to initial conceptions. Finally, we report the analysis of patterns of development.

Because the questionnaire administered consisted of four open-ended questions, each addressing one theme, the database consisted of four scripts (answers) per respondent. To develop the analysis procedure, the data from a preliminary sample of 30 respondents (i.e., 120 scripts) were used. Once developed, the procedure was used for the remaining 207 respondents.

Three researchers were involved in the analysis of the first part of the study, which aimed to examine initial conceptions. The first author collaborated with two other researchers to broaden individual understanding and awareness and to determine interrater reliabilities. In the second part of the study, the same three researchers were involved, and two supervisors of the ACP participants were consulted.

5.2.3.1 Data segmentation

Within each script, the first researcher removed the non-relevant segments, meaning general statements, detailed clarifying fragments and repetitions. Then, the script was divided into segments consisting of one sentence or a combination of two or three sentences. In the following example, written as an answer to the question about 'learning of experiences', three segments were distinguished:

> Segment 1:
>
> This means to me being aware of the fact that I can't do everything right. ~~So, it means realising you don't have to do everything right.~~ [repetition removed]
>
> Segment 2:
>
> In addition, having a mature attitude entails being open to school practice and all the new situations you will be confronted with.
>
> Segment 3:
>
> It also means to me learning from experienced teachers, to observe them in their lessons and taking their advice to heart.

For the preliminary set of scripts from respondents 1-30, this step in the analysis resulted in a total of 391 segments. The highest number of segments per theme was 105, and the lowest was 90.

5.2.3.2 Identifying conceptions per theme

The segments were grouped in coherent categories (conceptions) per theme. For each theme, the conceptions were ordered on a continuum ranging from content-oriented/teacher-centred to learning-oriented/student-centred (cf. Kember 1997). Next, every conception was briefly described, and a code was assigned (cf. Chi, 1997). For example, within the theme 'good teaching' (TE), the first conception was characterised as 'subject-centeredness' (1) and was coded as TE1, and this conception was briefly described in terms of the relevant topics.

> Theme 'Good teaching'
>
> Conception: Subject-centeredness
>
> Code: TE1
>
> Short description: The pedagogical starting point is the subject to teach. The teacher is seen as an instructor sending a message. As a classroom manager, the teacher is the authority. Motivating students means teaching them that lessons and learning are useful later in life.

As a result, a continuum of three or four conceptions was identified for each theme.

After this step, a dialogical reliability check was conducted. The first and second researcher reviewed the original scripts of the preliminary sample. For each respondent, the scripts were coded in a conception per theme in dialogical collaboration. The two researchers discussed adjustments and coherence.

5.2.3.3 Determining interrater reliabilities

Next, an interrater reliability check was conducted. Two independent raters (the first and third researchers) coded a subset of the total number of scripts. Each rater scored the scripts for each theme. Therefore, the interrater reliabilities were determined separately for each theme.

To determine the number of fragments needed, the $2n^2$ rule of Cicchetti (1976) was used. The n in this rule refers to the number of observational categories. The themes 'good teaching', 'learning from experiences' and 'mentoring' contained four conceptions. The theme 'learning to teach' contained three conceptions. Cichetti's rule states that the number of observations needed for a reliable interpretation of a computed kappa should be $2n^2$ or more. Thus, with n=3 or n=4 observational categories, the number of observations should be 18 or 32, respectively, or more. Subsequently, 35 scripts were used for all of the themes in the reliability analysis. We chose 35 scripts because some respondents did not complete all of the themes. The two raters scored the scripts independently.

For 'good teaching', in 33 of the 35 cases, there was agreement between the raters (94%, Cohen's kappa = 0.96). For 'learning to teach', in 30 of the 32 cases there was agreement (83%, Cohen's kappa = 0.82). For 'learning of experiences', in 31 of the 35 cases, there was agreement (89%, Cohen's kappa = 0.88). Finally, for 'mentoring second-career teachers', in 32 of the 34 cases, there was agreement (94%, Cohen's kappa = 0.95).

Subsequently, the first researcher coded the scripts of the remaining participants involved. The results were entered in SPSS, and the frequencies were determined per conception.

5.2.3.4 Relating backgrounds and initial conceptions

Next, the relationships between background characteristics and conceptions were computed by cross tabulations.

5.2.3.5 Identifying patterns of development

In addition, the scripts of the second measurement (T2) were coded in the same way as the first measurement. Next, the results of the first and the second measurements (T1 and T2) were compared. Each theme consisted of four conceptions on the continuum ranging from content-oriented/teacher-centred

to learning-oriented/student-centred. These conceptions were numbered 1 to 4 (the theme 'learning to teach' consisted of three conceptions, numbered 1 to 3). Comparing Time 1 and Time 2, any increase or decrease in development was summed per participant (+/-/0) for each theme. For example, when a participant scored conception 1 at Time 1, and conception 3 at Time 2, the theme 'teaching' was assigned an increase of +2. For each participant, the scores of all themes were summed. Table 5.1 lists the themes for participants no. 24, 56 and 70.

Table 5.1
Second-career teachers' conceptions at two moments in time (T1/T2)

Respondent	Theme	Conception Time 1	Conception Time 2	Difference
24	Teaching	3	2	-1
	Learning to teach	2	3	+1
	Learning from experiences	1	1	0
	Mentoring	4	1	-3
Sum of differences				-3
56	Teaching	1	3	+2
	Learning to teach	2	3	+1
	Learning from experiences	1	2	+1
	Mentoring	3	4	+1
Sum of differences				+5
70	Teaching	2	2	0
	Learning to teach	2	2	0
	Learning from experiences	2	3	+1
	Mentoring	2	1	-1
Sum of differences				0

Next, the participants were divided into three groups: increase, consolidation and decrease in conceptions. 'Increase' implied a total increase in conceptions of ≥ +2 (fe.g. participant 56); 'consolidation' meant stabilisation between ≥ -1 and ≤ +1 (e.g. participant 70); and 'decrease' was defined as a decrease of ≤ -2 (f.e. participant 24). Finally, to get deeper insight in these patterns of development, the results were discussed with the two researchers and two supervisors of the ACP participants.

5.3 Findings

In 5.3.1 and 5.3.2, the findings of the first part of the study are described. First, the second-career teachers' initial conceptions are presented. Next, we report the relations between the background characteristics and conceptions (5.3.2). In section 5.3.3, we describe the results of the second part of the study, including the three patterns of development that we found. These patterns are illustrated with three short portraits in section 5.3.3.1.

5.3.1 Initial conceptions

For each theme, three to four conceptions were found on the continuum ranging from content oriented/teacher-centred to learning oriented/student-centred. In this section, the conceptions are described following the topics for each theme. Each description is illustrated with an example. Preceding each description, the conceptions and frequencies are presented in a table.

5.3.1.1 Good teaching

Table 5.2

Conceptions and their frequencies within the theme 'good teaching'

Theme 'good teaching'			
Conception	1. Subject-centeredness	2. Learning environment-centeredness	3. Learning-centeredness	4. Student-centeredness
Frequency	31%	35%	27%	7%

Within the theme 'good teaching', the first conception can be called 'subject-centeredness' (frequency 31%). The pedagogical starting point is the subject that is taught. The teacher is seen as an instructor who is sending a message. As a classroom manager, the teacher is the authority. Motivating students means teaching them that the lessons and learning are useful later in life. As an illustration, a nurse wrote:

> Good teaching is to pass on knowledge in the right way. What else? [...] Students become motivated, when they understand the information you bring and accept your authority. Students become also motivated if they realise that nowadays you need a qualification for everything. [...] what they are learning here and now is important in the future.

The second conception can be characterised as 'learning environment-

centeredness' (frequency 35%). As the pedagogical starting point, different methods of teaching are emphasised as a central issue. The teacher is seen as an instructor. As a classroom manager, the teacher aims for structure, safety and involvement. Consequently, motivating students means teaching the subject in such a way that students learn and enjoy it. An antique dealer described this as follows:

> [...] Never say die when students lose interest. Just look for other teaching methods to arouse or awaken their interest. [...] A teacher also has an eye for adolescents' problems and has to show some patience with the group. Vice versa, they have to accept your authority. [...]

The third conception can be called 'learning-centeredness' (frequency 27%). The pedagogical starting point is again the subject being taught, but the main question is how to teach the subject to different students. The teacher is seen as an empathising instructor, tailoring her teaching to the different learning levels of her students. As a classroom manager, she has an open attitude towards them. She wants to motivate them by passing on her own passion for the subject. A researcher expressed this as follows:

> My first responsibility as a teacher is to ensure that every student comprehends the subject being taught. This means that I must handle the subject material in such a way that it fits to the prior knowledge and the specific learning capacities of all students in the classroom. Students who make slow progress [...] deserve extra attention from me. At the same time, my responsibility is to avoid that students, who keep up very easily become bored. [...] I hope wholeheartedly that I can show the students that maths is amazing and wonderful!

5.3.1.2. Learning to teach

Table 5.3
Conceptions and their frequencies within the theme 'learning to teach'

Theme 'learning to teach'		
Conception	1. Knowledge-centeredness	2. Skill-centeredness	3. Growth-centeredness
Frequency	23%	45%	32%

With respect to the theme 'learning to teach', the first conception can be characterised as 'knowledge-centeredness' (frequency 23%). The respondents

formulated learning goals in terms of acquiring new knowledge. Their main concern in learning to teach was knowledge transmission. The relationship between earlier and new experiences was conceived in terms of deficiencies in knowledge, which should be completed. A member of an autopsy team stated:

> [...] I need the latest information about the subject I am going to teach. What is the body of knowledge the student has to learn nowadays? You can learn to teach by giving many lessons, just by doing it a lot and by delving in a stack of books. If necessary, it can be useful to give me recent insights within the field of my subject.

'Competency-centeredness' characterises the second conception (frequency 45%). The respondents formulated learning goals in terms of acquiring competencies. Their main concerns were classroom management and activating students by varying their teaching methods. In terms of the relation between earlier and new experiences, this process was seen as a new challenge. A communication consultant wrote:

> [...] My job always has been coaching and advising people, both adults and children. Now, I want to build up a new expertise; to manage a class full of adolescents at a difficult age. To me, it is exciting, this possibility to learn how to pass on knowledge in various ways and to show my enthusiasm. [...] It will feel like being thrown into the deep and learning to swim!

'Growth-centeredness' characterises the third conception about learning to teach (frequency 32%). The learning goals are personal and based on self-insight. The respondents' main concern was becoming acquainted with students as adolescents. In the relationship between earlier and new experiences, the emphasis is on enriching earlier experiences. A veterinarian wrote:

> [...] Learning to teach is a next step in my lifelong learning process. I bring what I have and improve the quality of it in every new situation. I think a lot will be new to me in the school situation. I am not familiar with adolescents [...] Of course, I have qualities and competencies that can be very helpful. The question is how I can alter these within new circumstances. [...] A veterinarian who becomes a teacher has her own learning questions. I think adjusting my behaviour is my learning goal.

5.3.1.3 Learning from experiences

Table 5.4

Conceptions and frequencies within the theme 'learning from experiences'

	Theme 'learning from experiences'			
Conception	1. Intuitive reflection	2. Instrumental reflection	3. Systematic reflection	4. Dialogical reflection
Frequency	27%	34%	31%	8%

Regarding 'learning from experiences', the first conception can be called 'intuitive reflection (frequency 27%). This conception means that the respondents' learning intention is spontaneous: learning by doing. In these respondents' views, spontaneous learning implies intuitive reflection: thinking about what you are doing or have done. Learning from others is described as 'generally spoken instructive'. Concerning earlier experiences, the respondents felt the need to pass on previous practical knowledge by applying it in real-life examples in their lessons. An actress and trainer wrote:

> Learning from experiences means to illustrate to the students the subject you teach with your own experiences and images from practice. [...] And, someone always can learn from others, can't they? Next, I act, that is the way I learn. In my job as an actress and trainer, I always let the participants perform. [...] They have to do something to learn from it by doing and thinking it over afterwards.

The second conception can be interpreted as 'instrumental reflection' (frequency 34%). The respondents' learning intention was to improve their practice. Learning from others implies an active attitude, meaning actively observing other teachers or asking for advice. Concerning the role of earlier experiences, the respondents noted that these can be useful. A pattern designer wrote:

> In a certain way, my experiences will play a role in teaching a class. I don't know now what this will be. Learning from experiences also means to me improvement by making mistakes. Practice makes perfect. Afterwards, you are able to face new experiences in a better way because you have seen, heard, or experienced it before [...] It also means to learn from others', to ask for advice. [...] In short: to progress and to get the best from others.

The third conception about learning from experiences can be called 'systematic reflection' (frequency 31%). Intentional learning means learning from planning,

setting goals, doing and evaluating. This type of learning is combined with an open attitude towards others' experiences. Within the role of earlier experiences, the idea of keeping and changing is expressed in adjusting or enriching earlier experiences in the new situation. A project manager and homework coach described this as follows:

> [...] I learn from my experiences when I plan, act, and look back on what I have done, formulating new goals and transforming these into challenges to function in a more fluent style. It also means being receptive to ideas, thoughts or opinions of other people, but always in touch with yourself. [...] When I become a teacher, I can use my experiences as a homework coach, even though I have to alter these into the new situation of being a teacher.

'Dialogical reflection' (frequency 8%) characterises the fourth conception about learning from experiences. The learning intentions are formulated in terms of relations with others. This conception is conceived as learning from different sources: persons or theory. Concerning earlier experiences, these should be shared with others and vice versa. A senior trends consultant wrote:

> [...] learning and sharing experiences to grow, personally and socially. Experiences enrich life; give insights and depth in life. They enable people to make choices and to develop their own opinions. Learning from experiences means to grow as a person and professionally; to fulfil theory by sharing acquired experiences with each other and adding knowledge; to develop together an intuition for what is taking place in the world or a certain community. [...] In sum, we all are living theory.

5.3.1.4 Mentoring second-career teachers

Table 5.5
Conceptions and frequencies within the theme 'mentoring second-career teachers'

Theme 'mentoring second-career teachers'			
Conception	1. Directing teaching	2. Guiding teaching	3. Counselling learning	4. Facilitating learning
Frequency	32%	32%	30%	6%

Within the theme 'mentoring', the first conception is 'directing teaching' (frequency 32%). The supposed role of the mentor is that of a practical helper, giving general information and passing on knowledge. In the mentor's approach, the emphasis should be placed on giving information and problem solving.

Managing earlier experiences means exploring these and signalling gaps in knowledge. A policy adviser wrote:

> I want to get a clear picture of the job. [...] The reason is that I want to spend a minimum of time and money to get my teacher degree. I want to be alert to possible well-known pitfalls of the teaching profession. My mentor should examine the basic knowledge I bring and take the responsibility to complete gaps in my knowledge. Just dot my i's and cross my t's. Finally, my mentor should [...] help me when I have questions being on the spot.

The second conception can be characterised as 'guiding teaching' (frequency 32%). This characterization is obvious in how the respondents viewed the mentor's role, i.e., as guide and adviser. In their view, the mentor is an experienced teacher who knows the second-career teachers' backgrounds. In this approach, the mentor monitors second-career teachers' teaching by observing lessons, discussing them afterwards and giving advice. The mentor is supposed to manage earlier experiences by recognising these in terms of knowledge and competencies. A laboratory technician said:

> [...] A good coach takes into account the earlier experiences a second-career teacher brings into teaching [...]. He should realise that I am a professional bringing practical knowledge and skills. [...] A coach can act as a sounding board for second-career teachers' experiences in the classroom.

The third conception is 'counselling learning' (frequency 30%). Consequently, the mentor role is seen as being a counsellor. In this approach, the mentor aims to provide security and support reflection during the second-career teachers' growth. The mentor also supports the transformation of earlier experiences into the new context. A controller wrote:

> Good mentoring means to coach someone without any history in second education and help him to acquire and strengthen the competencies he brings in accordance with the competencies required in the teaching profession. [...] A next step is attuning to specific experiences and qualities, and to support the second-career teacher in reflecting on his behaviour in particular situations in school practice. [...] I develop myself by reflection. I hope my mentor will stimulate me in my process of growth from old to new.

The fourth conception about mentoring is 'facilitating learning' (frequency 6%).

The mentor's role is seen as being a counsellor and facilitator of peer learning. In the mentor's approach, the second-career teachers' learning is embedded in peer learning. The emphasis in the mentoring relationship is on reciprocity. The mentor facilitates enriching earlier experiences in a context of mutual growth. A volunteer in nature and environmental education expressed this as follows:

> [...] Next, I would like to work together with my mentor, on a reciprocal basis. Being supported in taking the next steps in lifelong development, now as a teacher. Growing by feedback. I would like to share my experiences with other new teachers [...] sharing a late vocation. I think it is important that we support each other in learning additional teaching tools, and in drawing up road maps for further development.

5.3.2 Relationships between background characteristics and initial conceptions

In this section, the findings regarding the relations between background characteristics and initial conceptions are presented. First, the participants' background characteristics and frequencies are described (Table 5.6 shows an overview). Next, the cross tabulations are presented.

5.3.2.1 Background characteristics

In the first part of the questionnaire, participants were asked to provide their gender, age, subject to teach, main previous work experience and recent teaching experience in secondary school ('recent' meant 'teaching uncertified in secondary school during the past year'). In our study population, 55% of the participants were female, and 45% were male. Participants who were between 40 and 58 years old formed a slight majority (58%), and the remaining participants were between 28 and 40 years old (42%). The majority of the participants aimed to teach natural sciences, and participants who aimed to teach arts and humanities formed a minority. Remarkably, a majority of the participants had previous work experience in research and consultancy. Most of the participants had no recent secondary school teaching experience; 28% were uncertified second-career teachers aiming to receive a certification.

Table 5.6

Prospective second-career teachers' background characteristics (N=207)

Background characteristics	Category	N	%
Gender	Female	130	55
	Male	106	45
	Missing	1	< 0.5
Age	28-40	100	42
	40-58	137	58
	Missing	0	0
Subject to teach	Languages	56	24
	Natural sciences	85	36
	Arts and humanities	35	14
	Social sciences	56	24
	Missing	5	2
Main previous work experience	Consultancy and research	81	34
	Engineering and technology	59	25
	Management and policy	66	28
	Other	29	12
	Missing	2	1
Secondary school teaching experience	Not recent	169	72
	Recent	67	28
	Missing	1	< 0.5

5.3.2.2 Relationships between background characteristics and conceptions

Cross tabulating the background characteristics (gender, age, subject, main previous work experience, and secondary school teaching experience) and initial conceptions yielded only a small number of significant relationships. These relationships are summarised in Table 5.7.

Table 5.7

Significant relationships between background characteristics and initial conceptions

Initial conceptions	Backgrounds				
	Gender	Age	Subject to teach	Work experience	Recent secondary school experience
Good teaching		+			
Learning to teach					
Learning from experiences				+	+
Mentoring a second-career teacher	+			+	+

Table 5.7 shows that no significant relations were found between gender and subject and initial conceptions.

      A significant relationship was found between age and initial conceptions of 'teaching' and 'mentoring', as shown in Tables 5.8 and 5.9. A majority of the younger participants (ages between 28 and 40) conceptualised teaching as learning environment-centred and mentoring as guiding second-career teachers' teaching. Older participants tended to give more extreme responses. On the one hand, over a third of them held conceptions of teaching as subject-centred and mentoring as directing second-career teachers' teaching. On the other hand, about a third of them saw teaching as learning-centred and mentoring as counselling second-career teachers' learning.

Table 5.8

Cross tabulation of age and conceptions of 'good teaching': frequencies (and row %)*

Age group	Conceptions of 'good teaching'				
	Subject-centeredness	Learning environment-centeredness	Learning-centeredness	Student-centeredness	Total
28-40	20 (27)	35 (47)	18 (24)	1 (1)	74 (100)
40-58	38 (35)	25 (23)	32 (30)	12 (11)	107 (100)
Total	58 (32)	60 (33)	50 (28)	13 (7)	181 (100)

*χ^2=14.961, df=3, p<0.05

Table 5.9

Cross tabulation of age and conceptions of 'mentoring a second-career teacher: frequencies (and row %)*

Age group	Conceptions of 'mentoring a second-career teacher'				
	Directing teaching	Guiding teaching	Counselling learning	Facilitating learning	Total
28-40	19 (26)	33 (45)	20 (27)	1 (1)	74 (100)
40-58	39 (37)	21 (20)	36 (34)	10 (9)	107 (100)
Total	58 (32)	54 (30)	56 (31)	11 (6)	181 (100)

*χ^2=15.957, df=3, p<0.05

Previous work experiences were significantly related to conceptions of 'learning from experiences' (χ^2=19.979, df=9, p<0.05) and "mentoring" (χ^2=17.608, df=9, p<0.05). The majority of the participants who had experiences in engineering, technology or business held traditional conceptions about learning from experiences that are seen as intuitive reflection (39%) and mentoring as directing second-career teachers' teaching (40%). The majority of the participants who had experiences in management and policy saw learning from experiences as improving practice by "instrumental reflection" (49%) and mentoring as guiding second-career teachers' teaching (50%). The majority of the participants with previous work experience in consultancy and research held more advanced conceptions. In their view, learning from experiences meant systematically reflecting upon experiences (41%), and mentoring was seen mostly as counselling second-career teachers' learning (42%).

Finally, significant relationships were found between having recent secondary school teaching experience and conceptions of 'learning from experiences' (χ^2=10.883, df=3, p<0.05) and "mentoring" (χ^2=14.339, df=3, p<0.05). The majority of the participants with recent secondary school teaching experience, who were career changers with uncertified teaching aiming to achieve certification, tended to prefer traditional conceptions. Learning from experiences was seen as instrumental reflection that improves practice (47%), and mentoring was seen as guiding second-career teachers' teaching (48%). By contrast, the majority of the career changers without any recent teaching experiences in secondary schools tended to have more advanced conceptions. They saw learning from experiences as systematically reflecting upon experiences (38%) and mentoring as counselling second-career teachers' learning (38%).

5.3.3 Patterns of development

In this section, the findings of the second part of the study are presented: the development in the second-career teachers' conceptions after the first semester of an ACP.

The participants were divided into three groups that represented three patterns of development in conceptions: growth, consolidation, and regression. As described in section 5.2 growth meant that participants showed a total increase in conceptions of +2 or more on the four themes. Consolidation meant a total increase ranging from -1 to +1, and regression meant a decrease in conceptions of -2 or more. Table 5.10 shows an overview of frequencies and percentages.

Table 5.10

Patterns of development after the first semester of the teacher education programme

Pattern of development	N	%
Growth	34	49
Consolidation	25	36
Regression	8	11
Missing	3	4
Total	70	100

In the discussion with two other researchers involved and the two supervisors of the ACP participants, two new insights about the results were revealed. First, a possible connection between the three patterns and employment after ACP was found. Within the "growth" group, all 34 participants were employed after ACP; 29 were employed in secondary schools, and five were teaching in higher education. In the "consolidation" group, 17 of the 25 participants were employed in secondary schools. Of the remaining eight participants, one was employed in higher education, four were looking for a job in a secondary school, and three decided to follow other ambitions. Finally, only one participant of the "regression" group was employed (in higher education). The remaining seven participants had new career aspirations. Table 5.11 shows an overview.

Table 5.11

Patterns of development and employment after ACP (N=67)

Status of employment	Patterns of development							
	Growth		Consolidation		Regression			
	N	%	N	%	N	%	Total	%
Employed in secondary school	29	(42)	17	(25)	0	(0)	46	(67)
Employed in higher education	5	(7)	1	(2)	1	(2)	7	(11)
Searching for job in secondary school	0	(0)	4	(7)	0	(0)	4	(7)
Other career aspirations	0	(0)	3	(4)	7	(11)	11	(15)
Total	34	(49)	25	(38)	8	(13)	67	(100)

Second, it was striking that all of the participants within the regression group had more advanced learning-centred or student-centred initial conceptions. However, after a semester, all of them held more traditional conceptions (subject-centeredness or learning environment-centeredness).

5.3.3.1 Two portraits

In this section, two patterns of development are illustrated with short portraits. In these portrayals, we chose the extremes: growth and regression. The portraits were condensed literal reports of the participants' scripts, with the following themes: 'good teaching', 'learning to teach', 'learning from experiences' and 'mentoring'. Each portrait consists of two parts: initial conceptions (T1) and conceptions after a semester (T2).

Portrait of growth

The first portrait is representative of the majority of the participants, showing a pattern of growth. As an example, the participant here is a researcher, who was older than 40 years old, and who had no recent work experience in a secondary school. Representing his age group, he tended to prefer traditional initial conceptions of teaching and mentoring. Regarding his initial conceptions about learning from experiences, he expresses a more advanced conception. In this sense, he represented the majority of the participants coming from research, the majority of whom had no recent teaching experience.

After the first semester of the ACP, all of his conceptions were characterised as advanced. After the ACP programme, he became employed in a secondary school.

The statistical researcher, male, 43 years old, prospective teacher of economics, no recent teaching experience, employed in a secondary school after ACP

Initial conceptions
You can say "this lesson is good", when the teacher has prepared his lesson very well, when he pays attention to everybody to whom he is telling his story and when his authority is accepted by every pupil. In a good lesson, the story of the teacher is related to the current interest of the topic.
If I had an idea what it will be to learn to teach... It is just take up the challenge, jump into the water and swim!
Learning from experiences means to me sharing expertise. Then you all grow and become wiser.
I think a good mentor is an experienced teacher whom I can consult if necessary, who shows me the tricks and trades of the profession and who informs himself about my knowledge and competencies.

Conceptions after a semester
Of course, a good teacher must be able to pass on the important concepts of the subject. A good teacher brings variety in his lessons, structures his lessons in such a way that each individual is enabled to learn at his or her level. Every student deserves a good teacher who supports him in becoming an autonomous thinker. I work hard on becoming such a teacher.
I think learning to teach has something to do with an open attitude towards others and towards new experiences. Somehow this must be related with remaining oneself. Learning from experiences means to me looking for a new balance between everything I have done in my life before and my growing into the new teaching experience. I learn a lot from others, sharing experiences and expertise is like looking into the mirror.
A good mentor takes care for an environment in which I can learn from the body of knowledge about teaching and learning, but more important: from others, experienced teachers, my peers in the ACP, and of course: from my students. If possible, structured, I hate claptrap.

Portrait of regression
The second portrait is representative of the minority of the participants who showed a pattern of regression. The participant here is a minister, younger than 40 years old, with no recent teaching experience. She brings rather advanced

initial conceptions of teaching, which makes her a representative of the pattern of regression, but she was not representative of the majority of her age group (28-40). Regarding the initial conceptions about learning from experiences and mentoring, she is representative of the participants with no recent secondary school experiences and expressed rather advanced conceptions.

After the first semester of the ACP, all of her conceptions were characterised as traditional. And, after the ACP programme, she had other career aspirations.

The minister, female, 35 years old, prospective teacher of religion, no recent teaching experience, other career aspirations after ACP

Initial conceptions
Good teaching is being in contact with each student; inspiring confidence; transferring your subject in various ways; creating an atmosphere in which each student is challenged in his curiosity. Good teaching is helping each student to become a critical citizen with an open attitude to every religion in our multicultural society.
Learning to become a teacher means rather a lot to me, just as learning my former profession. Mainly, it will be learning by doing. But also, learning by observing others, by encountering certain problems, by getting a good advice.
I bring several experiences, from my previous work, from studying, and my volunteer work. These have brought me, where I am now. I carry them with me. They shaped me in my identity. Learning from it, means: to transform these into teaching. Sometimes you will do this consciously, but I think partly it will be an unconscious process.
A good mentor is a good supervisor paying attention to my previous experiences. She should notice: What are her qualities? What are her pitfalls? Thinking along with me how to transform my experiences into the new situation.

Conceptions after a semester
Good teaching means to me attracting students' attention, being a good disciplinarian, creating a quiet atmosphere, Honestly, I don't think I am able to create everything, which I describe here, in my own classroom.
Mainly, you learn teaching by doing. I can say very much positive things about the support I get. It is very helpful. But mainly to me learning to teach is: doing and doing.
Learning from experiences to me is: focusing on your own pitfalls and improving your teaching where possible.
Good mentoring is being there in case of problems and questions. Fortunately, I have such a mentor.

5.4 Discussion

The purpose of the present study was to broaden our understanding of second-career teachers' conceptions of learning and teaching during their transition into teaching. In the first part of the study, we investigated second-career teachers' initial conceptions and related these to their background characteristics. In the second part of the study, we examined how conceptions developed during the first semester of an ACP.

Second-career teachers' initial conceptions of teaching and learning may be placed on a continuum ranging from content oriented/teacher-centred to learning oriented/student-centred. Regarding the relationships between background characteristics and initial conceptions, we found significant relationships (1) between age and conceptions of teaching and being mentored; (2) between previous work experiences and conceptions of learning from experiences and being mentored; and (3) between having recent secondary school teaching experience and conceptions of learning from experiences and being mentored. Finally, three patterns of development in conceptions were identified: growth, consolidation and regression.

5.4.1 Conclusions and discussion

The first part of this study showed that second-career teachers' initial conceptions were multifaceted, ranging from traditional conceptions of teaching and learning to more advanced conceptions. These findings confirmed earlier research on teaching and learning conceptions, which showed a fundamental distinction between these conceptions (cf. Kember, 1997; Säljö, 1979). Furthermore, a large percentage of the respondents expressed initial conceptions that were consistent with traditional views on teaching and learning. This result was in accordance with findings from earlier research that examined student and teacher conceptions (cf. Van Rossum and Hamer, 2010).

In addition, the second-career teachers' earlier experiences were shown to play an important role in their initial learning conceptions. The majority of our study population conceived "transfer of knowledge and competencies" as important (cf. Tigchelaar et al., 2010). However, over one-third of the participants in the ACP programme viewed their earlier experiences as "personal qualities", which can be maintained, adjusted or enriched. Regarding the transition to teaching, they used terms such as "growth" and "transformation".

The findings of the present study may refine findings of earlier research on second-career teachers' beliefs. On the one hand, they held traditional teacher beliefs (e.g. Jenne, 1997; Chambers et al., 2010). On the other hand, they brought advanced conceptions based on previous work (e.g. Chambers, 2002;

Parker & Brindley, 2008). In the present study, the majority of the younger second-career teachers (ages up to 40 years old) had traditional teaching conceptions (learning environment-centeredness). Older participants (aged from 40 to 58) tended to be at the extremes: either subject-centred or learning-centred.

Furthermore, an interesting finding was that the majority of the participants who were uncertified for teaching before entering the programme held traditional views of learning and mentoring. This finding can be interpreted as an instance of the "apprenticeship of observation" pointed out by Lortie (1975, p. 61-65), meaning that early experiences as a pupil in school foster the expectation later in life that teaching and learning should be as one was taught and learned. Regarding the second part of our study concerning the development in conceptions, half of the participants showed growth. Of course, this was an encouraging result. At the same time, it implied that half of the participants showed consolidation or even regression in conceptions. This might be interpreted by what is known from the research on teacher socialisation, namely, that the immersion in practice brings teachers to revert to more traditional views of good teaching (cf. Brouwer & Korthagen, 2005, p.154-157). This problem may be aggravated in second-career teachers because ACPs tend to create even fewer opportunities for reflection on practical experiences than regular programmes. The workload in these programmes easily overrides their learning (cf. Brouwer, 2007).

5.4.2 Implications for the pedagogy of teacher education

Given our findings about second-career teachers' conceptions of teaching and learning, we would like to make the following suggestions for a pedagogy aimed specifically at second-career teachers.

During their transition into teaching, second-career teachers could benefit if the ACPs they participate in offered them more opportunities to critically consider and reconsider their initial conceptions about the teaching profession in relation to their earlier experiences as pupils in school as well as the new challenges that they face. From this point of view, we advise a reconsideration of the pedagogy of ACP teacher education seminars. We think it is important to create seminars in which second-career teachers are encouraged to integrate earlier and new experiences as a process of personal meaning-making. Such seminars can be strengthened by making "peer learning" a substantial component.

Our study showed that earlier experiences played an important role in the second-career teachers' conceptions about learning and how they developed these conceptions as they gathered experience in teaching. A deeply personal process of transformation is involved here. Therefore, as a follow-up of formal intake assessments, ACPs might involve personal coaching. In this way, second-career

teachers can develop not only skills and knowledge, but also specific qualities and strengths while taking into account the work context of their schools.

Regarding 'learning to teach', the participants in our study expressed a wide range of concerns: how to transmit knowledge, how to manage a classroom, to activate students, to use a variety of teaching methods and to become acquainted with adolescents. In our view, this array of concerns would justify a more targeted preparation in advance of practice teaching than is possible in the current design of many ACPs. This is supported by the findings of Bennet's study (1991), in which the participants involved showed a major cognitive restructuring occurring during practicum school experience prior to teaching. And Brouwer (2007) cites indications in the literature that one of the features of high-quality ACPs is substantial preparatory training before entry into the field. Before immersion into teaching practice, every second-career teacher should be enabled to prepare him or herself for the demands of teaching practice. This type of preparation should have two aims: supporting second-career teachers in coping with immediate practical concerns about learning to teach and guiding them in developing realistic expectations of teaching practice.

5.4.3 Further research

In the present study, we investigated second-career teachers' conceptions building upon insights from the field of research on lecturers' and students' conceptions of teaching and learning, many of which were conducted in the high school domain (Richardson, 1996; Kember, 1997; Moore, 2002; Van Rossum & Hamer, 2010). Just as lecturers and students in the high school settings, second-career teachers held a wide variety of views on teaching and learning, which could be categorised in a small number of conceptions. Our study showed that earlier experiences played an important role in second-career teachers' conceptions about learning and in how they developed these conceptions as they gained experience in teaching. Research on second-career teachers' earlier experiences has been restricted to the successful or unsuccessful transfer of skills and knowledge, as Tigchelaar et al. (2010) showed in a review on second-career teachers and their earlier experiences. The current study adds to the available evidence the notion that a deeply personal process of transformation is involved in second-career teachers' learning to teach. We therefore recommend further research on the specific ways in which second-career teachers' earlier experiences are transformed during their transition into teaching. Furthermore, the present study was restricted to the first semester of an alternative teacher programme. Development of conceptions was seen as a change in position on a continuum ranging from content oriented/teacher-centred to learning oriented/student-centred (cf. Kember 1997). According to Van Rossum and Hamer (2010), the development of conceptions is phased in successive stages

leading from traditional to more advanced conceptions. An interesting issue for further research would be to find out which factors impede or promote development in second-career teachers' conceptions during the first years of their teaching, focussing on phases in development.

Chapter 6

General discussion

In this dissertation, second-career teachers' earlier experiences were explored from a pedagogical point of view. The main research question was:

What are second-career teachers' earlier experiences and what do they
imply for the pedagogy of ACPs?

This question was elaborated using the following three subquestions:

1. When considering experiences, what are successful pedagogical approaches in a school based teacher education programme that is based on realistic pedagogy aimed at integrating experiences and theory? (Chapter 2)

2. Given second-career teachers' earlier experiences, what is a pedagogical rationale for offering second-career teachers abridged alternative routes within school-based teacher education programmes? (Chapter 3 and 4)

3. Taking into account the earlier experiences that second-career teachers bring, what is the relationship between second-career teachers' initial conceptions of teaching and learning and their learning to teach? (Chapter 5)

In the first section, conclusions are drawn after discussing the findings of research questions 1 to 3, following the underlying assumptions as stated in Chapter 1. In the second section, pedagogical implications are formulated, based on the findings on second-career teachers' earlier experiences. Next, suggestions for further research are presented.

6.1 Conclusions and discussion

The first assumption of this dissertation was that practice as a teacher educator in a regular teacher education programme, based on realistic pedagogy, might provide concrete pedagogical suggestions with a view to educating second-career teachers in ACPs. The aim of realistic pedagogy is to inform and enrich learning inductively by applying theory to experiences. Authentic experiences thus form the starting point for learning. This approach differs from the way cases are often used as a basis for courses in teacher education (cf. Shulman, 1992). Second-career teachers bring an abundance of earlier experiences, so it makes sense to take those experiences into account. In addition, review studies of alternative programming (cf. Zeichner & Schulte, 2001; Cochran Smith & Zeichner, 2005) suggest that the investigation of good practices, regardless of their contexts (regular or alternative), could lead to a better understanding of the components of good teacher education. Additionally, Eifler and Potthoff (1998) concluded that successful teacher education programmes serving second-career teachers "forge close connections between theory and practice in teacher education" (p.192).

In Chapter 2 about the potential contributions of realistic pedagogy to both regular teacher education programmes and ACPs, three pedagogical approaches were found to be helpful for integrating experiences and theory: (1) working with earlier experiences, (2) working with recent experiences and (3) creating new experiences. In the following, the findings in these three areas are related to second-career teachers' earlier experiences and the support they perceived during their ACP (as reported in Chapters 3 and 4).

The review study in Chapter 4 showed that second-career teachers face specific challenges that are related to earlier experiences, notably the challenge of the transferability of skills, the challenge of linking practical expertise to the classroom and the challenge of strong beliefs and change. These challenges may affect their well-being, their learning and eventually their professional success as teachers. As suggested by the second-career teachers involved in the qualitative study in Chapter 3, ACPs should be more adjusted to second-career teachers' specific characteristics, implying backgrounds, earlier experiences, skills, motives and images of teaching as well as their concerns and learning needs. In addition, the same chapter showed that second-career teachers, at least during the beginning of their career switch, operate with their earlier experiences in work

and life as their main frame of reference. The findings reported in Chapter 2 may be helpful for educating second-career teachers, because they inform practicable ways of enriching or changing frames of reference by integrating experiences and theory. However "earlier experiences" in Chapter 2 were restricted to earlier experiences as a pupil. In the further development of these approaches in ACPs, second-career teachers' earlier experiences in work and life should be taken into account.

The second assumption of the present dissertation was that it is necessary to reconsider thoroughly whether offering second-career teachers abridged alternative routes is productive from a pedagogical perspective. This assumption was based on research which showed mixed findings concerning the transfer of earlier experiences to the context of teacher education (cf. Eifler & Pothoff, 1998; Schwab, 2002), calling into question also if some ACP candidates would be better off in regular teacher education programmes. In this dissertation, we studied differences between first- and second-career teachers as well as the differences among second-career teachers.

Confirming earlier research (c.f. Powell, (1992 and 1997); Bendixen-Noe & Redick, 1995; Gonzales Rodriguez & Sjostrom, 1998; Dickar, 2005), this dissertation showed that first- and second-career teachers seriously differ in several aspects that are directly related to earlier experiences. It was found that these differences could be grouped into five categories: motives, skills, knowledge, beliefs, and autonomy.

(1) Second-career teachers possessed a more articulated, intrinsic motivation, which was derived from their previous experiences. A sense of mission was evident in their desire to pass on knowledge about subject matter, help young people, or make a contribution to society.

(2) Second-career teachers drew on valuable, transferable skills and complex routines developed during their previous careers, whereas first-career teachers still had to develop skills and establish routines.

(3) Second-career teachers brought practical subject expertise tightly connected to previous working experience.

(4) Second-career teachers appeared to be more outspoken in their beliefs about teaching and the value of education in students' lives than first-career teachers.

(5) In their teacher education and while functioning within the school, second-career teachers showed more autonomy than first-career teachers. This autonomy appeared to have two aspects: taking responsibility in learning and awareness of being an employee in an organisation.

Given these differences as well as other factors found in the review study

in Chapter 4 (such as the challenges second-career teachers face in their professional development), setting second-career teachers apart in an ACP seems quite relevant.

Recently, Humphrey and Wechsler (2007) suggested portraying ACP participants as "a diverse group of both young and older individuals (p. 26)". Possibly due to this great diversity of ACP participants, the review study in Chapter 4 identified only 36 studies concerning second-career teachers with previous experiences in another professional domain. The results of the supervisor study in Chapter 3 of this dissertation show that the portrait by Humphrey and Wechsler can be refined, taking into account second-career teachers' earlier experiences. Chapter 3 showed four aspects in which, according to their supervisors, second-career teachers differ among each other. They differ in that some

(1) have no recent work experience, e.g. parents having raised children;
(2) have recent work experience in another educational context, e.g. high school teachers;
(3) have recent work experience in secondary education, e.g. uncertified teachers;
(4) have a considerable number of years previous work experience in another professional domain.

In studying alternative certification programmes, it is advisable to take these aspects into account.

The third assumption in this dissertation was that second-career teachers have strongly developed ideas about both teaching and learning. These ideas can be related to their earlier experiences and can influence their teacher education, which makes studying them important. Considering the insights from research on teaching and learning conceptions carried out in the secondary education and university domains, the study reported in Chapter 5 concerns second-career teachers' views of teaching and learning.

It was shown that second-career teachers hold a wide variety of views on teaching and learning, which could be captured in a small number of conceptions (c.f. Kember, 1997; Van Rossum & Hamer, 2010). The findings of the present dissertation refine the findings of scarce earlier research on second-career teachers' teacher beliefs. On the one hand, they were said to hold traditional teacher beliefs (e.g. Jenne, 1997; Chambers et al., 2010). On the other, they were said to bring advanced conceptions based on previous work (f.e. Chambers, 2002; Parker & Brindley, 2008). In the present study, the majority of the younger second-career teachers involved (up to 40 years of age) held rather traditional teaching conceptions (learning environment-centredness). Older participants

(aged from 40 to 58) tended to the extremes: either subject-centredness or learning-centredness.

The findings of Chapter 5 add to our knowledge the notion that earlier experiences play an important role in second-career teachers' initial conceptions of teaching and learning. The review study in Chapter 4 made clear that research on second-career teachers and their earlier experiences has focussed on the transfer of earlier skills and knowledge (Madfes, 1989; Crow Levine & Nager, 1990; Freidus & Krasnow, 1991; Novak & Knowles, 1992; Schwab, 2002; Chambers, 2002; Mayotte, 2003). Chapter 5 shows that over a third of the ACP participants studied held initial conceptions of teaching and learning in which building upon earlier experiences was seen as a process of transformation supported by a mentor seen as a counsellor.

Another relevant finding is that the majority of the participants who were uncertified for teaching before entering the ACP held traditional views of learning and mentoring. This finding can be interpreted as an instance of the "apprenticeship of observation" pointed out by Lortie (1975, p. 61–65), meaning that early experiences as a pupil in school foster the expectation later in life that teaching and learning should be as one was taught and learned. Half of the participants in our study of the development of conceptions showed growth, which implies that half of the participants showed either stagnation or even regression in conceptions. This finding may be interpreted through the lens of existing research on teacher socialisation, in which it was found that the immersion in practice brings teachers to revert to more traditional views of good teaching (cf. Brouwer & Korthagen, 2005, p. 154–157). This problem may be aggravated in second-career teachers, because ACPs tend to create even fewer opportunities for reflection on practical experiences than regular programmes. The workload in these programmes easily overrides their learning (cf. Brouwer, 2007). This interpretation is supported by the findings in Bennet's study (1991), in which the participants involved showed a major cognitive restructuring, occurring during student teaching preceding in-service teaching.

6.2 Pedagogical implications

The purpose of the present study was to explore second-career teachers' earlier experiences from a pedagogical point of view. In this section, pedagogical implications are presented. As a whole, these can be summarised as "addressing second-career teachers' earlier experiences". Three implications are derived pointing in the direction of (1) flexible orientation and (2) targeted preparation in advance of workplace learning and (3) developing a pedagogy of educating second-career teachers.

6.2.1 Towards flexible orientation in advance

The review study in Chapter 4 showed that second-career teachers mostly make their decision to become a teacher before entering the teacher education programme. It also showed that second-career teachers often experience a reality shock when expectations collide with reality (cf. Scwab, 2002). We think this is an undesirable situation, because it can cause stagnation in the development of conceptions (cf. Chapter 5). Therefore, we suggest that alternative teacher education programmes organise flexible orientation activities, cooperating with a restricted number of partner schools. These orientations would need to be flexible in order to account for the varying circumstances in which second-career teachers find themselves. They would focus on mentored orientation activities and diversity in school culture. Such orientations might help second-career teachers to build realistic expectations about the teaching profession (cf. Chapter 4). ACPs could even devote the first part of their official programme to such orientation in advance of workplace learning and invite candidates to discover, given their own backgrounds, with which challenges and learning goals teaching will confront them. The body of knowledge about career development and career change (cf. Dietrich & Panton, 1996) could provide interesting starting points for developing such an orientation.

6.2.2 Towards targeted preparation in advance of workplace learning

The findings in Chapter 3 indicate that teacher educators and school mentors would do well to recognise and take into account more explicitly that career changers face the necessity to traverse, as it were, a new experiential landscape, replacing old for new horizons. Teacher educators and school mentors might underestimate how challenging this endeavour is, because they may be inclined to focus predominantly, or even exclusively, on the new horizon: the profession of teaching. However, career changers will, at least during the beginning of their career switch, operate with their earlier experiences in work and life as their main frame of reference. Chapter 5 showed that this may be important in the development of conceptions. Therefore, we think targeted teacher preparation in advance of workplace learning could be promoted. In certain respects, the studies by Wilson, Floden and Ferrini-Mundy (2002) and Brouwer (2007) support this suggestion. They concluded that one of the features of high quality alternative certification programmes is an initial stage of frequent, substantial practice and evaluation in lesson planning and teaching. Bennet's study (1991) also supports this idea, showing cognitive restructuring as a result of advance preparation. The results of this dissertation indicate that the aim of such preparation could be twofold. It could support second-career teachers in their first concerns about

teaching, e.g., lesson planning, and prepare them for the learning opportunities of an alternative programme.

Chapter 5 showed that almost 30% of the participants involved were uncertified teachers. The majority of them had traditional conceptions of learning. Possibly, the influence of the school context or the weight of the workload overrode their learning (cf. Brouwer, 2007). A substantial number of second-career teachers are forced to start teaching throughout the school year without any preparation, probably due to teacher shortages. We hope that both school and teacher education boards will accept the responsibility to enable uncertified second-career teachers to prepare themselves before immersion inteaching practice. This should preferably be possible at various times throughout the school year.

6.2.3 Developing a pedagogy for second-career teachers

The participants studied in this dissertation expressed a wide range of concerns about their teacher education, such as how to transmit knowledge, manage a classroom, engage students, vary in methods, and become acquainted with adolescents (Chapters 3 and 5). In addition, one of the pedagogical tendencies found in Chapter 4 was that close relationships between teacher educators and school mentors could lead to effective practices in which theory and practice are linked (cf. Eifler & Potthoff, 1998). To achieve this link, realistic pedagogy (Chapter 2) may contribute to the further development of ACPs.

In addition, the findings of Chapter 5 concerning second-career teachers' development of conceptions during the first semester of an ACP showed the urgency of a pedagogical emphasis on second-career teachers' (development of) conceptions about teaching and learning. The study by Brownlee (2004) indicated that development of conceptions can be influenced directly through explicit reflection or indirectly through a focus on the teaching-learning environment itself. We recommend further pedagogical development of ACPs, aimed at both directly and indirectly influencing the development of conceptions.

Finally, the review study in Chapter 4 showed that mentors, being veteran teachers, appear to be second-career teachers' most important source of support. This finding supports and refines the findings of Moore Johnson, Birkeland and Peske (2003), which already showed the importance of the school culture and the school mentors. The results of Chapter 4 indicate that school mentors could function as a bridge between teacher education and practice, facilitating the transfer of knowledge. In addition, Chapter 5 showed that in the perceptions of participants, mentors, whether school mentors or supervisors from teacher education institutes, are directing and guiding teaching or counselling

and facilitating learning. The support of second-career teachers, then, could be strengthened if teacher educators and school mentors developed shared perspectives on second-career teachers' learning and if they addressed the earlier experiences that second-career teachers bring.

6.3 Further research

In the present dissertation, we mainly referred to research on alternative certification carried out in the USA. The number of European studies we were able to identify was very small (cf. Chapter 4). This is astonishing because a comparative study of the Directorate-General for Education and Culture of the European Commission (Eurydice, 2001) shows that teacher shortages in various European countries are significantly increasing. European policy makers are developing several plans to respond to these shortages. One of the possible solutions is the recruitment of second-career teachers and the development of alternative certification programmes. In the present study, carried out in a Dutch context, we tried to make a contribution to European research on alternative certification leaning based on various studies of American ACPs. We hope that the development of ACPs in Europe will soon be supported by more empirical research in Europe.

Earlier research in the USA showed that alternative routes can help meet the need for teachers in specific areas of shortage, such as mathematics and science, and in regional shortages in rural and urban schools (Dill, 1996; Shen, 1997; Zeichner & Schulte, 2001). Over one third (34%) of the participants interested in the ACP of Utrecht University had previous work experience in consultancy and research (cf. Chapter 5). Could "common previous work experience" be another criterion to guide second-career teachers' recruitment and allocation? The studies by Jenne (1997), Bolhuis (2002) and Cole White (2002), for example, indicated the relevance of teacher education programmes targeted at second-career teachers with a common background in work experience, such as military personnel, artisans or paraeducators. Further research could contribute to clarifying this issue by investigating common previous work experiences in relation to specific ACPs and by studying arrangements tailored to second-career teachers with common backgrounds.

Important issues for further research are also raised by the career-changer study in Chapter 3. There is a real risk that graduates from ACPs may fall victim to the "revolving door effect" noted by Ingersoll (2001; cf. also Ingersoll & Smith, 2003). This risk might be aggravated if ACPs do not, at a minimum, equip career changers to function as effective teachers. In this dissertation, several suggestions were made to improve second-career teachers' transitions into teaching. However, sufficient starting competence as a programme outcome could

well be an influential condition for long-term teacher retention, especially for those participants and graduates who incur losses in salary or other setbacks. From this perspective, it is important to know more about the kinds of experiences that ACP graduates encounter in the course of their careers as teachers, especially when they span two or more years. Which kinds of environments and experiences in particular promote dropout from the profession and to what extent and in which respects is this outcome related to features of in-service teacher education programmes, as perceived by career changers?

In the discourse on alternative certification, two topics can be distinguished: recruitment and retention of participants and effectiveness of programmes and teacher performance (Zumwalt, 1996; Dill, 1996; Zeichner & Schulte, 2001; Birkeland & Peske, 2004). The present dissertation shows, above all, that the learning processes of second-career teachers deserve more attention from researchers. Important issues for further research include the need to address second-career teachers' transformation of earlier experiences and the need to develop a theory of teaching practice. The body of knowledge on adult learners can support this research. Interesting topics could include self-directed learning, transfer and transformation of earlier experiences and the role of peers (Friend & Cook, 2000; Graham et al., 2000 Knowles et al., 2005; Kasworm, 2001).

With regard to second-career teachers' development in conceptions, Chapter 5 was restricted to the first semester of an alternative teacher education programme. Development of teaching and learning conceptions in the present study was seen as a change in position on a continuum ranging from content oriented/teacher-centred to learning oriented/student-centred (cf. Kember 1997). According to Van Rossum and Hamer (2010), the development of conceptions may be phased in successive stages leading from traditional to more advanced conceptions. An interesting topic for further research would be the development of second-career teachers' conceptions over time both during the first years of their teaching and later. Research focussing on phases in development may well include factors impeding or promoting development.

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Curriculum vitae

Anke Tigchelaar, daughter of two teachers, was born on July 20th, 1960, in Veenendaal, then a small village in the centre of the Netherlands. She completed her secondary education in 1978 at the Christelijk Lyceum Veenendaal, and studied Dutch linguistics and literature at Utrecht University. From 1985 to 1993, she worked as a teacher at the Christelijk Lyceum Gouda. In 1993, she began her career as a teacher educator in the teacher education programme of Utrecht University. Since 1996, she has been involved in various projects, all of which have been related to the pedagogy of teacher education. Anke developed diverse training programmes for teacher educators (especially school mentors), was involved in the development of a realistic pedagogy for school-based teacher education programmes and for an international Comenius project aiming at the integration of practice and theory. In 2000, she initiated and developed the alternative teacher education programme at Utrecht University. As a part of that work, she did research on second-career teachers' earlier experiences and pedagogical implications. Currently, she is working as a teacher educator in the alternative teacher education programme and on a project with professional development schools as a teacher educator for De Werkplaats in Bilthoven. Since 1991, Anke Tigchelaar has also been involved in various translation projects for the Augustinian Institute Eindhoven, in particular those projects aiming at the translation of the sermons of Saint Augustine, who left his career as a teacher to become bishop in Hippo. Saint Augustine is a model for her in transforming his previous teaching experiences in the domain of pastoral practice and theory.

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