

Students with disabilities in initial teacher training and the dilemma of professional competence

A systematic review

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ABSTRACT

While the international agenda has promoted the need to diversify the teacher workforce, research on student teachers with disabilities is rare. However, initial teacher training (ITT) faces a meaningful dilemma, that calls for a critical examination: it has the duty to provide reasonable accommodations and, at the same time, it is accountable for training teachers through professional standards (“dilemma of professional competence”). This article provides a systematic review pertaining (1) the main issues related to students with disabilities in ITT and (2) the different forms assumed by the “dilemma of professional competence” within the programme. Twenty empirical studies, published between 1990 and 2018, were included. Seven thematic areas and three forms of the dilemma (institutional, personal and cultural) emerged from the analyses. Key findings confirm that students with disabilities’ personal journey is fraught and highly complex in ITT. While they also reveal the crucial role of the “dilemma of professional competence,” they show the need to reframe it considering the active role played by students with disabilities in adopting coping strategies, beyond the reasonable accommodations received, and the potential of a pluralization of the teacher competence profile, beyond the rigid idea of a standard one.

RÉSUMÉ

Les étudiants en situation de handicap dans la formation initiale des enseignants et le dilemme de la compétence professionnelle. Une revue systématique

Bien que l’agenda international ait souligné la nécessité de diversifier le personnel enseignant, les recherches portant sur les étudiants en situation de handicap en formation initiale d’enseignant sont assez rares. Pourtant, la formation des enseignants est confrontée à un véritable dilemme: l’obligation de proposer des aménagements raisonnables tout en respectant un parcours de formation qui soit conforme aux standards de la profession (“dilemme de la compétence professionnelle”). Cet article propose une revue systématique concernant (1) les principales questions liées aux étudiants en situation de handicap dans le cadre de la formation initiale et (2) les différentes formes que revêt le “dilemme de la compétence professionnelle” au sein du programme. Vingt études empiriques, publiées entre 1990 et 2018, ont été incluses. Sept domaines thématiques et trois formes de dilemme (institutionnel, personnel et culturel) sont ressortis des analyses. Les principales conclusions montrent que le parcours personnel des étudiants en situation de handicap dans le domaine de la formation initiale est difficile et complexe. Bien qu’elles révèlent le rôle crucial du “dilemme de la compétence professionnelle,” elles montrent aussi la nécessité de le redéfinir en tenant compte du rôle actif joué par les étudiants en situation de handicap dans l’adoption de stratégies d’adaptation, au-delà des aménagements raisonnables obtenus. La possibilité d’une pluralité de profils de compétences dépassant l’idée stricte d’un profil uniforme est également discutée.

Keywords

- Student teachers with disabilities
- Initial teacher training
- Systematic review
- Dilemma of professional competence
- Diversity
- Inclusion

Mots-clés

- Étudiants-enseignants en situation de handicap
- Formation initiale des enseignants
- Revue systématique
- Dilemme de la compétence professionnelle
- Diversité
- Inclusion

Author's note

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1. Introduction

Although students' profiles are increasingly complex in terms, for example, of socio-economic status, nationality, ethnicity, religion, sexual orientations and ability, this diversity is not represented within the teaching population, which is still characterised by homogeneity and composed by the main ethnic and social groups (Schleicher, 2014; OECD, 2016). One specific focus within this body of research is disability and, in particular, students with disabilities in initial teacher training (ITT). The Salamanca Statement (United Nations Educational, Scientific and Cultural Organisation [UNESCO] 1994, point 47) and, more recently, the Convention on the Rights of Persons with Disabilities [CRPD] (United Nations [UN] 2006, article 24, point 4) explicitly mention the fact that schools should recruit individuals with disabilities as teachers and, consequently, train them.

Following Keane and Heinz (2016), on a global scale, the reasons to diversify the teaching population mostly focus on two issues. Firstly, the assumed benefits of diverse teachers, as they are considered key factors in the evolution of educational systems and society in order to become more inclusive and democratic (Santoro, 2015). Secondly, the "equity of access perspective": the fact that the proportion of teachers from under-represented groups is very limited (Schleicher, 2014; European Commission, 2016) may indicate barriers throughout all stages of one's teaching career, starting from the access point in ITT.

In terms of the benefits related to teachers with disabilities, much of the discussion has revolved around their potential as inspiring role models (Pritchard, 2010; Grenier, Horrell & Genovese, 2014). In fact, they seem to be better equipped to empathize and have more insights especially with reference to struggling students, and this knowledge is often used as a foundation for their more inclusive pedagogies (Vogel et al., 2007). In addition, it is believed that all students can benefit from teachers who are able to integrate perspectives which are more respectful of differences in school curricula (Pritchard, 2010), revealing "spaces in education that often get silenced" (Anderson, 2006: 368).

As far as "equity of access perspective" is concerned, questions about teachers with disabilities' under-representation have remained unaddressed so far (Keane, Heinz & Eaton, 2018). Hence, gaining a more complete understanding of the current knowledge on students with disabilities' experiences in ITT is of pivotal importance.

2. Students with disabilities in ITT

Even though there has been a growing emphasis on policies to support inclusion in higher education, little consideration for the unique situation of professional programmes, such as teaching, has been given, and thus, this has often resulted in troubling experiences for students with disabilities (Bulk et al., 2017). In a recent literature review, Neca, Borges and Pinto (2020) examined 53 papers more broadly pertaining teachers with disabilities and they pinpointed, within the subtheme identified as “teacher training,” two major obstacles for student teachers: (1) the lack of adequate support by university staff, and (2) the disclosure of their disability. The results point to the faculty’s failure to provide tailored accommodations since academic staff do not seem to be conscious of student teachers’ needs. Moreover, disclosure of disability is considered by students as high risk, due to stigma-related concerns, although, on the other hand, sharing this information with university staff and mentors seems to make a positive difference in relation to receiving an adequate support.

A disconnection between school and academic-stated inclusive positions for students with disabilities and the actual practices implemented emerges, in particular, during practicum (e.g., reticence to accept, accommodate and mentor students with disabilities; Bargerhuff, Cole & Teeters, 2012). However, the field has been more widely explored for other professional programmes, such as health professions (Stanley et al., 2011; Hargreaves et al., 2014).

3. The dilemma of professional competence in ITT

Another factor making the people with disabilities’ pathway in ITT more complex is that universities are being held accountable for the preparation of qualified teachers, and for the certification of their students’ professional competence, that subsequently leads to the conferral of the status and eligibility to practice the profession (Clayton, 2009). In order to certify the teacher’s competences on the basis of clear criteria, in many countries the teaching profession is subject to standards, namely to normative expectations in terms of knowledge, skills and competences that all candidates are expected to meet and that become the benchmark for the admission, retention, and performance in the school practicum and graduation (Squires, 2015).

Students with disabilities are also expected to meet professional standards with the reasonable accommodations required. The Convention (CRPD) defines reasonable accommodation as an *ex nunc* duty, that “must be provided from the moment that a person with a disability requires access to non-accessible situations or environments or wants to exercise his or her rights” (UN, 2006; article 5.3). Therefore, it is “reasonable” if it serves the purposes it was conceived for and if it does not cause a disproportionate or undue burden to the accommodating party. In fact, students who disclose their disability become eligible for reasonable accommodations ranging from the more traditional ones, such as extended time or tape record class, to alternative methods to demonstrate their competence. As Scott and Gregg (2000) specify, these can enable students to perform “essential tasks” that are pertinent to their programme, without compromising it. However, the perception that reasonable accommodations

may allow people with disabilities to achieve their goal through a lower standard has been highlighted by some professionals (Hargreaves et al., 2014). These concerns are echoed by Parker and Draves (2018), who observe that the academic staff's notion that there is only a unique way to teach effectively can buy into an extremely strict consideration of specific tasks teachers must perform. Then, the professional standards can constitute a challenge, since they relate to possessing a predefined array of technical criteria that make an individual eligible for such job, without taking into account people who are "otherwise qualified" or outperformed in domains that are not considered (Shrewsbury, 2015). In sum, this results in what we call the "dilemma of professional competence."

The idea that ITT (Cochran-Smith, 2005) and the field of inclusive education pose some dilemmas is not new (Minow, 1990; Dyson, 2001). They arise from different or even contrasting values or approaches that seem to produce opposite, but valuable practices and policies. The most known example is the dilemma of difference: "seemingly unavoidable choice between, on the one hand, identifying children's differences in order to provide for them differentially, with the risk of labelling and dividing, and, on the other, accentuating the 'sameness' and offering common provision, with the risk of not making available what is relevant to, and needed by, individual children" (Terzi, 2005: 443). Norwich (2008, 2013) has elaborated the construct, recognizing three different dilemmas (the identification, the curriculum and the placement dilemma) on the basis of the way teachers deal with choices regarding the tension between sameness/communalities and difference/individualization in practice.

In this article, leaning on Norwich's work, we use the term dilemma not simply to indicate a tension between two alternatives, but to describe two conflicting and contradictory alternatives where the choice of one – regardless of which – in favor of the other, implies unfavorable consequences. In ITT, the "dilemma of professional competence" is declined, in its basic form, by means of the following statements:

- if student teachers receive reasonable accommodations in ITT, they are less likely to fully match the defined standards of a competent teacher;
- if student teachers are expected to complete ITT fully following the defined standards, they are more likely to be excluded or not to complete the training.

The aforementioned considerations on dilemma have strongly alluded to the presence of these tensions in ITT, yet they call for greater empirical research to advanced knowledge in this area.

4. Research paradigm

This article is theoretically aligned with the "embodied ontology" of disability (Shakespeare & Watson, 2002), which values the merits of the social model of disability, but also recognises the role the body plays in terms of how the disability is experienced, and looks at the interaction between the two aspects (Shakespeare & Watson, 2002; Jenks, 2019). In this way, both the risks of "reductionist" individual-medical and social models of disability (Shakespeare, 2014) are limited. In fact, we acknowledge that experiences of disability arise from the relationship between the impairment and attitudinal

or environmental conditions that impede a full participation in society (UN, 2006). Relating this to student teachers specifically, this means that the presence of an impairment does not result, in itself, in an inability to perform the teaching profession. At the same time, “effects of impairment” are not left out of sight (Thomas, 2007). Their disability, in fact, is shaped by the interaction between biological factors and university and school environments. In this respect, some authors claim (Storey, 2007; Bulk et al., 2017; Saltes, 2020) that ableism and a normalising ideology are endemic in academia and schools. Therefore, the way accommodations and standards are conceptualised in ITT needs to be addressed critically in research, as it can prevent people with disabilities from applying or can contribute to exclude and/or marginalize them once in (Disability Rights Commission, 2007).

5. Aims and research questions

Against this background, a systematic review (Moher et al., 2009) was conducted, as it is a reliable and effective approach for investigating the status of the current research. Thus far, to the best of our knowledge, there has been no systematic examination of research findings on the specific topic of student teachers with disabilities (except for the broader literature review by Neca, Borges & Pinto, 2020). Our systematic review is therefore guided by the following research questions: (a) What are the main issues in research findings regarding students with disabilities in ITT? (b) Which forms does the “dilemma of professional competence” assume in research studies regarding students with disabilities in ITT?

6. Search strategy

Two electronic databases were consulted in December 2018: Education Source and ERIC (Education Resources Information Center). These two databases were chosen based on their relevance to and affiliation with the research topics, as they are currently the two main sources for finding publications in the educational field.

6.1. Inclusion criteria

Articles were included in the systematic review based on these following criteria.

- Study design: studies could be quantitative; qualitative; mixed-method or multi-method.
- Topic: studies needed to address experiences of students with any type of disabilities (e.g. learning disabilities, hearing or visual impairments, etc.) in ITT, excluded significant intellectual disabilities (e.g. severe autism spectrum disorders). We have chosen to exclude these students because, in most countries, the teaching profession is subject to “fitness to teach” requirements, which implies that candidates in any case must be able (with reasonable accommodations) to meet the standards of the programme or the requirements for state licensure based on specific academic skills.

- Setting: studies needed to be carried out in ITT provided at an academic level that could prepare teachers for special schools or for mainstream schools and for any school levels (from kindergarten to secondary schools).

- Publication timeframe: studies were required to be published between 1990, given the increasing attention to the topic of disability in higher education at the end of the past century, and 2018.

- Language and publication type: no constraints were placed on publication types (both peer-reviewed articles and grey literature, such as research published in non-commercial form, were considered) and language.

To reduce any bias, considering that studies could have been carried out in any country and language, an extensive list of synonyms of the search terms has been provided.¹

6.2. Literature search

The initial search resulted in 1366 records. After the removal of duplicates, the screening of 1200 of titles and abstracts of eligible papers was undertaken. In this primary evaluation, most of the abstracts were discarded since they were not empirical research (theoretical papers) or they did not examine our topic (most of the discarded articles investigated experiences or training programs to teach to students with disabilities). To identify further relevant studies, we screened the references of all studies that were included at this stage. This yielded four additional studies that potentially met our inclusion criteria. Then, 60 articles required closer review and were assessed for relevance and eligibility by the authors; a further 40 articles were excluded (according to methodological quality too, see par. 6.3). Finally, a total of 20 research studies met our inclusion criteria.² Figure 1, below, describes the flow of papers included in this systematic review.

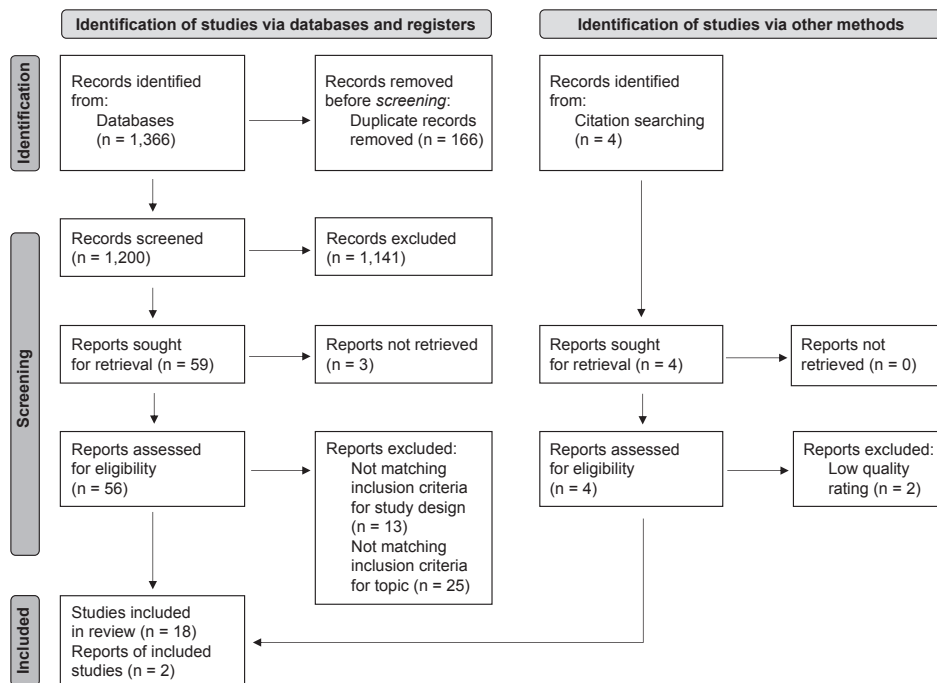
6.3. Methodological quality assessment

Considering that in the review process we did not use the criterion of peer-reviewed journals – that should guarantee high quality rating per se – methodological quality assessment was undertaken. For the purpose of our study, we adopted a broader concept of “evidence” (Mitchell & Sutherland, 2020), that embraces a high level of rigor both in terms of qualitative and quantitative (or mixed) research, avoiding a narrow focus on only randomized controlled studies. The “Standard Quality Assessment Criteria for Evaluating Primary Research Papers from a Variety of Fields” (Kmet,

1. Search string: (“teacher education” OR “teacher programme” OR “school placement” OR “teacher training” OR “traineeships for teacher*” OR “teaching internship*” OR “practicum for teacher*” OR “traineeship* for kindergarten teacher*” OR “traineeship* for preschool teacher*” OR “traineeship for kindergarten teachers” OR “practicum for kindergarten teachers” OR “practicum for preschool teachers” OR “kindergarten placement” OR “preschool placement”) AND (“student*” OR “candidate” OR “candidat*” OR “applicant*” OR “pre-service”) AND (“disabled” OR “disabilit*” OR “dyslexia” OR “dyslexic” OR “blind*” OR “deaf” OR “physical impairment*” OR “learning difficult*” OR “hearing impairment*” OR “visual impairment*”).
2. As systematic reviews potentially invoke ongoing research work, it is worth mentioning some other articles that have been published on the topic after 2018, such as Moore et al. (2020); De Klerk, Palmer & Alexander (2021); Jacobs et al. (2021).

Lee & Cook, 2004), also used in other systematic reviews (e.g., Lindsay, Cagliostro & Carafa, 2018), guided our evaluation.³ The overall scores of the evaluation process are set out in Table 1 (in the Appendix). According to the assessment results, the two studies (Duquette, 2000; Morgan & Rooney, 1997) with less than 50% in a range from 0 (no criteria met) to 100% (all criteria fully met) were excluded.⁴

FIGURE 1. STUDIES' SELECTION PROCESS. ADAPTED FROM PAGE ET AL. 2021



7. Data analysis

The 20 selected empirical studies were analysed, firstly, by means of a table that classifies some dimensions, such as the country in which the study was conducted and participants involved in order to give an overview of the research found (see the Table 1 in the Appendix for all summed up dimensions). Secondly, following Braun and Clarke's (2006) guidelines, an inductive thematic analysis of the research findings was performed to address the first research question through these steps: (a) repeated reading; (b) identification of relevant units of meaning (conceived as discrete portions

3. Kmet, Lee and Cook appraisal check-list has a three-point ordinal scoring system (yes = 2, partial = 1, and no = 0) that provides a systematic, reproducible, and quantitative means of simultaneously assessing the quality of research encompassing a broad range of study designs. The total score can be converted into a percentage score, with a score of >80% considered strong quality, a score of 60-79% considered good quality, a score of 50-59% considered adequate quality, and a score < 50% considered to have poor methodological quality.
4. The main reasons for the poorer quality ratings of these two studies were: limited information about data collection and analysis and procedures to establish credibility. They also did not address reflexivity of the researcher.

of text where a matter relevant to the research questions emerges); (c) labelling of each unit using a descriptive code; (d) collating of the codes into themes; and (e) grouping of the themes into thematic areas. Regarding the second research question, the “dilemma of professional competence” was used as a code, defined deductively as the tension between the student teachers’ right for accommodations and normative standards. Portions of text addressing these tensions were labelled with the code and became the base for the inductive successive creation of subcodes describing the different forms of the dilemma. The coding process was conducted by two independent review authors and doubtful cases were discussed jointly.

8. Results

8.1. Studies characteristics

The twenty studies deemed eligible for inclusion were from Canada (n=4), Ireland (n=4), the UK (n=4), the US (n=4), Israel (n=2) and Australia (n=2). All articles are in english, except for one (french-language). Nearly all papers (n=17) focused on a singular source to acquire information. The majority used students with disabilities as informants (n=14), while other studies reported also other participants’ voices, namely ITT Directors (n=3), faculty members (n=2), cooperating teachers (n=1), faculty advisors (n=1), admission tutors (n=1) and teachers already in-service (n=1). As regards the type of disability of informant students, 5 studies included students with learning disabilities (mainly dyslexia), followed by other 5 studies that included students with hearing impairments. Students with physical, visual and other health impairments (e.g. leukemia) participated, respectively, in 1 study. Moreover, 4 studies did not specify the type of disability experienced by the participants.⁵

8.2. Research question 1: Main issues in research findings

For what concerns the question regarding the issues covered by the research findings on students with disabilities in ITT, seven thematic areas have emerged from our review.⁶

8.2.1. Reasonable accommodations

The most represented thematic category (12 papers) is the one dedicated to the provision of reasonable accommodations which student teachers are entitled to by law.

Regarding the procedure of selecting suitable entrants, two studies analysed how universities in the UK (Riddick & English, 2006) and in Israel (Sharoni & Vogel, 2007) adapted (or not) them to facilitate student teachers with learning disabilities. They both report that most universities provide accommodations, but almost all of them are of the same limited type, such as extra time, in the concern that the standards of the entry procedure are not compromised, and mention a lack of general guidelines.

5. Since some studies had several informants with different disability categories, the latter were simply tallied.

6. Due to the limited space here, a more in-depth description of some of these categories can be found in another scientific article by Bellacicco & Demo (2019).

As concerns lessons and exams, studies that report the perspective of students with disabilities show that these accommodations are available (except for Komesaroff, 2005) and are not stigmatized (Csoli & Gallagher, 2012; Griffiths, 2012). However, looking more in depth, some distinctions can be made: faculty members appear to be seriously willing to use accommodations that respect the standards and do not alter the nature of tasks such as extra time and note taker in class, whereas some doubts about ethical and fairness issues are expressed when considering, in exams, measures like adapted grading or an alternative exam type (Baldwin, 2007; Leyser & Greenberger, 2008; Leyser et al., 2011).

Reasonable accommodations appear more challenging in the context of practicum. Both students (Griffiths, 2012; Csoli & Gallagher, 2012; Parker & Draves, 2017) and academic staff (Baldwin, 2007; Leyser & Greenberger, 2008; Lebel et al., 2016) indicate that they are less common in this setting. On the one hand, this can be explained by the academic staff's attitude: the use of accommodations during practicum raises deep resistance and ethical concerns (Baldwin, 2007; Leyser et al., 2011; Sokal, Woloshyn & Wilson, 2017). On the other hand, missing shared guidelines for practicum make the development of ad hoc solutions for academic staff very complicated (Csoli & Gallagher, 2012; Griffiths, 2012; Barwood et al., 2018).

8.2.2. Facilitators

Beyond the accommodations, eight articles examined other factors that could help student teachers. The relationship with mentors who are aware of their needs is found to contribute significantly: they offer advice and feedback and these ones positively affect students' self-confidence (Riddick, 2003; Bailes, Hulsebosch & Martin, 2010; Csoli & Gallagher, 2012; Griffiths, 2012; Lebel et al., 2016; Parker & Draves, 2017; Sokal, Woloshyn & Wilson, 2017). Moreover, findings suggest that good communication between experts (e.g., faculty advisors, Disability Service) can spur positive practicum (Griffiths, 2012; Lebel et al., 2016; Parker & Draves, 2017; Sokal, Woloshyn & Wilson, 2017). Not surprisingly, three papers also find that pre-placement preparation (e.g., a pre-identification of accommodations or the preparation of school communities, especially those less familiar with disabilities) ensures the compliance with students' needs (Barwood et al., 2018; Griffiths, 2012; Sokal, Woloshyn & Wilson, 2017).

8.2.3. Barriers

Findings from eight papers highlight, instead, other challenges for students with disabilities in practicum. Some obstacles emerge when the required teaching tasks lie exactly in the competence fields affected by the students' impairment (Riddick, 2003; Griffiths, 2012; Parker & Draves, 2017; Barwood et al., 2018). These include difficulties with spelling or reading aloud to classes or also lack of oral fluency for students with dyslexia (Riddick, 2003; Griffiths, 2012). The learning and mastering of the notation system – privileged above all other forms of music literacy in school – are significant barriers for music student teachers with visual impairment, for whom relying on sound would be easier (Parker & Draves, 2017). Rigid placement tasks, set down by standards, are other hindering factors when it comes to students' performance. Three papers report candidates feeling overwhelmed by assignment deadlines,

long teaching schedules and the modelling of portfolios requirements, in spite of any mentors' help (Macleod & Cebula, 2009; Griffiths, 2012; Parker & Draves, 2017). From the viewpoint of the mentors and the Directors of ITT programmes, both the attitudinal barriers and the schools lack of openness to accept a trainee with disability negatively impact on his/her experience (Csoli & Gallagher, 2012; Lebel et al., 2016; Sokal, Woloshyn & Wilson, 2017).

8.2.4. Disclosure

The six studies with findings regarding the disclosure of disability in ITT reveal a different perception in terms of the worthiness to openly speak about the disability in students and academic staff. While students describe a cautious and circumspect attitude in disclosing disabilities, particularly during practicum (Riddick, 2003; Macleod & Cebula, 2009; Griffiths, 2012), academic staff recognize in the non-disclosure a barrier for a successful completion of ITT (Riddick & English, 2006; Csoli & Gallagher, 2012; Sokal, Woloshyn & Wilson, 2017). Students describe the decision to disclose their disabilities as a complex process in which they must carefully weigh all pros and cons, and this after having considered all actors' attitudes and their own fear of being stigmatized; at the end of the process, it seems that many decide not to disclose them (Riddick, 2003; Macleod & Cebula, 2009; Griffiths, 2012). It is meaningful to mention that in most of the analysed studies, samples of students with invisible disabilities such as dyslexia or other learning disabilities are considered (see also Table 1) and that for them the disclosure issue is much more relevant than for students with visible disabilities. On the contrary, academic staff, such as faculty advisors or directors of ITT, see in the disclosure an essential step towards the definition of proper accommodations, also with a view to their practicum (Csoli & Gallagher, 2012; Sokal, Woloshyn & Wilson, 2017).

8.2.5. The role of disability in the teacher professional identity

The thematic category dedicated to the understanding of the role of one's personal experience of the disability in the teacher professional identity development is present in six articles, often in connection with the disclosure issue. With only one exception (Bailes, Hulseosch & Martin, 2010), the studies underline the importance for students to reflect on their personal experience with the disability and integrate it in their own professional identity (Gabel, 2001; Komesaroff, 2005). In many cases, the reflective process also becomes a form of empowerment through which negative experiences in their earlier school career can be transformed into the strength of empathy towards future students that experience discrimination or exclusion at school (Gabel, 2001; Riddick, 2003; Dvir, 2015). Finally, one study – taking departure from the choice of two students with visual impairments who abandoned the practicum and then the programme as they were feeling overwhelmed by the role of music teacher in public schools – shows that teaching in more accepting environments with less rigid expectations (e.g., theatre setting) appeared to reinforce their evolving teacher identities, since these contexts were more flexible to find alternatives to sight-based strategies (Parker & Draves, 2017).

8.2.6. Students' coping strategies

Five of the reviewed studies also point out the importance of other supports, namely the individual compensatory strategies developed by candidates with disabilities to address the afore-mentioned barriers. Two studies highlight that extra and in-advance preparation (such as writing out board work on paper first, spellchecking work-sheets, etc.) plays a crucial role in the practicum (Riddick, 2003; Griffiths, 2012). The development of personalised strategies, such as mental rehearsal or aide memoirs, increase their performance, as well as the use of technology tools which are quite commonly used to self-accommodate (Griffiths, 2012; Parker & Draves, 2017). Students with hearing impairments also find useful and creative solutions to manage challenges. Two papers refer to these: the first mentions the creation of a system to effectively complete the process of roll calling with an interpreter (Barwood et al., 2018), the second by describing the arrangement of all desks in a semi-circular formation to facilitate visual communication as well as by putting emphasis on the use of visual supports while teaching (Bailes, Hulsebosch & Martin, 2010).

8.2.7. Diversity in teacher population

Only three articles report the results of two studies conducted in Ireland (Keane & Heinz, 2015; Keane, Heinz & Eaton, 2018) and Canada (Holden & Kitchen, 2018) that aim at collecting data on underrepresented groups in teacher population, specifically looking at data related to the trend in their admission and acceptance rates. Data on applicants (collected from 2013 to 2014 in Ireland, from 2012 to 2016 in Canada) do not indicate robust figures in terms of disadvantages for students with disabilities, with the exception of the undergraduate primary ITT in Ireland (Holden & Kitchen, 2018; Keane, Heinz & Eaton, 2018). Studies also describe an increasing number of students with disabilities entering ITT, while indicating a high variation between proportions in the two countries and in individual institutions in the same country. Both studies embedded the topic of students with disabilities presence in ITT in the broader issue of diversity in future teacher population.

8.3. Research question 2: Forms assumed by the “dilemma of professional competence” in research studies

Our second research question aims at describing the different forms assumed by the “dilemma of professional competence” in ITT in the analysed empirical studies. We identified three main forms: an “institutional dilemma,” a “personal dilemma,” and a “cultural dilemma.”

8.3.1. Institutional dilemma of professional competence

We called this category “institutional dilemma” since it encompasses studies that specify the tensions of the meaningful dilemma, namely those ones experienced by universities between the right for reasonable accommodations of students with disabilities and the duty to train teachers that match a defined and standardised profile. More in detail, evidence from 13 studies included (Riddick, 2003; Riddick & English, 2006; Baldwin, 2007; Sharoni & Vogel, 2007; Leyser & Greenberger, 2008; Macleod & Cebula, 2009; Leyser et al., 2011; Csoli & Gallagher, 2012; Griffiths, 2012; Lebel et al., 2016; Parker & Draves, 2017; Sokal, Woloshyn & Wilson, 2017; Barwood et al., 2018)

in this category suggests that this type of dilemma is relevant at three different stages of ITT: in the access procedures, while sitting examinations and in practicum. In particular, the rigidity of standards and inflexibility in accomplishing some tasks appear deeper in practicum – the learning situation closest to the professional field and that therefore must ensure the development of essential professional competences –, thus reinforcing academic staff's ethic resistance to provide reasonable accommodations that modify the ways tasks are performed or the ways competency is measured. Summing up, this dilemma in ITT could be detailed as follows:

- if students with disabilities receive reasonable accommodations that also alter the core of the programme standard requirements in access procedures, exams or in practicum, then they are less likely to meet the defined standards at the end of ITT;
- if students with disabilities do not receive reasonable accommodations that also alter the core of the programme standard requirements in access procedures, exams or in practicum, then they are more likely to be excluded at the beginning or during the ITT.

8.3.2. Personal dilemma of professional competence

A more subjective dimension becomes visible in several papers (Gabel, 2001; Riddick, 2003; Komesaroff, 2005; Macleod & Cebula, 2009; Csoli & Gallagher, 2012; Griffiths, 2012; Dvir, 2015; Sokal, Woloshyn & Wilson, 2017), that fall into the category of the “personal dilemma of professional competence.” Participants in these studies are very ambivalent about disclosing their disability unless they absolutely had to, and describe a complex evaluation, especially considering the risk of marginalization and ITT professionals' negative attitudes. But, as pinpointed in the academic staff' perspective, disclosure is an indispensable step to legally grant access to accommodations. This dilemma is interesting in ITT, as disclosure also relates to the integration of an explicit discourse on student teachers' disability in their professional identity, whereby they elaborate and transform their personal experiences into conscious choices regarding their priorities in the future teacher profession, that can't be activated if the disability is silenced. Summarizing, this dilemma can be represented as follows:

- if students with disabilities openly represent their disability, they are more likely to receive reasonable accommodations and to be able to integrate their experience of disability in their own professional identity;
- if students with disabilities do not openly represent their disability, they are less exposed to the risk of stigmatization and marginalization, but, on the other hand, they will not receive reasonable accommodations and they will not be able to integrate their experience of disability in their own professional identity.

8.3.3. Cultural dilemma of professional competence

Finally, our analysis suggests that there is also a third form of the dilemma that involves the way the teacher profile is culturally defined (“cultural dilemma”). In fact, the initial “dilemma of professional competence” moves from the implicit assumption that ITT can be made accessible to students with disabilities by means of accommodations. On the other hand, two studies (Riddick & English, 2006; Parker & Draves, 2017) show that this perspective excludes the important role played by the way the teacher professional identity is culturally defined and open a discourse on what the essential functions of teaching are and how disability can be part of them. This

point of view becomes apparent in the already described choice of two students with visual impairments to leave the ITT as sight is implicitly assumed as an irreplaceable teacher characteristic (Parker & Draves, 2017). It also becomes visible when Riddick and English (2006) reflect critically on the crucial role of literacy in entry procedures and its exclusionary effect on students with dyslexia, while other crucial competences, such as relational, emotional or reflective competences, that could be – at the very least – considered as important as literacy in authentic teaching situations, are totally ignored. This dilemma could be represented as:

- if the professional identity is explicitly or implicitly defined in terms of a list of irreplaceable competences, standards are defined and students with disabilities are more likely to be excluded from ITT;
- if the professional identity is defined in a way that integrates the possibility that teachers may have a disability, students with disabilities are more likely to be included in ITT, but no standards can be defined.

9. Discussion

This paper provides a comprehensive overview of the empirical research in the area of student with disabilities in ITT. Starting from the quantitative data reported, although the increasing participation by students with disabilities in ITT seems to be encouraging, the lack of figures from more countries and the huge variation in their proportion from study to study and from university to university limits our ability to generalize this trend and requires a future, internationally shared study on systematic data collection.

Moreover, what clearly emerges from the analyzed research papers is that the student teachers' personal journey is fraught and highly complex, as found also in other studies (Bargerhuff, Cole & Teeters, 2012; Neca, Borges & Pinto, 2020). As described, the basic trade-off involved in ITT can be summarized as the tensions between the need for teacher workforce diversification and the pressure of ITT selectivity driven by standards, that tend instead to homogenise candidates (Cochran-Smith, 2005). With regard to disability, these tensions are globally represented in what we called the “dilemma of professional competence.” The findings of the present study empirically confirm the existence of the dilemma and show the need of more nuanced considerations on it linked to the three forms of the “dilemma of professional competence” that emerged. Firstly, the “institutional” form of the dilemma suggests that ITT programmes are assuming an inclusive culture that takes the right of students with disabilities to receive accommodations for granted, but only as long as the offered measures do not risk altering the required standards and the core of the professional teacher profile. This becomes particularly visible in access procedures, exams and, above all, in practicum and confirms results that have similarly been found in other professional programmes, such as health professions (Stanley et al., 2011; Hargreaves et al., 2014). On this base, the call for clear guidelines and protocols regarding accommodations becomes crucial in order to reduce the uncertainty and thus the risk that the academic staff may become too “rigid” towards students with disabilities (Langørgen, Kermit & Magnus, 2018: 10).

This dilemma intersects another perspective on accommodations highlighted in our results (related to the first research question), which suggests that students with disabilities cannot be reduced to passive receivers of accommodations. On the contrary, a self-driven development of coping strategies by means of self-determination appears to play a crucial role to become successful teachers, as a more general piece of research on students with disabilities (Anctil, Ishikawa & Scott, 2008; Garrison-Wade, 2012), and on teachers with disabilities in-service already highlighted (Burns, Poikkeus & Aro, 2013; Lamichhane, 2016). Additionally, it was noticeable how some facilitators (e.g., raising awareness schools' environment; a carefully matched between aware mentors and students) can allow these students to fulfil their roles and overcome barriers that also arise not only from standards but also from dominant stereotyped attitudes about disability (Bargerhuff, Cole & Teeters, 2012).

Secondly, the “personal” form of the dilemma highlights how the institutional choice to bind reasonable accommodations to an official disclosure of disability affects students with disabilities personally, especially in case of an invisible disability as it is the case in most of the empirical studies of our review that discussed this issue (see also Neca, Borges & Pinto, 2020). This result is also in line with a lot of research generally referring to postsecondary experience of students with disabilities (Newman & Madaus, 2015; Grimes et al., 2019); nevertheless, it appears particularly crucial in this context. In fact, according to the described results, the disclosure of disability is also strictly connected with the opportunity to reflect on this “identity marker” (Gabel, 2001: 42) that seems to play a very relevant role in the development of an effective teacher professional identity.

Thirdly, two studies, subverting the idea that the only solution is seeking reasonable accommodations and promoting students with disabilities' adaptation to a uni-dimensional view of how a “good” teacher should be, suggest the need for rethinking how the teacher professional identity and (standardized) profile of teacher competences are culturally conceived, which might be “exclusive” in themselves. This represents the “cultural” form of the dilemma and opens up a new perspective on the original dilemma highlighting the crucial role of the context and urging the production of a critical review of the structure assumed by ITT. In this regard too, our findings align with literature on other professional programmes (e.g., Bulk et al., 2017) and teaching in academia contexts, where, for individuals with disabilities, the internalization of the ableist expectations seems to be the only way to not consider themselves “out of place” teaching bodies (Saltes, 2020).

Finally, the critique on a rigidly defined teacher competence profile moves beyond the presence of students with disabilities in ITT and is connected with a broader recognition of the value of diversity in teacher population as a great potential for the development of school inclusion. Some authors remind us also of the risk that all this could turn diverse teachers into the panacea for minority students and “delegates” of all diversity issues in school (Hopson, 2013; Santoro, 2015). However, many researchers across the globe, as already described in the introduction and also emerged in some studies included in our systematic review (Gabel, 2001; Riddick, 2003; Dvir, 2015), have conceded that diversifying the teacher body and, especially, including teachers with disabilities in the workforce may offer valuable insiders' perspectives and could be one of the key ingredients for the development of inclusive schools and

society (Anderson, 2006; Pritchard, 2010). These findings underline once more that embedding the students with disabilities' issue into the larger scope of diversity of the teacher body brings to the fore the fact that the issue of these students in ITT has also a social aspect that affects all actors of the school community/society and that it cannot be reduced to a mere individual matter.

10. Limitations and implications for practice

There are some technical limitations which must be considered when interpreting these results. Firstly, the databases used are two of the largest for English-written education literature and this may have introduced publication bias. In fact, although we did not limit the search to papers in English language, this review consists only of publications published in this language (except for one). Thus, it is possible that some relevant papers may have been overlooked. Secondly, although, for example, the database ERIC contains around 1.6 million records across the field of education (EBSCO Information Services, n.d.), it is important to note that the use of only two databases may have introduced further database bias into this review. Likewise, a third drawback concerning the fact that most of the empirical studies were mainly conducted in English-speaking countries limits our perception of the topic. Additionally, students with disabilities are over represented as informants in publications. While their contribution regarding their experiences has to be encouraged, especially in higher education, where their voices have been missing for a long time, other types of participants (e.g., mentors) should be more involved, since they may be able to offer different points of view.

To conclude, looking at the findings retrospectively, two main implications for practice can be summed up, that represent an evolution of the two poles of the “dilemma of professional competence” illustrated at the beginning of the article:

1. There is a need for rethinking accommodations in the perspective of a joint construction of coping strategies, in which both academic staff and students with disabilities participate. In practical terms, this means that guidelines in this field should move beyond listing available accommodations and move towards the description of an intersubjective construction process for the development of ad hoc coping strategies for each student. On this basis, the topic of disclosure can assume a more shared form, not leaving students alone while balancing pros and cons of revealing their disability, but jointly constructing a way that creates inclusive attitudes within the contexts and empowers students.

2. The critique of a rigidly defined teacher competence profile implies an opening for pluralization, for the idea that teachers can fulfill their roles as effective educators in different ways (Karp, Anderson & Keller, 1998). This could lead to a diversification of teacher profiles in the ITT. Consequently, irreplaceable competences in the teacher profile, that can become barriers for students with disabilities, would become fewer or maybe even be completely overcome by a variable set of possible competences. This cultural change could have important consequences not only for the access of students with a disability, but also for other underrepresented groups in the student teacher population.

Accordingly, these two aspects emerge also as areas for further research.

Finally, the described changes to both poles of the dilemma contribute to the establishment of a positive interplay between the two. In fact, an ITT that offers different profiles implies the assumption that “diversity is both inevitable and positive” (Tomlinson & Imbeau, 2010: 28) at the basis of its structure. This changes the meaning of reasonable accommodations completely, which ceases to be the only admitted differentiation of a standardized teacher ITT, but rather becomes one among others in an ITT that looks at a diverse teacher population as a desirable added value.

Appendix

TABLE I. OVERVIEW OF THE STUDIES INCLUDED IN SYSTEMATIC REVIEW

(NOTE: THIS TABLE ONLY REPORTS FINDINGS RELATED TO THE CATEGORIES DISCUSSED IN THIS PAPER. REFERENCES CITED ARE MARKED WITH AN ASTERISK IN THE BIBLIOGRAPHY)

Authors, year, country	Focus	Research design and data gathering	Sample	Key findings	Quality score (%)
1. Gabel S. L. (2001) (US)	To reflect on personal experiences of teacher candidates with disabilities and the ways in which those experiences inform their pedagogical knowledge.	Qualitative (semi-structured interview).	3 teacher candidates (with learning disabilities, hearing impairment and leukemia).	Teacher candidates had an internal conflict about defining or not him/herself as a student with disability. Most of them were constructing their “sense of teacher” integrating their experiences as people with disabilities.	80
2. Riddick B. (2003) (UK)	To describe the perspectives of dyslexic teachers and trainee teachers on some issues relating to their role as a teacher.	Qualitative (semi-structured interview).	8 teachers, 5 teacher candidates (with dyslexia).	Dyslexic students/teachers described lots of negative school experiences (literacy difficulties). The decision of starting the teaching career was connected with the desire of offering children a better school experience than they had; dyslexia could be an advantage. The disclosure was ambiguous: teacher candidates experienced negative attitudes; sometimes they did not reveal.	80
3. Komesaroff L. (2005) (Australia)	To analyze the experience of deaf students in teacher training	Qualitative (in-depth interview).	2 teacher candidates (with hearing impairments).	Both students reported difficulties in obtaining interpreters and the ambivalent experience of being perceived by lecturers as a “deaf student.” For what concerns the curriculum concerns, they would have expected to follow their own interests more (e.g. for Deaf culture), but the academic staff decided to leave assignment tasks and the requirements for practicum unchanged.	60

<p>4. Riddick B. & English E. (2006) (England and Wales, UK)</p>	<p>To investigate the selection process of teacher training for dyslexic students, with a focus on literacy skills.</p>	<p>Quantitative (questionnaire).</p>	<p>26 teacher training directors/admission tutors.</p>	<p>Literacy skills are assessed through written tasks in most cases or through the applicant form. 75% made special arrangements for students with dyslexia. Around two thirds of the providers were positive about the writing task being part of the selection process; a few had doubts about potentially good teachers excluded by the standard test. For what regards the disclosure, responses indicate that disclosure in the selection process is problematic for candidates and sometimes avoided.</p>	<p>70</p>
<p>5. Baldwin J.L. (2007) (US)</p>	<p>To investigate teacher training Directors' perception of the availability, effective and ethical suitability of accommodations for student candidates with learning disabilities.</p>	<p>Quantitative (questionnaire with two open-ended questions).</p>	<p>60 teacher training Directors.</p>	<p>The most used accommodations were those that did not modify the nature of tasks the standard of expected work, whereas accommodations that changed grading or adjusted practicum placement were considered both less effective and ethical. The field experience emerged as the first instance when the candidate's limits become apparent.</p>	<p>90</p>
<p>6. Sharoni V. & Vogel G. (2007) (Israel)</p>	<p>To look at the applicants who took the entrance exam and enrolled students in teacher training, comparing results of students with or without accommodations.</p>	<p>Quantitative (questionnaire, secondary analysis of databases and documents analysis).</p>	<p>4 851 students who took the entrance exam (410 with accommodations, namely students with learning disabilities) and 1 736 enrolled students (152 with accommodations).</p>	<p>8.5% of applicants received accommodations; most of them had a recent assessment history (only one-third had undergone evaluations prior to the testing unit). Approved accommodations included mostly if not only extended time. The students with accommodations had mostly if not only extended time. The students with accommodations had significantly lower test scores.</p>	<p>80</p>
<p>7. Leyser Y. & Greenberger L. (2008) (Israel)</p>	<p>To examine faculty members' attitudes and practices towards college students with disabilities in teacher training and the impact of selected background variables.</p>	<p>Quantitative (questionnaire).</p>	<p>188 faculty members in 7 colleges.</p>	<p>More than half of the faculty members did not have any training on disabilities. Faculty members were willing to provide accommodations (in particular technological). The willingness to provide accommodations was higher than the actual provision. They were supportive of accommodations both in the selection process and in field experience; however, they didn't want to modify the grade point average required for training entry.</p>	<p>90</p>

<p>8. Macleod G. & Cebula K. R. (2009) (Scottish, UK)</p>	<p>To examine the decisions around disclosure of disability and experiences on practicum placements.</p>	<p>Quantitative (questionnaire).</p>	<p>115 teacher candidates with disabilities (out of 721 responses of teacher candidates without disabilities).</p>	<p>Around half of the students disclosed their disability at university, less did so to their placement tutor. Some students chose not to disclose: they felt that their impairments would not affect their work; others were anxious about the response they would receive. Disclosure was a process made up of a series of negotiations and decisions. For the majority of those who revealed it during the placement, the responses had been positive; for a few students, some aspects were negative (e.g. lack of understanding by school staff).</p>	<p>90</p>
<p>9. Bailes C. N., Hulsebosch P. & Martin D. S. (2010) (US)</p>	<p>To compare the contents of reflective journal writings of deaf student teachers with established literature about reflective journals of practicum experiences.</p>	<p>Qualitative (documents analysis).</p>	<p>6 teacher candidates with hearing.</p>	<p>Some emerged topics confirm those described in established literature as relevant: 1) pedagogy, specifically the integration of theories and classroom practices and 2) good relationship with students. Conversely to literature, classroom management was less relevant for deaf students whereas their attempt to meet the the students' needs was particularly evident. Deaf teacher candidates showed a peculiar ability in reflecting independently from the cooperating teachers.</p>	<p>70</p>
<p>10. Leyser Y. et al. (2011) (Israel)</p>	<p>To investigate changes in faculty attitudes towards accommodations for students with disabilities in teacher training (differences between two already published surveys 10 years apart).</p>	<p>Quantitative (questionnaire; longitudinal).</p>	<p>116 faculty members in 1996/1997; 188 in 2006/2007.</p>	<p>No significant differences were found in faculty willingness to provide accommodations considering both instructional, technological and examination accommodations. Faculty members expressed more concerns regarding their fairness in the later study. Less than half were interested in receiving more information; in the earlier study mostly about disabilities, in the second on legal mandates.</p>	<p>80</p>
<p>11. Csoli K. & Gallagher T. L. (2012) (Ontario, Canada)</p>	<p>To examine the factors that help teacher candidates with learning disabilities in teacher training and the role of faculty advisor.</p>	<p>Qualitative (semi-structured interview).</p>	<p>2 teacher candidates with learning disabilities and 2 faculty advisors.</p>	<p>During coursework, teacher candidates received accommodations; during practicum placement, they needed to be facilitated by the cooperating teachers and they received different amount of support. The decision to disclose depended on the perceived cooperating teachers' tolerance for learning disabilities.</p>	<p>80</p>

12. Griffiths S. (2012) (UK)	To explore the practicum placement experiences of teacher candidates with dyslexia.	Qualitative (semi-structured interview).	6 teacher candidates with dyslexia.	Teaches candidates faced additional challenges, despite the adoption of management strategies. No participant had discussed disclosure with tutors' pre placement (lacking of tutor's awareness, fears of being stigmatized). Further difficulties were caused by unclear understanding of some requirements on practicum.	70
13. Dvir N. (2015) (Israel)	To explore the construction of personal and professional identities among student teachers with disabilities.	Qualitative (documents analysis; life stories).	3 teacher candidates with physical and hearing disabilities.	The decision to become a teacher showed a transition from the narration of a sense of failure and exclusion to a sense of empowerment. In the last stage, teacher candidates made peace with their disabilities and recognized them as "added value" as future teachers.	90
14. Keane E. & Heinz M. (2015) (Ireland)	To examine the socio-demographic backgrounds of 2013 and 2014 entrants to teacher training.	Quantitative (questionnaire).	521 teacher candidates in 2013 and 370 in 2014.	While the proportions of entrants reporting a disability in the samples were very small, an increase in the number of all entrants reporting one or more disabilities from 2013 to 2014 from 5.9% to 8.9% was found (across seven institutions).	90
15. Lebel C. et al. (2016) (Québec, Canada)	To analyse the cooperating teachers' tensions regarding accommodations, the challenges and their needs in supporting students with disabilities during practicum.	Mixed methods (questionnaire and focus group).	71 cooperating teachers (35 of which were involved in focus groups).	Cooperating teachers did not want to redefine the placement requirements and a high percentage was against the provision of accommodations, especially in the later stages. Among the tensions, they emphasized the concerns about the pupils' safety and a lack of openness of the school setting to accept a candidate with a disability.	70
16. Parker E. C. & Draves T. J. (2017) (US)	To describe the teaching experience of two student teachers with visual impairment.	Qualitative (semi-structured interview and documents analysis).	2 students with visual impairments.	The efforts to self-adjust in a sight-based reality and the sensation to be overwhelmed by the role of music teachers, due to school settings' reluctance to find alternatives to sight-based strategies, were found. At the end, both teacher candidates chose to teach in musical theater and church spaces, more flexible than schools.	90
17. Sokal L., Woloshyn D. & Wilson A. (2017) (Canada, Western)	To understand, in teacher training directors' perceptions, barriers and supports related to practicum placements of students with disabilities.	Quantitative (questionnaire with open-ended questions).	10 teacher training Directors.	The following barriers during practicum were indicated by directors: 1) non-disclosure by students 2) tensions between accommodations and standards, including a lack of clear standards. Among the supports: care in placement selection, team work, communication, disclosure and planning, knowledge on disability laws.	90

18. Barwood et al. (2018) (Australia)	To describe practicum experience of a health and physical education teacher candidate with hearing impairment.	Qualitative (semi-structured interview).	1 teacher candidate with hearing impairment.	4 main insights emerged: 1) issues relating to being deaf, such as developing strategies for regulating voice volume and facing situations like roll call; 2) the need for a preparation of the interpreter, both for the discipline and for the behavior management; 3) challenges of inclement weather in relation to hearing aids; 4) need to inform parents and kids about the presence of a deaf student teacher.	70
19. Holden M. & Kitchen J. (2018) (Ontario, Canada)	To examine the current state of representation for under-represented groups in Ontario teacher training.	Quantitative (analysis of data on applicants and entrants tracked by universities).	13 universities; students with disabilities.	In most universities, data showed an increase in the proportion of students with disabilities accepting the offers of admission. Instead, at the application stage, in particular in one university, the number of students with disabilities applying to program decreases, while the total number of students with disabilities applying to program decreases, while the total number of them entering the program grew.	80
20. Keane E., Heinz M. & Eaton P. (2018) (Ireland)	To explore the profile of teacher training applicants and entrants with and without a disability in 2014, the socio-demographic backgrounds of both groups, and factors such as higher education entry route, academic self-confidence and teaching experience.	Quantitative (questionnaire).	4695 applicants and entrants to undergraduate primary and post-primary initial teacher training.	In 2014, the data showed that students with disabilities were between 4.8% and 13.8% of the total cohort of entrants to teacher training, confirming an increasing trend from previous studies. On the contrary, applicants with disabilities were less likely to be accepted into undergraduate primary teacher training than were those without.	90

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