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Systematic Review

Identity Development of Career-Change Secondary Teachers: A Systematic Review of Theoretical Lenses, Emerging Identities, and Implications for Supporting Transition into Teaching

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Abstract: Career-change teachers (CCTs) are a growing group within the international secondary teacher workforce. In the context of a global teacher shortage, it is important to interrogate career-change student teachers' (CCSTs') experiences, so they can be effectively supported to have successful and sustainable teaching careers. This systematic literature review presents and analyzes scholarship, which focuses on the development of secondary sector CCTs' teacher identity, with a focus on learning from CCSTs and CCTs who are recent ITE graduates. The two research questions were as follows: What theoretical frameworks are used in the literature to explore CCTs' teacher identity development? What emerging teacher identities do CCTs take on, and what do they need to experience successful teacher identity development? Analysis of theoretical frameworks reveals different perspectives on the nature of teacher identity and identity development processes. The valuable contribution of multiple theoretical frameworks, including career engagement and development theoretical frameworks, from beyond education is highlighted. Four themes illuminate key influences on CCSTs' teacher identity development: continuity from prior careers, self-efficacy and need for validation, CCTs' desire for out-of-the-box teacher identities, and CCTs' views on ITE. Because CCSTs are a distinct group, with different identities and needs, we call for further research, and we call on ITE providers and schools to use insights from research on CCTs to support CCSTs' distinctive needs, career transition, and emerging teacher identities.

Keywords: career-change teachers; career-change student teachers; initial teacher education; teacher identity development; career transition; mentor teachers

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1. Introduction

Career transitions are becoming increasingly common and people changing careers to become teachers is no exception. In New Zealand, career-change teachers (CCTs) are becoming the norm: In 2023, only 38% of initial teacher education (ITE) students were under 25 years of age [1], and in the Netherlands, around 30% of student teachers training for secondary education are career-change student teachers (CCSTs) [2]. If CCSTs are defined as those over 25 with at least two years in another profession, then this group is now the majority in ITE. Similar trends have been reported in Australia, the United Kingdom, and the USA [3,4]. making CCTs an increasingly important group within the teaching profession. (In this paper, when specifically discussing student teachers who are career-changers, we refer to them as CCSTs. When discussing career-change teachers more generally, we use the abbreviation CCTs, to denote career-change teachers.)

Recruiting CCSTs is seen as a strategy to ease teacher supply issues [5,6], and they bring many qualities suited to teaching such as specialized knowledge, a strong work ethic, and good communication skills [5,7–9]. However, CCTs also experience dissonance between the reality of a teaching career and their expectations, and since 2010 scholarly literature has focused increasingly on why they leave [7]. CCTs have a higher attrition rate

than first-career teachers (FCTs) [10], and this attrition has costs to the profession as well as the individuals [11].

There are numerous reasons why CCTs choose to leave the profession and moving in and out of careers is considered normal [12,13]. However, to reduce the personal and professional costs associated with attrition, it is worth investigating what can be done to retain CCTs and develop teaching as a sustainable career. There is increasing recognition that CCTs can struggle to develop a teacher identity [7,14,15], which can be a decisive factor in their decision to leave. Career change is more than learning a new set of skills to move from one job to another. Black and Warhurst [16] conceptualized career transition as a process of "unlearning an established identity and learning a new identity" (p. 26), highlighting that career change is more than the acquisition of new skills and knowledge and/or taking up a new role. It is more than simply swapping one identity for another. Career change, even when voluntarily chosen, is a significant transition, because it "requires the creation and re-creation of new selves" (p. 154) [17]. Because reworking one's identity is complex, takes time, and is not a linear process [12], there have been calls for ITE to encompass developing teacher identity as well as teaching skills and knowledge (e.g., [18,19]).

Although becoming a teacher involves gaining relevant skills and knowledge, it also includes developing a sense of self-identity and purpose [20]. Furthermore, as Molander and Hamza [21] explained:

> "becoming a professional cannot be reduced to acquiring a number of abilities and skills . . . Rather, teaching is conceived 'as a composite of technique, analysis, interpretation and judgment' (Forzani, 2014, p. 365) . . . In this sense, becoming a professional teacher means developing a professional way of seeing, valuing, and judging teaching and learning situations and thus becomes a matter of developing a professional identity as a teacher" (p. 508).

Rushton et al.'s [22] and Yan's [23] works collate large volumes of scholarly work in the field of teacher identity since the beginning of the 21st century—with 412 and 4066 articles analyzed, respectively, affirming current understandings of the importance of professional identity in teachers' lives. However, we note that CCTs' experiences and perspectives are rendered invisible in both works, because neither included any explicit mention or discussion of them. We argue that it is important to illuminate how CCTs experience the development of teacher identity, to understand the impacts on their lives as teachers and retention in the profession. Although CCTs are seen as a potential way to enhance teacher supply within the global teacher shortage, this would be most effective if CCTs are not only recruited but also retained in the profession, having successfully navigated the complex process of identity transition when they become teachers.

While a large body of scholarship exists on teacher identity (e.g., [24–31]), there is very little focused specifically on CCTs [4]. However, this group merits specific attention, because they arguably may experience more difficulty developing a teacher identity due to the multiple previous and extant identities they bring to teaching (e.g., [19,32]). Furthermore, CCSTs may underestimate the significance of transitioning into a new professional identity, as they often do not anticipate that ITE will be relevant for them [21,33]. In our professional experience as teacher educators, ITE in New Zealand and the Netherlands includes scant attention to teacher identity development, focusing largely on skills and knowledge. Therefore, we designed this study to support our own knowledge as teacher educators about how we may support CCSTs to successfully develop a positive teacher identity, by addressing the following research question: What is the role and importance of teacher identity development for CCSTs/CCTs? Two sub-questions were as follows:

(1) What theoretical frameworks are used in the literature to explore SCCTs'/CCTs' teacher identity development?
(2) What emerging teacher identities do CCSTs/CCTs take on, and what do they need to experience successful teacher identity development?

This approach allowed us to interrogate literature, which illuminated the perspectives of CCSTs and CCTs who had recently completed ITE, with a focus on learning how to support CCSTs within ITE.

2. Methodology

To enhance the rigor of our investigation, our team of three authors followed procedures for a systematic literature review [34]. In February 2024, we conducted Boolean searches in four databases, to find published works with the following keywords in the title and/or abstract. The Boolean search terms that we used in all four databases were as follows:

i. EITHER (teacher identity OR professional identity)
ii. AND EITHER (Second-career OR Second career OR Career-changers OR Career changers)
iii. AND EITHER (Teacher OR Teach* OR Educator*).

We divided up the search process so that each author conducted a search in at least one database: Web of Science (Elvira), Psych Info (Yates), A+ Education (Hogg), and Proquest (Hogg). These academic databases were chosen because they are repositories of international educational research, which were available to us at our universities. During the search process, we did not limit the time frame, preferring to learn about the full history of scholarship in our chosen topic.

Table 1 presents the inclusion and exclusion criteria that we collaboratively agreed and applied, to enable us to identify suitable and high-quality papers that reported empirical studies for review, aligned with our research questions. The right-hand column provides examples of texts that were excluded because they did not meet our requirements for that criterion. We excluded no works on the basis of several criteria: (1) no specified theoretical framework; (2) no report of empirical research; and (3) inaccessibility due to publication in a language other than English or unavailability of full text. Although one paper that emerged from our search process was in another language and some did not report on an empirical study, these were excluded for more fundamental reasons, related to the irrelevance of the topic to our literature review questions.

Our plan to include literature that illuminated perspectives of CCSTs as well as those of CCTs who had recently completed ITE (shown in Table 1) was vindicated by our search results, because we found just seven studies that reported findings specifically related to teacher identity development for secondary-sector CCSTs. By including studies that shed light on the perspectives of CCTs who were recent ITE graduates, we were able to synthesize knowledge from a suitably substantial body of research [35], while maintaining a focus on learning about the perspectives of CCSTs.

Table 1. Inclusion and exclusion criteria.

	Inclusion	Exclusion	Examples of Excluded Text
Participants	CCSTs in ITE and/or CCTs in teaching positions, including VET teachers in schools, who have come from non-school teaching careers	Focus on participants in a second career in any other profession; focus on teachers in general, early career teachers, or both first-career teachers (FCTs) and CCTs. Focus on VET trainers. Teachers who change sectors and/or subjects.	Li and Lai [36]. Excluded because participants' career transition was within (not into) high school teaching. Seyri and Mostafa [37]. Excluded because the focus was on the identity development of early career teachers.
Research focus	Abstract includes keyword: identity	Abstract does not include keyword: identity	van Hiejst, Cornelissen, and Volman [38]. Excluded because the keyword (identity) is missing from the abstract.
Theoretical framework	Theoretical framework potentially relates to identity development for CCTs/SCCTs, e.g., career transition or development; adult transition; identity development; and self-determination theory	Theoretical framework unspecified, or potentially related to teacher beliefs, motivation, expertise, and expectancy theory	-
Focus on CCSTs'/CCTs' perceptions and/or experiences of their teacher identity development	Investigation of factors related to CCTs/SCCTs' own perceptions and/or experiences of their teacher identity development	Investigation of factors unrelated to CCTs/SCCTs' own perceptions and/or experiences	Wilkins and Comber [39]. Excluded because of lack of focus on CCTs' identity development.
Schooling sector	Middle school, high school	Kindergarten, elementary school, tertiary sector, vocational teaching outside the school sector	Nielsen [40]. Excluded because CCTs were from all schooling sectors and results were inseparable. Živković, P. [41]. Excluded because participants were CCTs in primary schools.
Curriculum subject and school setting	Any, within the schooling environment	Subject being taught privately, or in an environment other than a school	Colliander [42]. Excluded because participants moved into adult education. Taylor and Hallam [43]. Excluded because participants taught outside school settings.
Empirical research	Papers that report original empirical research	Theoretical papers, opinion pieces, literature reviews	-
Quality assurance processes	Papers published in peer-reviewed journals	Book chapters, conference papers, dissertations	Dos Santos et al. [44]. Excluded because it is a conference presentation.
Accessibility for authors	Published in English, full text available online	Published in any language other than English; full text unavailable online	-

Figure 1 is a PRISMA diagram, which shows a full representation of the 92 papers we considered, arising mainly from our database search, how many were excluded after reading the abstract, how many after reading the full paper, and the primary reason for exclusion in each case. The PRISMA diagram shows how we arrived at the 15 texts selected for review.

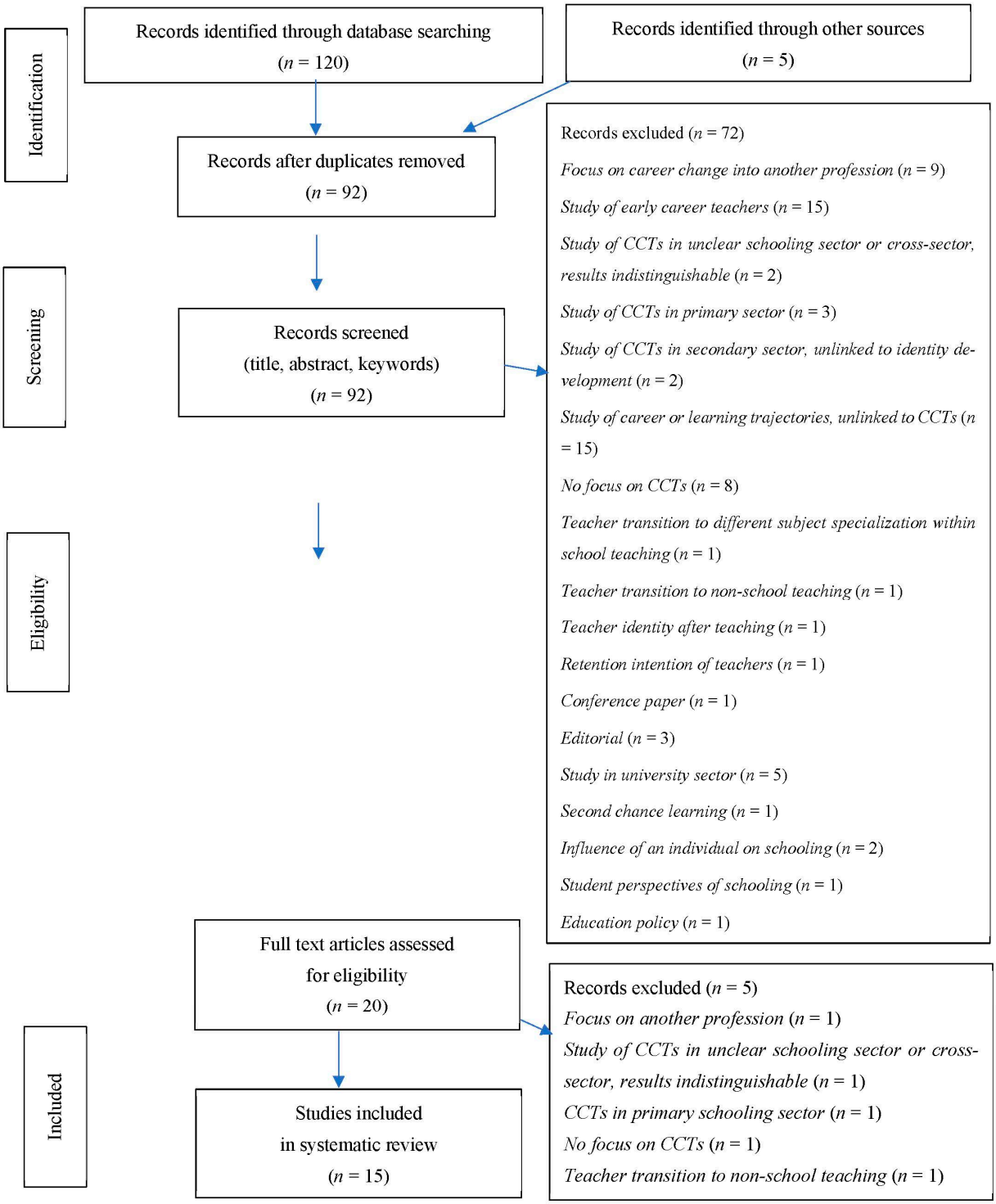


Figure 1. Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) diagram of the selection process (Abbreviation: CCTs, career-change teachers, including CCSTs in initial teacher education (ITE)).

We used the same inclusion and exclusion criteria in both the initial and in-depth stages of screening. The in-depth stage proved necessary for two main reasons. Firstly, some papers appeared to meet our inclusion criteria based on the abstract, but a full reading of the paper revealed that they did not. Secondly, for some papers, the abstract did not give enough detailed information to properly inform our decision, e.g., if the sector for which CCTs were training was unclear. To enhance consistency and reliability, we met on a weekly basis, and all inclusion/exclusion decisions were discussed and agreed upon, including those for duplicate records, which became evident during these meetings.

Data were extracted from each text according to predetermined headings (e.g., theoretical framework, research design, findings related to identity and salient resources, processes, experiences, and activities), and each author carried this out on about a third of the texts. All data extraction was peer-checked by the other two authors. Hogg took responsibility for synthesizing the findings in relation to RQ1, Yates for RQ2, and Elvira peer-checked the synthesis for both RQs. For example, in relation to RQ2, a thematic approach was used to develop, analyze, and interpret patterns across the reviewed articles [45]. This involved Elvira and Yates independently reading each data extraction table and highlighting common patterns, coding, clustering similar codes, and grouping these into themes. Both authors checked each other's work. The data extraction and analysis processes ensured clarity, validity, and completeness through an iterative process of discussion (through Zoom meetings and feedback on shared documents until an agreement was reached). Initially, the data were coded into supports for CCT to identify development and hindrances, but on careful analysis, it was apparent that factors such as enhancing self-efficacy were supportive and the lack of it was unsupportive. Ultimately, we have presented these as one theme—which both supports and hinders identity development. We observed that each theme in our findings—self-efficacy, congruence with prior career, creating out-of-the-box identities, and CCTs' views about ITE—depending on their nature, could either help or hinder CCTs' teacher identity development, as explained in the following section.

3. Findings

Our open approach to the timeframe for reviewed works revealed that scholarly interest in the professional identity development of CCTs first emerged in 2008. In total, we found nine published works within the first decade (2008–2017), comprising studies in the Netherlands [46], Hong Kong [47], the USA [14,18,33,48], Australia [49,50], and England [20]. Since then, growing interest has been evidenced by more studies in Hong Kong [15] and the USA [19,51], as well as research in three new settings: Sweden [21], Estonia [32], and Israel [52]. The recent interest verified by this small but growing international body of work echoed a trend of increasing scholarly attention to teacher identity development identified in Rushton and colleagues' [22] broad systematic review of schoolteachers' professional identity and Yan's [23] bibliometric review.

The seven papers that described findings specifically from CCSTs included five from the USA [14,18,19,33,51], as well as one from the Netherlands [46], and one from Sweden [21]. The nine papers that reported findings from CCTs who were recent ITE graduates were from more diverse settings, including the USA [19,48], Hong Kong [15,47], Australia [49,50], Israel [52], England [20], and Estonia [32].

We found that, of the 15 reviewed papers, 11 had a focus on the development of teacher identity for CCTs in a specific curriculum area. Nine papers in the secondary CCTs' teacher identity development scholarship reviewed related to CCTs in STEM [14,18,19,21,33,48,50–52], two had a focus on language teachers [15,47], and one investigated the experiences of VET teachers [49]. In two papers, theories of teacher identity development related to the specific curriculum area—science teacher identity development [19] and language teacher identity development [15] —were applied; however, most scholars drew on theoretical frameworks which provided general conceptualizations of teacher identity development. Chosen theoretical frameworks are examined more closely in the following section, to answer RQ1.

3.1. What Theoretical Frameworks Are Used in the Literature to Explore Career-Change Teachers' Identity Development?

Scholars utilized a range of theoretical frameworks to consider teacher identity development for CCTs. All reviewed papers identified at least one theoretical framework (e.g., [14,18,46,49]), with some drawing on multiple theories (e.g., [19,21,47]). Overall, the 15 reviewed studies utilized a diverse array of theoretical frameworks. Table 2 presents a chronological overview of theoretical frameworks, with each linked to citing scholars and their research questions.

Table 2. Chronological overview of theoretical frameworks according to citing study and research questions.

Theoretical Frameworks	Citing Study	Research Questions of Citing Study
Onion model of teacher ID [53].	Tigchelaar et al. [46]	What are the characteristic differences between CCSTs and FCSTs, when they enter ITE? What are the characteristics in which CCSTs differ from each other? Which experiences of continuity and change do CCTs report during their transition to teaching? In what respects do CCTs experience their ITE as supportive for the transition to teaching?
ID through identification (engagement, imagination, alignment) and negotiability [54]; Typology of responses to conflict and/or marginalization [55]; Discursive identity construction [27]; Indexicality and relationality in discourse [56].	Trent and Gao [47]	How is teacher identity constructed by English language CCTs in secondary schools in Hong Kong?
Teacher identity and functional role as not mutually exclusive [57]; Identity is demonstrated through the use of professional vocabulary, demonstrating skills, and taking responsibility [58]; Teacher ID through engagement, imagination, and alignment [54].	Grier and Johnston [33]	What professional teaching goals and identities do CCSTs bring with them into ITE? What are the common elements or traits math and science CCSTs possess? What is the process by which math and science CCSTs develop their teacher identity?
ITE as teacher ID [59]; ID through reflection and discursive practice in authentic teaching situations (e.g., [60]); Teacher identity as assigned by self and others [27]; Sociocultural influences on dynamic, non-linear ID in ITE [61]; Teacher identity both *doing* teaching work and *being* a teacher [31]; Teacher ID includes aligning oneself with groups that support [62], and validate chosen identity [63]; Self-concept and agency in ID [64,65]; Self-concept [66]; Resolving multiple identities in ID [67].	Wilson and Deaney [20]	How do CCTs exercise agency in identity construction?
Identity trajectories into, within, and out of communities of practice [54].	Grier and Johnston [18]	What do CCSTs express as their needs in the learning-to-teach process as they transition between careers? In what ways do CCSTs' previous multiple identities influence their beliefs about teaching during the learning-to-teach process?
Transformative learning theory [68].	Synder et al. [14]	What cognitive and emotional transformations do STEM CCTs experience when transitioning into secondary science teaching?

Table 2. *Cont.*

Theoretical Frameworks	Citing Study	Research Questions of Citing Study
Self-determination theory [69]; Career engagement theory [70].	Watters and Diezmann [50]	What early career experiences contribute to or hinder the development of a sense of professional identity as science CCTs with subject-matter expertise? In what ways do these experiences influence the CCTs' decisions to remain in teaching?
Workplace learning [71,72].	Green [49]	How do CCTs form their identity as new teachers? How do CCTs adapt to their role as new teachers? What are CCTs' own thoughts in relation to their new careers?
Sociocultural conceptualizations of teacher knowledge and beliefs [73]; Complex, and sometimes conflicting, beliefs as a framework to sort and prioritize knowledge [74].	Antink-Meyer and Brown [48]	What do science CCTs perceive as best practice in science teaching? How do science CCTs perceive professional science and engineering, and how do they perceive the relationship between their former STEM-related work practices and the science and engineering practices in their classrooms?
Language teacher ID through identity-in-discourse and identity-in-practice [75]; Identity-in-discourse impacts on positioning, interpretation, and decisions [76]; Teacher ID characterized by what people do, in terms of engagement, imagination, and alignment [54]; ID informed by multiple, possibly contested identities (e.g., [77]); Fluidity of discourses and identities [78].	Trent [15]	How do CCTs in Hong Kong construct their identities in discourse and in practice?
Professional teacher ID within ITE focuses on *being* a teacher, rather than *doing* the work of a teacher [79]; ID as belonging and participating within a community of practice, developed in social interaction [54,80,81]; ID as tied to historical, institutional, and sociocultural forces [82], applied to language teacher identity development [30]; ID as dynamic and resulting from interaction within social practices [83] and discursive activities, and from recognition and acceptance by others [84].	Molander and Hamza [21]	What, regarding teaching and coursework, is highlighted and talked about by CCSTs with a science background throughout their ITE? Does CCSTs' focus of attention concerning aspects of their ITE change over time, and if so how? Can these changes be related to the design of the ITE program?
ID via reconciliation of personal and professional factors [85]; ID influenced by both personal and contextual factors [82,85].	Shwartz and Dori [52]	Which identity resources (practices, norms, and professional standards) implemented in their ITE did chemistry CCTs perceive as supportive in (a) shaping their professional identity as novice teachers; and (b) providing tools to integrate their knowledge and skills into teaching chemistry?
Teacher self-formation related to (1) the teaching role/tasks and (2) the teaching identity (related to core beliefs) [31]; Role of emotions in teachers' ID [86]; Teacher ID within school communities [87]; Teacher ID through classroom practice [88]; Teacher ID as product of sociocultural context and dominant ideology [89].	Kolde and Meristo [32]	How did a novice CCT experience her teaching self?

Table 2. *Cont.*

Theoretical Frameworks	Citing Study	Research Questions of Citing Study
"The part the person plays within the professional" (p. 15) [90]; Identity as a process (not product) (e.g., [91,92]): dynamic and emergent, and situated within contexts [93]; Dialogical approach to teacher identity conceptualization [24].	Smetana and Kushki [19]	What aspects of identity were revealed as two CCTs decided to change careers? What moments of disequilibrium did these CCTs experience during the transition from one career to another? How did these CCTs restore equilibrium?
Career transitions as sites of teacher ID and learning [16]; Constructivist orientations of learning and development [94,95]; Constructivist career development theories [96,97]; Role of valued meaning and benefits [98,99]; Linear progression within teacher development [100].	Navy et al. [51]	How do CCSTs draw upon their prior science-related and teaching-related career experiences as they develop as teachers during ITE?

Note: ID, identity development.

3.1.1. Wenger's Theoretical Frameworks Most Widely Applied

The most commonly cited scholar in the reviewed literature was Wenger, with citations of his works found in 5 out of the 15 texts reviewed. Wenger's [54] theories informed work by scholars in the USA [18,33], Hong Kong [15,47], and Sweden [21].

According to Wenger [54], identity development is a continuous process that is actualized through the negotiation of identity and meaning. This seminal theory posits that learning can be understood in terms of identity, meaning that learning can be seen as becoming or developing a specific identity. Wenger [54] drew attention to identification and negotiability in his framework of identity formation, theorizing that identity is formed in "the tensions between our investment in various forms of belonging and our ability to negotiate the meanings that matter in those contexts" (p. 188).

Wenger [54] suggested that identity formation is affected by three modes of belonging to advance identification: engagement, imagination, and alignment. Engagement encompasses passion and excitement and investment in the profession, as well as the development of competencies that shape professional identities. Imagination is about how participants envision themselves and make connections within the broader social context. Therefore, it involves self-awareness and reflection on the self and the perspectives of others. Alignment is a process through which participants bring their professional practices in line with a broader profession in their domain, which involves taking up shared patterns of action within the community. However, each of these three factors could advance but also potentially limit learning and, thus, identity development. Engagement relates to investing in the teacher's identity, but it could be limited and neglectful of alternative viewpoints. Similarly, imagination may lack nuanced understanding and tend to reinforce stereotypical attitudes, and uncritical or coerced alignment may limit individual agency.

Negotiability, Wenger's [54] second element of identity formation relates to multiple meanings within the setting and the degree to which an individual is able or unable to contribute to those meanings. This second element alludes to the existence of power relations within the setting.

In apprenticeship theory, Lave and Wenger [80] explained that learning occurs through legitimate peripheral participation in a community of practice. In the teaching profession, this refers to ways that novice teachers develop ideas and skills from more experienced colleagues and gradually become competent members of the profession. Wenger [54] conceptualized the constant process of identity development as multiple dynamic identity trajectories that are unique to each individual. The framework of five trajectories depicts continuous movement in and out of communities of practice, as individuals make ongoing decisions about which are regarded as central to one's identity, and which are more

peripheral or no longer relevant. He described five identity trajectories: (a) peripheral, membership of which influences identity without full participation; (b) inbound, describing new members who intend to progress to full participation; (c) insider, whose full participation in the community of practice means that their identity continues to evolve and be constantly renewed; (d) boundary, which makes links between communities of practice, to sustain membership across them, which may challenge the norms of at least one; and (e) outbound, which lead out of a community of practice and involve taking on new perspectives and identity. Wenger's [54] identity trajectories were the theoretical lens applied by Grier and Johnston [18]. Of the reviewed papers, this was the only one which drew solely on Wenger's work.

3.1.2. Applications of Multiple Theoretical Frameworks

In five studies, Wenger's theory of identity formation was applied alongside other theoretical frameworks, to allow examination of factors that scholars stated that Wenger did not theorize in depth. To examine the impacts of conflict and/or marginalization, along with Wenger [54], Trent and Gao [47] also utilized Goffmann's [55] typology of responses to conflict. Furthermore, to closely consider the role of language and discourse, because these can be important conduits of cultural and social values and beliefs, Trent and Gao [47] drew on Bucholtz and Hall's [56] principles of indexicality and relationality. In contrast, in a study that illuminated a different aspect of language in identity, Grier and Johnston [33] applied Van Maanen and Barley's [58] conceptualization of identity as demonstrated by the use of professional vocabulary and skills, as well as taking responsibility for the work of others, alongside the application of Wenger's theory [54]. When Trent [15] explored how teacher identity "remains open to positioning by multiple, competing discourses" (p. 935), his study was informed by Wenger [54], together with Barkhuizen's [77] theory regarding tension, which arises from CCTs' multiple, possibly contested identities.

Other reviewed works applied different theorists to explore issues associated with multiple, competing identities. As mentioned, Trent [15] drew on Wenger [54] and Barkhuizen [77]. Stryker and Burke's [67] work, which informed Wilson and Deaney [20], also highlighted how individuals have competing demands that arise from their multiple identities and explained how individuals decide what actions to take, based on their context and personal priorities. Smetana and Kushki [19] applied Akkerman and Meijer's [24] theory, which acknowledges CCTs' multiple and potentially competing i-positions, including prior career identity, and allows consideration of micro and macro factors within CCTs' professional lives to gain insights about tensions, decisions, negotiations arising, which must be resolved to successfully create teacher identity.

Similarly, scholars applied several different theoretical frameworks in their explorations of the role of discursive practice in CCT teacher identity development. Danielewicz's theory [27] was selected by Wilson and Deaney [20] and Trent and Gao [47], with the latter also applying Bucholtz and Hall's [56] principles of indexicality and relationality within discourse. Both principles describe ways that, in discourse, identity is communicated. Indexicality refers to the overt and tacit referencing of identity categories and labels. Relationality relates to the social meaningfulness of identities, connected to available identities and actors involved in discourse; examples include relations of differentiation, authorization, rationalization, and narrative. Later, Trent [15] drew on language teacher identity development theory [75].

3.1.3. Theoretical Perspectives Related to Teacher Identity as Doing or Being

The work of some theorists in the field could be characterized as conceptualizing teacher identity as *doing* the teacher role. Wenger's [54] seminal theory includes the implicit idea that becoming a full participant can be seen as taking on a specific identity. Wenger's [54] framework encompassed three aspects of learning, emphasizing that learning and identity development are intertwined: (1) learning as doing (practice), (2) learning as belonging (community), and (3) learning as becoming (identity). Green [49] applied

workplace learning as her theoretical framework, using Billett's [71] definition: "the learning available through everyday participation in work activities guided by expert co-workers and assisted by the contribution of other workers and the workplace environment itself" (p. 51) [49]. Green's [49] chosen theoretical framework seems to reflect a view of learning through practice as identity development and appears to locate learning solely within schools, as do Kanno and Stuart [88], cited by Kolde and Meristo [32]. Kanno and Stuart [88] specified three requirements for the formation of teacher identity, which they theorize is advanced through classroom practice: (1) intensive prolonged teaching; (2) sustained learning-in-practice; and (3) subject knowledge i.e., knowledge acquisition as part of teacher identity development. Thus, Kanno and Stuart [88] conceptualized teacher identity as grounded in knowledge acquisition and the development of competency in classroom teaching. Navy et al. [51] combined theoretical perspectives to allow the examination of both linear and non-linear development in career transition. One theory that frames their study has a linear perspective of learning: Feiman-Nemser's [100] model of progression within teacher development, through preparation, followed by induction, and finally professional development. Drawing from Bandura [64], according to Owens [66], an efficacy-based dimension of self-esteem that would affect CCTs' identity development relates to an individual CCT's beliefs about their competency or capability in the role, which can be seen as whether they feel like a novice (learner) or a fully-fledged professional (expert). Owens' [66] theory of self-concept can be interpreted as relating to the CCT's view of themselves as a learner—indicating that teacher identity has not yet been achieved—or expert—indicating attainment of the desired teacher identity.

Some theorists describe teacher identity as being more than having appropriate knowledge and skill and performing the role—*doing the work* of a teacher—beyond this, it also encompasses *being a teacher*. One example is Mayer's [31] theory, which informed the research of Wilson and Deaney [20], as well as Kolde and Meristo [32]. Mayer [31] described teacher self-formation as not only related to actions to be performed but also taking on the identity and purpose of being a teacher, which is informed by one's long-held, core beliefs about how one identifies with being a teacher and feelings about being a teacher. While stating that teacher identity is based on beliefs that constantly evolve with experiences, Grier and Johnston [33] also took Walkington's [57] view that teacher identity and functional role are not mutually exclusive. Lampert [79], applied by Molander and Hamza [21], described the development of professional teacher identity within ITE, using Lampert's words, as "adopting the identity of a teacher, being accepted as a teacher, and taking on the common values, language, and tools of teaching" (p. 505) [21]. Lampert's perspective may be interpreted as teacher identity through full participation in, alignment with, as well as achievement of acceptance within teaching communities of practice. Smetana and Kushki [19] also stressed identity development for science teachers as going beyond "acquisition and performance of particular understandings, knowledge, and skills about science, pedagogy, and learners" (p. 167), and used Day's [90] words to highlight that teacher identity includes "the part the person plays within the professional" (p. 15).

3.1.4. Theoretical Perspectives about the Influence and Malleability of Prior Beliefs

Several chosen theoretical frameworks assign importance to the person within the professional, to paraphrase Day [90], sharing an emphasis on the influence of prior beliefs and experiences on CCTs' teacher identity development. In Molander and Hamza's [21] extensive discussion of theoretical frameworks, they make links to a range of identity theorists who take a sociocultural approach; two examples are Gee [82], whose theory of identity development from historical, institutional, and sociocultural factors has been adopted across multiple fields, and Luehmann's [30] theory of language teacher identity development. Korthagen's [53] onion model, the theoretical framework for his study with Tigchelaar et al. [46], also described the influence of prior experiences, including environment, behavior, competencies, beliefs, professional identity, and mission. Antink-Meyer and Brown [48] drew on Mansour's [74] ideas about how CCTs' beliefs about being

a teacher come from a range of their prior experiences, including those that are personal, educational, and work-related. Mansour's [74] theory also outlined that beliefs can be complex and lack coherence, and simultaneously beliefs provide a framework for sorting and prioritizing knowledge.

While some theories articulate deeply embedded sociocultural influences that may affect the value that CCTs place on aspects of their training; however, according to some theoretical frameworks, ITE can be an effective site for changing CCSTs' beliefs. For instance, utilizing Lampert [79], Molander and Hamza [21] were able to explore how CCTs' ideas about the relevance of aspects of their training shifted as their "ways of understanding and talking about instruction change(d) through participation in discursive activities" (p. 506).

3.1.5. Theoretical Perspectives Related to the Influence of Others

The nature of the influence of others in teacher identity development differed in other ways across theoretical frameworks. Wenger's [54] identity trajectories suggest potential influences from multiple communities of practice that an individual is involved with, and the nature of their trajectory related to it, and this factor could be especially relevant for CCTs, due to their multiple i-positions. According to Danielewicz [27], whose theory is applied by Trent and Gao [47] and Wilson and Deaney [20], developing a teacher identity includes being assigned that identity by others. Wilson and Deaney [20] also highlighted the theoretical perspectives of Taijfel and Turner [62], for whom teacher identity development includes aligning oneself with groups who support the CCTs' chosen identity.

Several theoretical frameworks highlighted the role of others within professional education contexts on CCTs' teacher identity development. Lampert's [79] theory, by highlighting discursive practice, pointed to the role of peers, teacher educators, and teacher mentors during ITE. Lave and Wenger's apprenticeship theory [80] highlighted the role of mentor teachers who support CCTs to develop their own practice, with their guidance, and, through practice, develop their own teacher identity. Whereas Wilkins et al. [87] theorized about the influence of professional context, Zembylas [86] specified subjective outcomes from dialogue with students, colleagues, and parents, positing that such dialogues influence teachers' identity formation indirectly, through the emotions arising from the CCT. For instance, the experience of shame (from inadequacy and/or vulnerability) causes CCTs' need for support and defense mechanisms. As for Zembylas [86], the influence of emotions on identity development is an aspect of Owens' theory of self-concept [66]. Owens [66] observed self-concept as comprising all cognitive and affective components of the multiple identities that make up and guide an individual's behavior, which, according to Bandura [64], makes self-concept a force for self-change. Owens [66] identified the role of both personal (traits, psychological) identities and social identities (from social roles and group membership) in forming self-concept and outlined how self-esteem and self-verification affect self-concept. The role of others in identity development, according to Owens [66], arises from a dimension of self-esteem related to an individual's beliefs about how others accept and value them, which could be linked to Wenger's [54] idea of negotiability: The extent to which an individual may contribute to—or is forced to accept—meaning-making within a community of practice. A further theoretical perspective from Ashforth et al. [63] is that the role of others relates to validation; linked to this, Saka et al. [84], cited by Molander and Hamza [21], emphasizes affirmation of the CCT within their teaching community. For Wenger [54], this is alignment. To examine the impacts on CCT teacher identity development of conflict or marginalization that may arise from interactions with others, Trent and Gao [47] used the lens of Goffmann's theory of negotiability [55], which outlines possible responses to conflict: confrontation, conformity, refusal, avoidance, or withdrawal. Collectively, the theoretical frameworks applied suggest multiple, complex, and significant ways that others might negatively or positively influence CCTs' teacher identity development.

In contrast, the theoretical framework for research by Snyder et al. [14], Mezirow's transformative learning theory [68] can be understood as identity development through

self-transformation. Mezirow [68] outlined a process of reflective learning about the self, followed by learning about a new role, to resolve a personal dilemma. Mezirow [68] outlined a series of 10 phases or a sequenced process that adult learners go through to gain a new professional identity. The sequence of phases outlines how (1) an initial disorienting dilemma brings on (2) difficult emotions and self-examination, leading an individual to (3) reconsider their previous assumptions and (4) acknowledge their discontent. In the following stage, individual identity development occurs through more outward-facing phases, as they (5) explore options, (6) plan actions to address their dilemma, (7) acquire new skills and knowledge, (8) try new roles, (9) build competence and self-confidence, and finally (10) achieve a kind of social rebirth through integrating new perspectives into their life. Mezirow's [68] was the only theoretical framework that appeared to assign no role to others in identity development.

Mezirow [68] treated identity development as a series of steps that individuals move through as they deliberately undertake a process of self-transformation. Therefore, almost all chosen theoretical frameworks highlighted CCT teacher identity development as constructed within the context of community.

3.1.6. Application of Career Development Theories

Two studies drew on theoretical frameworks from the field of career engagement and development. Watters and Diezmann [50] utilized Deci and Ryan's theory of career engagement [70], which highlights the role of individuals' need for competence, autonomy, and relatedness as motivating factors. They also drew on self-determination theory [69], which identified that intrinsic motivation (which stimulates career change) is reinforced by satisfaction, trust, and well-being in the workplace. Self-determination theory can be interpreted as acknowledging the role of others as a possible factor that could affect well-being. Navy et al. [51] drew on career development theories, although these included conceptual ideas that were highly congruent with theorists from other disciplinary backgrounds. For instance, Grier-Reed et al. [96] and Savicka [97] pointed to the influence of prior experience and non-linear pathways within career development, and the primacy of personal values and meaning as mechanisms for decision-making was highlighted in cited work by Savicka et al. [98] and Young and Collin [99]. Career theories were congruent in their emphasis on career construction as a way that individuals exercise agency to achieve personal goals and live out their values.

3.2. What Emerging Teacher Identities Do CCSTs/CCTs Take on, and What Do They Need to Experience Successful Teacher Identity Development?

3.2.1. Continuity with Previous Career (Seeking Confidence)

CCTs identify strongly with their previous career and being able to align their new career as a teacher with their previous career strongly supported the development of their teacher identity. CCTs use threads from their older identity trajectories—such as student, scientist, businessperson, engineer, and chef—to establish coherence with their emerging teacher identities [33,47,51,52]. These threads, which give meaning to their participation in the practice of teaching, include connections to students, connections between the classroom and the "real world", content knowledge, and various skills and competencies acquired in their previous employment (e.g., interpersonal, communication, and negotiation skills).

According to Green [49], CCTs saw their prior industry experience as their main asset, and Shwartz and Dori [52] claimed that CCTs' expertise in their previous career was an essential part of their professional identity; it laid out the foundations for their new identity as teachers enabling them to build upon their previous career experiences while effectively adding new knowledge and qualities. STEM CCTs melded their STEM knowledge and identities into their teaching and teacher identities by finding the intersections between the two communities and representing this as content to their students [33]. In addition, CCTs' previous careers gave them confidence in their abilities (e.g., content knowledge and public speaking skills) and helped to build resilience (e.g., [19,48,51,52])

Antink-Meyer and Brown [48] reported that STEM CCTs felt confident in their identity as teachers when they could focus on skills related to previous careers, for example, being able to teach students about laboratory skills and safety. STEM CCTs, in particular, felt supported in their teaching identity when they were able to make real-world connections and use examples from their previous career in teaching [33,46,47]. A former veterinarian was especially looking forward to teaching a series of elective courses on biomedical interventions and innovations, which she would link to her previous career [19]. Although she hardly mentioned her previous career early on in ITE, she gradually realized that she wanted to maintain both identities because "integration of her identities and experiences would be beneficial for her students in the long term" (p. 180) [19].

Continuity with previous careers extended beyond content knowledge and skills with CCTs in Green's [49] study perceiving their main role as teachers was to take care of their students, treating them like less experienced workers, causing them to create a classroom atmosphere reminiscent of a workplace with the teacher identified as the team leader or leading hand. Green [49] found that many CCTs' practices were based on the apprenticeship model familiar to them from their industry careers. Similarly, STEM CCTs preferred pedagogical approaches, which allowed students to engage as real scientists [48]. Smetana and Kushki [19] pointed out the value of opportunities for reflection within ITE for CCTs to support recognition and application of continuities, illustrated by a CCT who was challenged in the work of building relationships with students, and through reflective practice connected back to her prior career self, which helped her to identify an effective way forward.

While not directly related to a previous career, but rather previous experiences associated with CCTs multiple i-positions, CCTS who had at least one child of their own found that being a parent offered them familiarity with education and schools [14,18,20,32,46]. Additionally, many CCTs had previously worked with children in some kind of academic or social setting (e.g., tutoring neighborhood children, working with young people through clubs, or directing student research projects); these activities gave CCTs insights into what it is like to be a teacher [18,20,51], thus supporting their emerging teacher identity. Smetana and Kushki [19] concluded that it is important within ITE that CCTs experience support "in identifying and navigating their competing i-positions" (p. 182), because tensions can help develop professional identity, but may also be counterproductive and debilitating.

When connection with a previous career identity was challenged CCTs perceived tensions. For example, Kolde and Meristo [32] reported difficulties for a participant in establishing a teacher identity when she perceived her kind-hearted nature was not compatible with managing classrooms effectively. Similarly, Gloria, in Smetana and Kushki [19], experienced a lack of continuity when she found herself grappling with developing relationships with young people—an aspect of the job that she had "previously been 'good at' and most enjoyed" (p. 180). At the same time, there were CCTs who indicated that past experiences in careers in science-related fields created some tensions in their transition to teaching, for example, due to gaps in content knowledge and lack of pedagogical content knowledge [20,33,51,52]. Tigchelaar et al. [46] found that, for some CCTs, going into teaching was perceived as transitioning from functioning within a team to working independently with a challenging degree of autonomy. Some CCTs who had prior teaching experience in higher education recognized that skills gained working with older students were not completely transferable, and that new knowledge was needed to develop a high school teacher identity [51,52].

3.2.2. Self-Efficacy Enhanced (Seeking Recognition)

Various CCTs explained their engagement in teaching practices and activities in terms of a strong desire to prove themselves to others—school authorities, mentor teachers, and students—by demonstrating competencies that they thought should be highly valued by these members of their school communities [15,20,52]. CCTs disliked the discourse that it takes years to become an effective teacher and that experience in previous careers

is perceived in a negative light. For example, CCTs claimed that experienced teachers challenged their right to assume a teacher identity because they had spent comparatively very little time in the classroom and posited that their teaching performance; hence, their ability to be identified "as a teacher" should be judged on current classroom events on how they are in the classroom right now [15]. As Tina shared "They can only look back to my lack of classroom time and absolutely refuse to acknowledge my success today, the results I get with students, but focus instead on my past" (p. 938) [15]. At the same time, there is the discourse of classroom experience from incumbent teachers who argue that one must spend considerable time in the classroom before one can take on the identity of teacher. The CCTs in Trent's study actively opposed this positioning of themselves and felt they could learn the skills to teach relatively quickly; however, this creates a tension between discourse focused on results CCTs achieve in the classroom in the now, and on the other hand, the premium on teachers spending considerable periods of time in the classroom before one knows what it is to teach.

In the reviewed studies, CCTs wanted to be recognized as competent and bringing skills relevant and beneficial to the profession, rather than having these dismissed. CCTs reported that other teachers see them as "green", their previous experience not relevant to teaching, and that there is nothing to be learned from them. This lack of validation of skills and knowledge that CCTs bring limited the development of teacher identity [15,47,52]. For example, Brian shared as follows:

> "I definitely want to use these skills in my teaching. but in this school, skills and knowledge like these are seen as not very relevant to a school context, like what happens within these school walls is so different from what happens outside and the only way you can get the knowledge you need is by doing teaching, nothing else counts! For me that's a really strange view and it really limits me as a teacher and undermines what I can offer that is different from regular teachers" (p. 940) [15].

Similarly, Abi in Watters and Diezmann [50] was frustrated by her school's limited recognition of her competence and experiences. She felt her organizational and management skills were undervalued and at times felt she was treated like a student. Shwartz and Dori [52] described Phil, an ex-project manager and consultant, who perceived himself as a strong leader and wanted this acknowledged and was frustrated that his ideas were rejected: "I didn't get any cooperation from her at all. It was like she didn't want to accept anything I suggested" (p. 12). Kim gave up being a teacher after one term, because her personal validation of herself as a teacher was unacceptable and her beliefs about the sort of teacher she wanted to be did not match her perception of her actual teacher identity [20]. These experiences highlight the importance of enhancing a strong sense of self-efficacy and impressions of self-ability in CCTs. Conversely, positive recognition and acknowledgment from teachers [14,15,52] and students [32] helped CCTs feel accepted as teachers and to take on that identity. Kolde and Meristo's [32] participant said she needed to feel a sense of belonging and acceptance in the staffroom, and without that inclusion, it was easy to feel marginalized. She also felt the need for the staffroom to be a safe place to express negative emotions but intuited that teachers are expected to not share their emotions because that risked being seen as not competent.

Similarly, CCSTs need to experience identity validation in ITE. ITE is the beginning of an identity transition, and CCSTs want ITE to recognize and take into account their "background as experienced experts" (p. 523) [21]. For some CCTs, the experience of ITE involved a rollercoaster of at times feeling validated and, at other times, challenged in their emerging teacher identity. Molander and Hamza [21] found that learning educational theory initially challenged CCSTs' notions of teacher identity because it unsettled their ideas of teachers as explainers. According to Grier and Johnson [33], CCSTs place high value on the time they spend in schools; they focus on socialization in the school as an important part of forming their teacher identity. CCTs are eager to belong and engage in their new community of teachers.

3.2.3. Creating "Out-of-the-Box" Identities (Seeking Instructional Leadership)

Further support to developing a teacher identity was for CCTs to be recognized as unique and to develop into the type of teachers they wanted to be. For VET teachers, this meant being a conduit between the worlds of school and work [49]. Other studies affirmed Green's [49] finding that CCTs (partly) defined their professional identity in terms of differences from the practices and activities of other teachers. CCTs positioned themselves as "risk-takers", "innovative", and "out-of-the-box" teachers [15] or as a teacher leader [52] in contrast to FCTs, whose practice they considered "traditional" and "lecturing". They rejected the identity of a traditional, teacher-centered, boring teacher and wanted to be seen as creative, student-centered, different (out-of-the-box), and inspirational [47], and they wanted ITE and their schools to support the development of this identity [15]. However, Trent and Gao [47] found this type of support was missing in schools and that CCTs felt they had to hide the type of teachers they were from other teachers. CCTs felt their teaching approach could make other teachers look bad or that they would not see what the CCTs do as real teaching [47].

However, being the teacher, CCTs envisioned for themselves was not easily achievable. Navy et al. [51] found that although previous teaching-related experiences supported transitioning to a teacher identity, they might also create tensions. Kim, who was not becoming the teacher she wanted to be, gave up after one term [20]. Teaching's high workload was overwhelming for one CCT who stated that "I have no time to invent fancy lessons. I would be happy if I could manage to make up the ordinary ones" (p. 36) [32].

CCTs' ability to exercise agency played an important role in the development of their teacher identities. CCTs exercise agency through continual self-evaluation, self-assessing performance against a personally set standard (e.g., [19]), and enactment of beliefs (e.g., [49]). However, the agency was also potentially available or withheld within school contexts. When there was little evidence of conflict, CCTs had more agency to construct their preferred teacher identity [33]. In contrast, when CCTs felt pressured to conform to teachers' ways of being in their schools, their agency and ability to construct their own teacher identities were constrained [20]. Thus, their experience of agency also had repercussions on CCTs' ability to experience continuity and regain equilibrium.

3.2.4. CCTs' Views about ITE

CCSTs call for differentiation within ITE, because student teachers are not an homogenous group. Due to their multiple i-positions and multiple identity trajectories, CCTs have specific support needs related to attaining successful teacher identities. The need to be seen as different in ITE started with Tigchelaar et al. [46] reporting that CCSTs wanted teacher educators to take account of their previous backgrounds and do something with the competencies they brought to teaching. CCSTs believe teacher educators should actively show an interest in how career changers' backgrounds, motives, and images of teaching shape their transition to teaching and create opportunities for CCSTs to make explicit links between their earlier and their current experiences [19]. CCSTs suggest that personal mentoring for them was required because quality mentoring takes into account individual learning needs [14,46]. They also wanted ITE to meet their needs by having flexible programs that would fit in with their other identities, for example, parents [18].

Generally, before becoming a high school teacher people have to complete an ITE program, but some CCTs initially believed that they did not require ITE [21,33], indicating their desire to position themselves as different from FCTs. Participants in Molander and Hamza [21] initially thought that their own good explanations would be the best way for students to learn and that university coursework related to educational theory was detached from real teacher work. Grier and Johnson [33] found that CCSTs queried why they needed to train to teach in a field where they already had value and competence and were annoyed by academic requirements, such as writing reflections, readings, and participating in classroom activities. They also experienced frustration with first-career student teachers who they felt did not come to class prepared and were whiny. They

appeared to not want to identify with the community of student teachers but felt ready to "belong" to and engage in a newly chosen community of teachers and were reluctant to be novices again. Molander and Hamza [21] argued that a possible reason for reluctance toward ITE stems from insufficient consideration of CCTs' backgrounds. In their study, all CCTs held a PhD and were critical of the educational content of their courses, which they viewed as pseudoscientific. This seemed to involve a tension between the implicit and explicit ontological and epistemological assumptions connected to a scientist's professional identity and unfamiliar theoretical perspectives about teaching, which is in strong contrast to a (natural) scientist's way of doing and understanding science.

However, CCSTs ultimately came to appreciate the value of ITE, recognizing that teaching is extremely complex: "It's so much more than just knowledge, subject knowledge" (p. 517) [21]. Another CCT initially wanted a full portfolio of lesson plans but eventually realized that "instead of having a lot of ready-made material, maybe you have a lot of educational tools, or thoughts, or models, and exercises" (p. 520) [21]. Due to the complexity of becoming a teacher, Molander and Hamza concluded that it was wrong to assume that CCSTs can manage the pace of short-track ITE programs.

In contrast, some CCSTs placed a high value on ITE. Chemistry content knowledge and the pedagogical content knowledge aspects of their ITE program were seen as meaningful in shaping CCTs' identity as chemistry teachers and prepared them well for the teaching profession [52]. Grier and Johnson [18] found that CCTs considered that ITE helped their emerging identities as teachers through expanding awareness of diversity among students, creating lesson and unit plans, enacting theories from course work, and receiving feedback on their teaching from teacher educators. Grier and Johnson [18] concluded that CCTs wanted their ITE to be very practical and noted varying degrees of acceptance in terms of engaging with educational theory. One participant, Kelley, only wanted "answers and solutions that worked" (p. 40) but once she had exhausted her bag of tricks on her 4-week placement "she had nothing else to call on" (p. 40); therefore, Grier and Johnson concluded that she "had a limited insider trajectory towards teaching" (p. 40) and emphasized that engaging with theoretical aspects of ITE is important for teacher identity development.

4. Discussion

4.1. Special Characteristics of CCTs

There is wide agreement about the potential benefits, which CCTs can bring to the teaching profession. Principals consider older teacher education graduates (CCTs) as better at managing students and connecting with parents [101], suggesting their view that CCTs' multiple i-positions generate perspectives, insights, and skills that are useful to the work of being a teacher. However, complexities are inherent even in CCTs' strengths [7], and the work of developing a new teacher identity cannot be taken for granted.

CCTs are also vulnerable to tensions arising from their multiple identities and maturity. According to Synder et al. [14], because CCTs experience "a drastic change in their professional identity but also a potential loss in social status and income" (p. 635), they must be supported to experience the transition to teaching as "social rebirth rather than social death" (p. 634). For CCTs, other tensions related to developing a teacher identity can arise from discontinuity and CCTs' expectations of what it means to be a teacher, compared to their expectations. In support of the discourse of specificity, the importance of adaptability to context as part of a successful teacher identity is stressed by den Hertog et al. [102]. Their study of CCTs' routine and adaptive expertise, and its transfer into their teaching practice, revealed that CCTs bring a mixture of routine and adaptive expertise, which they have each developed within specific tasks or situations in their prior work. The findings of this review suggest to us the value of bringing these largely invisible, unspoken factors into the discourse, within ITE and schools.

4.2. Implications for ITE

Significant implications arise from CCTs' tendency to only gradually appreciate ITE and learning from educational research (which some saw as a pseudo-science), combined with their eventual realization that teaching is a very complex, people-centered profession. The importance of sufficient time in ITE programs for CCSTs to develop an in-depth understanding of what being a teacher involves [18,21] is underscored by the lower levels of job satisfaction reported by teachers who train in fast-track ITE [103]. This is especially significant in the context of CCT teacher identity development, because short-track ITE is a pathway to teaching for CCTs in many countries, including Sweden, Switzerland, Denmark [103] and Germany [104].

Review findings suggest possibilities for content to be integrated into ITE programs. We recommend that ITE programs include explicit teaching about the nature of education research, which forms the evidence base for teacher professional learning, especially to support CCSTs who transition from disciplinary study and careers, which draw on quite different research traditions, such as STEM. Taking on a teacher identity for CCSTs calls for not only the development of sophisticated, theory-based ways of understanding subject-related teaching and learning but also emotional growth (e.g., [14,20,52]). Therefore, Synder et al. [14] recommended strategic provision of opportunities for CCSTs to have experiences that generate positive emotions such as joy and satisfaction, which can affirm their emerging teacher identities. We also recommend that ITE programs include opportunities to reflect on and surface possible challenges that CCSTs may encounter and opportunities to consider and reflect on the efficacy of various coping strategies [38]. For many CCSTs, prior work experience in which performance is valued over continuous learning means that for them, the notion of being a lifelong learner within a teaching career may necessitate a significant attitudinal shift. Therefore, we suggest that in ITE, this value is explicitly stated and modeled by teacher educators and mentor teachers. Because, initially at least, CCSTs tend to think of teaching as explaining content, we recommend that ITE programs, including in-school placements, include a strong focus on pedagogical content knowledge [105]. These recommendations for content within ITE programs highlight the need for addressing complexity within ITE, by addressing CCSTs' distinctive multiple identities, backgrounds, and needs; we argue that their neglect could hinder CCSTs' positive teacher identity development.

In the current neoliberal environment, there is a trend toward fast-track ITE, incentivized by government funding schemes, often with an emphasis on in-school training. However, this model of teacher training creates risks for professional teacher identity development, especially for the development of reform-minded teachers [30], because it tends to promote taking up current (possibly poor) practices in teacher identity construction. For example, Kelley, in the work of Grier and Johnson [18], took some time to realize teaching is not "a bag of tricks" (p. 40). CCTs' experience of ITE as an experience that challenges their prior beliefs and is a difficult, complex process concurs with that of other student teachers (e.g., [28]). In accordance with our findings, which stress the need for time to work through the liminality of career change and the complex, demanding work to gain a new teacher identity, we recommend that CCSTs do not participate in fast-track ITE programs and that teacher educators advocate for ITE that is potentially better able to meet the needs of CCSTs and, thus, the profession as a whole. Investment in high-quality effective ITE that meets the needs of emerging teachers, including CCTs, is important, in the interests of sustainable long-term gains for the teaching profession, and because, as Del Gobbo [106] explained, "schools and teachers are seen as change agents of societal challenges in sustainability, globalization, well-being, inclusiveness, and technology" (p. 163).

Findings from this review reinforce Schuck's [95] point that "teacher education institutions need to consider the varied needs of their students" (p. viii). In 2010, Tigchelaar et al. [107] proposed tailor-made pedagogy for CCSTs, and our findings affirm their argument and highlight that attention to the development of teacher identity must be part of effective ITE for CCSTs. Ways to address CCSTs' needs may include offering different

options for learning, such as part-time alternatives, online ITE, or the opportunity for flexible engagement (the ability to participate on-campus and/or online), to cater to CCSTs' multiple identities. Differentiated teaching and learning in ITE, which means rejecting a one-size-fits-all approach to ITE in favor of teaching and learning that can be tailored to meet individual needs, is desired by CCTs but is also more costly, so not well-aligned within the neoliberal university model. There is a range of possible ways that differentiation could be enacted within ITE. Allowing choice within assessment activities could enable CCSTs to address their specific areas of need, and CCSTs could have options for ways to demonstrate their competence. Learning activities that draw out CCSTs' funds of identity [108] could explicitly encourage CCSTs to identify and consider implications from points of connection and disconnection [109]. Establishing cohort groups for CCSTs within programs that cater to both FCTs and CCSTs would provide a forum for discussion related to CCSTs' specific strengths, challenges, and questions and, thus, ease the demanding process of identity transformation. For example, a CCST group would benefit from collaboratively considering potential losses and gains from career change [110,111]. Such a cohort group could collectively develop "new understandings of teaching and personal affordances" (p. 12) [7], and potentially develop realistic expectations about the development of competence as teachers, through reflection on the time taken and process of developing their previous career identity. Furthermore, scholars agree that CCSTs bring considerable strengths and skills to teaching [7], and CCSTs' strengths should be drawn in ITE [107,112].

Grier and Johnston [18] recommended integrating experiences in ITE that allow CCSTs to identify and reflect on similarities and differences between their prior career and teaching, and, supporting this notion, Molander and Hamza [21] pointed out that sufficient time must be available in ITE for CCTs to work through shifts in their thinking and implications for their emergent teacher identities. Sometimes CCTs thought a skill would be transferable, but this was not the case. Similarly, den Hertog et al. [102] found that CCTs' development was hindered when they perceived their previous professional expertise as useful when in fact they were applying "an incorrect estimation of similarity with a previous task" (p. 7). Similarly, den Hertog et al. [102] revealed a lack of support for CCTs to "help them compare previously executed tasks with potentially similar ones in the new job" (p. 7). One challenge for CCTs is their own expectation that they will very quickly be expert teachers, because they were experts in other careers (e.g., [15,20]) Therefore, for CCSTs, the incorporation of opportunities for reflection is important to support their shifting career identities, and we recommend that ITE programs include such opportunities.

4.3. Implications for CCTs' In-School Experiences

Findings that highlight the importance of CCSTs' understanding of what teaching involves reinforce the role of in-school experiences within ITE, and we would argue for their early incorporation, as well as encouragement for career-changers considering teaching to spend time in a school prior to committing to ITE, including potentially shadowing a teacher. CCSTs may benefit from access to counselors who can provide information about teaching as a profession and support their reflection on its suitability for them personally [113]; alternatively, this could become part of the role of teacher educators, who could potentially take a socio-constructivist approach with a cohort of CCSTs [7]. With CCTs forming a growing proportion of the teacher workforce, it may be increasingly possible for CCSTs to be mentored in schools by CCTs, who will appreciate the special nature of the liminal space that CCSTs occupy. Mentor teachers who are CCTs arguably are in a unique position to support CCSTs, because they have successfully undertaken the hard work of reframing their career identity.

Possibly building on an understanding that teaching is fundamentally about teaching students, experienced teachers' reticence to acknowledge the knowledge and skills that CCTs bring suggests that CCTs themselves and the wider teaching community view these differently. Because gaining a professional teacher identity includes being recognized as

such by others [54], this difference in perspective can be problematic for CCTs, especially because they long for recognition [8].

Regarding the contradictory narratives at play, Trent [15] conceptualized CCT's perspectives as reflecting the discourse of transferability: "a belief that experience, knowledge, and skills are portable across space and time, and that CCTs' past professional and life histories provide them with competencies that are invaluable and sufficient for their construction of teacher identities" (p. 939). In contrast, as Trent explained that the discourse of specificity highlights the importance of context-specific teaching practice, holding that "construction of teacher identity is based upon experience, knowledge, and skills that are specific to educational settings" (p. 939). This conceptual lens reveals tensions that constrain CCTs' teacher identity development, as they make it difficult for CCTs to be acknowledged by colleagues as more than novice teachers and to differentiate themselves from those whose practice they disparagingly consider routine.

Reviewed studies provided insights into the complexity of CCTs' experiences of professional relationship-building within their communities of practice, which potentially overlaps with competing discourses described above. García-Martinez and Tadeu's [114] literature review also highlights how the nuances of socialization affect teacher identity development, and "(emphasizes) the double influence between how (teachers) see themselves, how they think others see them, and how the rest see them" (p. 154). For CCTs, Coppe et al. [115] found that socialization into teaching was a key aspect of successfully establishing a teacher identity because their preferred way of learning is via collegial conversations; however, the "peripheral positions held by (CCTs) within their school professional networks" (p. 11) [115] threatened their teacher identity development, as did the culture of silence related to difficult emotions in some schools [32]. As a group, CCTs assign very high importance to social support within schools [38], which means that their socialization networks significantly impact their developing teacher identities [116].

The agency is a key principle within career construction [96,97] and Buchanan and Olsen [26] found that CCTs' experiences of socialization into teaching featured different levels of agency, echoing other recent findings, that, in many cases, emerging teachers were "tacitly encouraged to act like the teachers they saw around them" (p. 203) [26]. One distinctive way that CCSTs exercise agency is that they create their own networks within schools, not confining themselves to the support of assigned mentors, but they also experience many situations in which they feel powerless [38]. This is important because, as Beauchamp and Thomas [25] explained that "developing a strong identity has to do with the emergence of agency as a way to externalize an identity" (p. 7). In the absence of agency, CCTs' ability to construct a strong teacher identity is problematic [75,117].

As they transition into a new teacher identity, many CCTs experience interactions with colleagues and/or students that they find difficult. Interactions with colleagues that can cause tensions can take many forms, including, for example, receiving feedback that is more critical than they feel is warranted, or a lack of enthusiasm for their ideas. Sometimes CCTs were reluctant to acknowledge that they are learners, and that their ideas may be dismissed for good reasons, such as due to experienced teachers' knowledge of what has or has not worked in a specific school context.

Due to the importance of relationships and socialization into the teaching community for CCSTs, we recommend that ITE institutions offer professional development for mentor teachers in schools, to enhance their readiness to nurture CCSTs in their career transition. We suggest that benefits for CCSTs might arise from mentor teachers reflecting on questions related to their attitudes and actions toward CCSTs who join their school community as part of their ITE program. Some useful reflection topics might include how they think about CCSTs, how they promote CCSTs' belonging and involvement in the school community, and their beliefs about agency within teacher identity development, as well as beliefs about balancing work and multiple identities. Underlying these recommendations are two key ideas: schools need to identify their current beliefs and practices for CCSTs and offer specific supports that meet the needs of CCSTs.

We note that tensions can provide opportunities for growth [118], and as for other emerging teachers (e.g., [119]), how CCTs deal with these challenges could have repercussions on their job satisfaction, willingness to stay in teaching, and emerging professional identity. As Pearce and Morrison [119] argued, emerging teachers need opportunities and tools to resolve their experiences of cognitive dissonance, to minimize negative effects on their resilience. Furthermore, to support their successful teacher identity development, CCTs need effective coping strategies, and Pearce and Morrison [119] maintained that because of the discursive nature of identity development, these must include interpersonal approaches. Van Heijst et al. [38] found that CCTs themselves consider they are aided by characteristics that "make some coping strategies more accessible to them (such as) knowing how to develop their ideas independently . . . being able to put matters into perspective . . . and well-developed communication skills" (p. 401).

Van Heijst et al.'s [38] study of CCSTs' chosen coping strategies revealed four types: intrapersonal avoiding, intrapersonal approaching, interpersonal avoiding, and interpersonal approaching; furthermore, their findings illuminated CCSTs' perspectives about which types of coping strategies supported their teacher identity development. Intrapersonal avoiding strategies were those that involved ignoring the tension; although CCSTs characterized them as unhelpful, they were applied in situations where CCSTs felt unable to make a difference and mostly were used in conjunction with interpersonal approaching strategies. The only CCST in the study who used only intrapersonal coping strategies dropped out of ITE. CCSTs used interpersonal approaching strategies throughout their ITE, with more of a focus on discussion with others within the educational context as their ITE progressed. However, the most prevalent coping strategy was taking problem-solving actions, especially to prevent tensions from occurring; this intrapersonal approaching strategy seemed to reflect CCSTs' autonomy and independence and was employed increasingly by CCSTs later in their ITE, as they developed more confidence in their own vision of their teacher identity and cared less about what others thought. Van Heijst et al. [38] found that intrapersonal approaching strategies were both useful and risky, because they meant that others remained unaware of CCSTs' tensions. They also identified that "avoiding strategies serve a purpose" (p. 401), because they helped CCTs to "endure and subsequently reflect on a tension-evoking moment" (p. 402). These findings highlight the potential value of explicit learning about and reflection on coping strategies during ITE, which might also draw on other models, such as the 4 S system for taking stock of coping resources, developed from Schlossberg's [110,111] work, to support CCST's teacher identity development within this period of liminality.

4.4. Theoretical Frameworks for Research in the Field

Within this small field of scholarship, we note that the theoretical frameworks applied were more numerous than the studies that we found to review. Scholars utilized diverse theoretical frameworks, highlighting the value of a range of theories to explore research questions to understand CCTs' teacher identity development. In a number of papers, multiple theoretical frameworks were identified, and in some cases, findings suggested the potential relevance of additional theoretical framework(s) to complement the identified one(s). For instance, Navy et al. [51] stated that applying a constructivist career theory lens situates the individuals' actions in constructing their career trajectories as the site of identity development, leading us to conclude that Navy et al. [51] took an approach to Wenger [54] from identity as a learning trajectory. Similarly, Wilson and Deaney [20] did not identify Wenger's theories as relevant to their study but selected theorists whose ideas are consistent with Wenger's. Although Taijfel and Turner's [62] work preceded Wenger's, their ideas about teacher identity development in schools involving aligning oneself with groups that support one's chosen identity connects with Wenger's concept of identity through alignment, as does the importance of identity validation in the work of Ashforth et al. [63]. Billet's workplace theory [71,72], utilized by Green [49], can be interpreted as consistent with Wenger's description of apprenticeship or guided participation within

a school setting as leading to teacher identity development. Therefore, these findings highlight the enduring relevance of Wenger's [54] work, as well as its applicability within the context of CCT teacher identity development.

Findings from this literature review highlight the value of multiple theoretical frameworks, including career engagement and development theoretical frameworks from beyond education. We hope that the illumination of applied theoretical frameworks may support future research, by helping scholars to identify relevant frameworks and also consider interpretation of findings. However, the selection of theoretical frameworks applied within the reviewed studies does not suggest that this is a complete list; we note that, in her study of CCTs from the creative industries now teaching in the primary sector, Robb [120] drew on Bourdieu's [121,122] theory of cultural capital and its role in the maintenance of class systems. Beyond its relevance in research, we argue that interrogation of theoretical frameworks applied to CCTs would also be of value in schools and ITE, including critical reflection on espoused theories and theories in action [123]. When teacher educators and professionals within schools work to identify their (potentially implicit) theoretical framework(s), this could be an initial step for critical reflection about how this may affect CCSTs, especially in their teacher identity development.

All theoretical frameworks that emphasize the role of learning in teacher identity development point to CCTs' ability to reinvent themselves through taking up new knowledge and skills, which can involve dismantling long-held beliefs. Beliefs such as teaching are "good explanations", "the students will settle down and listen", and management and other skills are easily transferable from one workplace to another. However, such beliefs are flawed, and CCSTs need opportunities to engage deeply with educational theories, in order to inform their teacher identity development.

4.5. Limitations

The results of this systematic literature review are affected by several limitations. Bias arose from the consideration only of articles published in the English language, due to the authors' lack of shared linguistic competency beyond English. Therefore, all reviewed papers feature a Western-oriented perspective. If our review team had been fluent in more languages, the results may have been impacted. We are aware that scholars who publish in other languages also contribute knowledge to this field, including, for example, Victoria David (who works in France and publishes in French) and Isabel Raemdonck (who works in Belgium and publishes in French), and we regret being unable to include such works in this review.

Differences in education systems for teacher training across countries could have affected the review findings. The articles on which we based our findings are from the Netherlands, Hong Kong, the USA, Australia, England, Sweden, Estonia, and Israel. Each country's educational system is shaped by many cultural, historical, and social factors, which result in differences in structure, curriculum, teaching, and decision-making. Within each country, social expectations of who teachers are and what they do from various stakeholders (state, local, school) impact ITE program design and the kinds of teachers that ITE programs aim to produce [124,125].

Although we aimed for objectivity within the selection process, by means of clear, detailed description and rigorous application of our inclusion and exclusion criteria, we decided to exclude one paper because our own definition of CCT differed from that applied by the authors, Li and Lai [36]. The participants' change in career was from teaching English as a second language (ESL) to teaching Chinese as a second language (CSL), and we decided to exclude it because the teachers were shifting their careers within high school teaching. We acknowledge that this was a subjective decision, because other reviewers may have included this paper, especially because Li and Lai [36] identified it as relating to CCTs.

5. Conclusions

Black and Warhurst [16] conceptualized career transition as a process of "unlearning an established identity and learning a new identity" (p. 26), highlighting that career change is more than the acquisition of new skills and knowledge and/or taking up a new role. The process of developing a new teacher professional identity had diverse outcomes for individual CCTs, with some struggling to leave their prior career identity behind [15], others taking on a new teacher identity while also retaining their prior professional identity [19,48], and some ultimately rejecting a new teacher identity [20,21,50]. Each of these can be understood as a type of coping strategy and may possibly link with CCTs' motivation to teach. Importantly, CCTs' diverse identity trajectories out of and into teaching, as well as their multiple and potentially conflicting i-positions, exemplify challenges for successful career identity transition that are unique to this group. Compared to FCTs, CCTs' take up of a teacher identity involves a more complex nexus of multi-membership, with all the associated reconciliation [54]. Thus, CCTs' construction of teacher identity is not a process that can be taken for granted, which underscores the value of ongoing scholarship to interrogate how best to support CCSTs to navigate this transition and successfully achieve their new professional identity.

Although scholarship related to teacher identity is well-established, we found only 15 studies that addressed research questions related to the development of CCTs' teacher identity, mostly small case studies of CCTs' experience as they transitioned from their prior career into the teaching profession. Our search revealed very few studies that interrogated the resources, experiences, and processes within ITE that were helpful for CCSTs' successful teacher identity development. Although findings from wider scholarship shed some light on key factors that affect teacher identity development, for many studies, this was not the specific focus. The extant literature demonstrates that CCSTs' and early career CCTs' experience and perspectives warrant investigation, to develop knowledge about how ITE, schools, and other stakeholders can support CCTs' successful teacher identity development. Thus, because CCTs are a distinct group, with different identities and needs in comparison with FCTs, we recommend further research in this field, and we call on ITE providers and schools to use the insights from research in the field to design support, which specifically addresses CCSTs' distinctive needs as they work through the complex messiness of career transition and development of teacher identities.

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