Do they practise what they preach? Factors associated with teachers’ use of inclusive teaching practices among in-service teachers

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Applying the ‘theory of planned behaviour’ to teachers’ actions in the classroom, it can be assumed that teachers’ positive attitudes towards inclusive education and high self-efficacy beliefs result in an increased use of inclusive teaching practices. However, scientific evidence for this assumption is lacking. This study aimed to investigate factors influencing teachers’ use of inclusive teaching practices. In total, 221 (188 female and 33 male) Austrian in-service teachers participated. Participants filled out the attitudes towards inclusion scale (AIS), the Teacher Efficacy for Inclusive Practices Scale (TEIP) and the teacher version of the Inclusive Teaching Practices Scale (ITPS-T). Results showed that teachers had high self-perceptions towards their use of inclusive teaching practices; compared with secondary school, primary school teachers reported using more inclusive teaching practices; there was no difference between expert and novice teachers; teachers’ attitudes and self-efficacy were associated with inclusive teaching practices; and self-efficacy predicted teachers’ use of inclusive teaching practices.

Introduction

Worldwide, inclusive education has become a highly important topic. Currently, the European Union has been treating this topic as a common policy goal, one that has shifted from focusing on the inclusion of students with special educational needs to the inclusion, participation and development of all learners (e.g., Schwab, 2020). Within the context of inclusive education, a plethora of authors have claimed the importance of teachers’ attitudes towards inclusive education and their self-efficacy beliefs (e.g., Schwab, 2018; Avramidis and Norwich, 2002; de Boer, Pijl, and Minnaert, 2011; Forlin, 2013; Tschannen-Moran and Hoy, 2001). However, previous research lacks underpinning, and they have been limited to examinations on the relationship between these variables (teachers’ attitudes towards inclusive education and their self-efficacy beliefs) and teachers’ daily teaching practices.

Inclusive teaching practices

Even if inclusive education is a shared policy goal in Europe, the implantation of inclusive education varies widely from country to country. It seems that installing inclusive pedagogy seems to be a demanding task for teachers, and many authors in recent years have raised the question: How can inclusive classrooms be effectively achieved? Most authors agree that the provision of high-quality inclusive education is mainly influenced by teachers and their ability to address and value students’ heterogeneous needs (e.g., Gomendio, 2017; Moen, 2008).

Although there is no consistent definition for the concept of ‘inclusive teaching practices’, it seems consensual that it comprises a complex combination of several current pedagogical approaches (e.g., Loreman, 2017). Results of the scoping review of Finkelstein et al. (2019) revealed that collaboration and teamwork, instructional practices, organisational practices, social/emotional/behavioural practices, and determining progress are domains of such inclusive teaching practices. In corroborating, the systematic literature review of Lindner and Schwab (in press) acknowledged that collaboration and co-teaching, grouping, modification (e.g., of assessment, content, extent, instruction, learning environment, material), motivation and feedback, and individualised student support were all characteristics of inclusive education. Among these characteristics/aspects/domains, two specific aspects seem to be common among most definitions: course individualisation (e.g., taking students’ individual achievements, feelings and/or interests into perspective; e.g., Jordan, Glenn, and McGhie-Richmond, 2010; Jordan, Schwartz, and
McGhie-Richmond, 2009; Kratochvílová and Havel, 2013) and the use of differentiated instruction (e.g., Connor and Cavendish, 2018; Coubergs, Stryven, Vanthournout, and Engels, 2017; Shogren et al., 2015; Suprayogi, Valcke, and Godwin, 2017).

**Predictors of teachers’ use of inclusive teaching practices**

Previous literature on teachers’ use of inclusive teaching practices has shown several positive outcomes, for example, the influence of differentiated instruction on academic performance (e.g., Bal, 2016; Valianides, 2015); in this vein, Knauder and Koschmieder (2019) identified teachers’ self-efficacy beliefs and teachers’ attitudes as key influencing factors of individualised teaching. Hence, it seems important to examine the factors influencing teachers’ appropriate use of inclusive teaching practices.

These aforementioned authors brought up the theory of planned behaviour (Ajzen, 1991; see also Ajzen and Fishbein, 1977) during their examinations. This psychological theory explains individuals’ behaviour through their subjective norms, attitudes and perceived behavioural control. Additionally, within the study of Hellmich, Löper, and Görel (2019), the theory of planned behaviour was used as theoretical framing to examine the associations between teachers’ attitudes and self-efficacy beliefs towards inclusive education and use of inclusive teaching practices in the classroom. Teachers’ attitudes towards inclusive education can be defined as ‘a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor’ (Eagly and Chaiken, 1993, p. 1). Self-efficacy can be defined as ‘people’s judgment of their capabilities to organize and execute courses of action required to attain designated types of performance’ (Bandura, 1986, p. 391). Previous literature has clearly confirmed the link between teachers’ attitudes towards inclusive education and teachers’ self-efficacy beliefs (e.g., Miesera, DeVries, Jungjohann, and Gebhardt, 2018; Savolainen, Engelbrecht, Nel, and Malinen, 2012).

Nevertheless, longitudinal research on this topic is few and far between, and is required to enhance our understanding on the topic. One of the few longitudinal studies on the topic, from Bosse et al. (2016), indicated that both constructs are related to each other, although they did not examine the cross-lagged effects between. A more recent study by Savolainen, Malinen, & Schwab (2020) used a cross-lagged panel design with several measurement points, and its results showed that teachers’ self-efficacy had a positive effect on teachers’ attitudes towards inclusive education; that there was no causal effect between teachers’ attitudes and self-efficacy beliefs; and that the influence of self-efficacy on teachers’ attitudes towards inclusive education was similar among both expert and novice teachers (teachers with five years or less years of teaching experience). Further, other studies have provided evidence that supports the link between teachers’ attitudes towards inclusive education and/or their self-efficacy beliefs with their use of inclusive teaching practices (e.g., Bosse et al., 2016; De Neve, Devos, and Tuytens, 2015; Holzberger, Philipp, and Kunter, 2013; Knauder and Koschmieder, 2019; Schüle, Schrieck, Besa, and Arnold, 2016; Sharma and Sokal, 2016). In a recent study by Abacioglu et al. (2019), it was revealed that teachers’ multicultural attitudes are linked with reduction in prejudice.

In correlation with studies on teachers’ attitudes and self-efficacy beliefs, other research has investigated the differences in teachers’ use of inclusive teaching practices by school levels. In particular among primary schools, it is expected that teachers use more individualised teaching practices, mainly because, usually, primary schools provide students with one teacher per class (i.e., the teacher provides education on most subjects), whereas secondary schools often provide students with one teacher for each subject, hence allowing for the interpretation that secondary school teachers spend less time with individual students. This hypothesis can be underpinned by comparing the results of two studies that used the same measurement (the students version of the Inclusive Teaching Practices Scale [ITPS-T]) to analyse students’ perceptions of teachers’ individualisation and differentiation: Lindner, Alnahdi, Wahl, & Schwab (2019)’s study and Schwab et al. (2019)’s study; the first analysed primary schoolers’ perceptions, whereas the second analysed secondary schoolers’ perceptions on the aforementioned topics. By comparing the mean scores for inclusive teaching practices in these two studies, we can see that primary school students, when compared to the secondary school students, perceived a higher use of individualised teaching practices and of differentiation strategies. Particularly, Schwab et al. (2019) showed that teachers’ use of differentiation was predicted by teachers’ attitudes towards inclusive education, whereas their use of individualised teaching practices was predicted by their years of experience in teaching.

**The current study**

In the light of previous research, there is still lack of evidence of a link between teachers’ attitudes, teachers’ self-efficacy beliefs and teachers’ use of inclusive teaching practices. Hence, this study aimed to investigate teachers’ use of inclusive teaching practices and its underlying influencing factors. First, we investigated the psychometric properties of one of the measures we intended to utilise to analyse the study variables: the teacher version of the ITPS-T; although this instrument has been used beforehand, its factorial structure was not investigated through confirmatory factor analysis (CFA) owing to the small sample sizes of the previous studies that utilised it (e.g., Schwab et al., 2019), so we chose to provide such analyses in order to confirm the validity of its psychometric values. Second, we investigated the predictors of teachers’ use of inclusive teaching practices. Based on
previous studies, we assumed that school level and teaching experience years would predict teachers’ use of inclusive teaching practices; therefore, we formulated the following hypotheses:

1. Compared to secondary school, primary school teachers will use inclusive teaching practices more often.
2. Compared to novice, expert teachers will use inclusive teaching practices more often.

Our study also had a specific aim, as we intended to investigate the framework of the theory of planned behaviour could be used in the studied context by examining possible links between teachers’ attitudes towards and self-efficacy beliefs in inclusive education with their use of inclusive teaching practices.

3. The higher the teachers’ attitudes towards and self-efficacy beliefs in inclusive education, the more often they would make use of inclusive teaching practices.

Finally, we separately analysed the correlation patterns of these variables for expert and novice teachers in order to check their similarities.

**Methods**

**Procedure**

Data collection occurred from May to October 2019; it was performed in three federal states of Austria, and we included schools from city and rural areas. The project members made personal contact with potential schools, and the voluntary nature of participation was assured and explicitly described for both schools and their respective teachers. The members provided school headmasters with copies of the paper–pencil questionnaires, and the latter distributed the questionnaires to the teachers. Later, a project member collected the questionnaires directly from the headmaster. To ensure privacy, questionnaires were returned to the researchers within envelopes, and the questionnaires were placed within such envelopes by the participants themselves prior to returning them.

**Participants**

In total, 221 in-service teachers (188 female and 33 male) in Vienna (Austria’s capital city; n = 127), Lower Austria (n = 67) and Burgenland (n = 26) participated. Their mean age was 42.43 years (SD = 11.9; range = 24-63 years); most were born in Austria (96.4%); most spoke the German language as their mother language (94.5%); 80 were primary school teachers, 120 were secondary school teachers, and 21 were teaching in other types of schools (e.g., special schools, vocational schools); 92.4 % of them were teaching in mainstream classes, and the rest were teaching in courses such as German-language tuitions, support courses or special schools; their teaching experience years varied between two months and 43 years (M = 16.36, SD = 12.34).

**Instrumentation**

**Inclusive teaching practices.** To examine teachers’ use of inclusive teaching practices, we used the German teachers’ version of the ITPS-T (Schwab et al., 2019). It consists of fourteen statements (e.g., ‘During the lesson… I take the academic achievement of my students into account’; see Appendix A) and two subscales (personalisation and differentiation), and is responded through a 4-point Likert-type scale (1 = not at all true, 2 = somewhat not true, 3 = somewhat true and 4 = certainly true).

Previous studies (Lindner et al., 2019; Schwab et al., 2019) used this scale, and it showed satisfying reliability coefficients. However, the samples in these studies were little, so their results cannot be accounted as confirmatory of the validity of the tool. Therefore, we performed analyses of the psychometric properties of the ITPS-T, and only after confirming the validity of the tool did we carry on with the measurement of our study variables.

**Attitudes towards inclusion.** To assess teachers’ attitudes towards inclusive education, we used the German version of the Attitudes to Inclusion Scale (AIS, Sharma and Jacobs, 2016; for the German version of the AIS, see Hecht and Ilg, 2018). It consists of 10 items (e.g., ‘I believe that all students, regardless of their ability, should be taught in regular classrooms’, and ‘I believe that inclusion benefits all students academically’), and is responded through a 7-point Likert-type scale (1 = strongly disagree, 2 = moderately disagree, 3 = slightly disagree, 4 = undecided, 5 = slightly agree, 6 = moderately agree and 7 = strongly agree). In Sharma and Jacobs (2016)’s study, the scale showed acceptable levels of reliability; in the present sample, the Cronbach’s alpha was .80.

**Teacher self-efficacy beliefs in inclusive education.** To measure teachers’ self-efficacy beliefs in inclusive education, we used the German version of the Teacher Efficacy for Inclusive Practices Scale (TEIP) from Sharma et al. (2012) (for the German version of the TEIP, see Hecht et al., 2016). It consists of 18 items (e.g., ‘I am able to provide an alternate explanation or example when students are confused’, and ‘I am confident in designing learning tasks so that the individual needs of students with disabilities are accommodated’) and three subscales (efficacy in inclusive instruction, efficacy in managing behaviour and efficacy in collaboration), and, in the original version, it is responded through a 6-point Likert-type scale; however, we used the same scale used for the AIS (7-point Likert-type scale) in the TEIP in our study, so as to provide an easier process for teachers upon completion of the questionnaire because this implied that they did not need to switch the answering format to a new scale. In Sharma et al. (2012)’s study, the TEIP showed good
psychometric properties, and so did the German version (Hecht et al., 2016); in the present sample, the Cronbach’s alpha was .88.

**Expert teachers and novice.** To divide expert from novice teachers, we followed the suggestions of Palmer, Stough, Burdenstki, and Gonzales (2005), and defined expert teachers as those who had at least six years of teaching experience (n = 152 teachers), whereas novice teachers were defined as those who had worked for five years or less (n = 61 teachers).

**Results**

**Psychometric properties of the T-ITPS**

The construct validity of the hypothesised two-factor model of this scale was examined via CFA. We used this analysis method because it is one of the recommended methods for testing scale construct validity (de Vet, Terwee, Mokkink, and Knol, 2011). In this analytical process, we looked for indicators of a good fit towards the observed data, and we based the values herein described on the proposed values of previous studies: a comparative fit index (CFI) value ≥ 0.90 (Pugesek, Toner, and von Eye, 2003), a root mean square error of approximation (RMSEA) of 0.08 or lower (Schermelleh-Engel et al., 2003) and a chi-square by degree of freedom of less than 3 (Kline, 1994). We examined both the first (with two factors) and the second-order models.

The first model with two factors showed acceptable fit indices (CFI = .940; RMSEA=.048; GFI=.932; and $X^2/df = 1.49$); based on the recommendations of the software we utilised (AMOS) to improve the fit indices of the model, we acknowledged the errors of six items as covariates (error from item 1 with error from item 13, error from item 9 with error from item 8, and error from item 5 with error from item 6). Furthermore, the second-order model showed acceptable fit indices (CFI = .904; RMSEA = .061; GFI = .916; and $X^2/df = 1.8$); once more, to improve the fit indices of the model, we acknowledged the errors of six items as covariates (error from item 1 with error from item 2, error from item 2 with error from item 3, error from item 5 with error from item 6, and error from item 5 with error from item 11).

Then, we computed the Cronbach’s alpha to examine the internal consistency of the scale. Results showed .79, .69 and .74 Cronbach’s alpha values for the overall scale and for the differentiation and personalisation subscales, respectively. In summarising, the construct validity and the internal consistency of the scale were supported.

**Teachers’ use of inclusive teaching practices, their attitudes towards inclusive education and their self-efficacy beliefs**

Descriptive results indicated that teachers rated their inclusive teaching practice rather high: The scale ranged from 1 to 4, and teachers’ mean scores were rather close to the scale maximum. The t-test results showed that primary school teachers had significantly higher mean scores compared with secondary school teachers (t (207) = 3.01, $P < .01$). However, novice and expert teachers had similar mean scores (t (211) = -.528, n.s.). Table 1 shows the means and standard deviations for teachers’ use of inclusive teaching practices, their attitudes towards inclusive education, and their self-efficacy beliefs.

**Predictors of use of inclusive teaching practices**

To examine the proposed hypotheses, we conducted a multiple regression analysis. In it, five variables were included as predictors: teachers’ attitudes towards inclusive education, self-efficacy beliefs, expertise (novices vs. experts), school level (primary vs. secondary schools), and the interaction between teachers’ attitudes and their self-efficacy beliefs. Results indicated that around 37.5% of the variances in teachers’ use of inclusive teaching practices can be explained by this model (F (5, 190) = 22.23, $P < .01$; $R^2 = .375$). Moreover, two variables were significant predictors in the model: teachers’ self-efficacy beliefs and school level (see Table 2).

To understand the relationship between teachers’ attitudes, self-efficacy beliefs and their use of inclusive teaching practices in-depth, we examined correlation coefficients and different models (see Figure 1), and investigated which model better explained the observed data. As Table 3 shows, significant positive correlations between all three variables were found.

Table 4 shows the correlation coefficients between teachers’ use of inclusive teaching practices, attitudes towards inclusive education and self-efficacy beliefs by teacher expertise (novice vs. experts). Correlational differences of the two groups were analysed via the Fisher r-to-z transformation (Eid et al., 2011).

**Table 1: Means and standard deviations for teachers’ use of inclusive teaching practices, attitudes towards inclusive education and self-efficacy beliefs**

|                          | Total sample | Primary school teachers | Secondary school teachers | Novice teachers | Expert teachers |
|--------------------------|--------------|-------------------------|---------------------------|-----------------|-----------------|
|                          | M (SD)       | M (SD)                  | M (SD)                    | M (SD)          | M (SD)          |
| Inclusive teaching practices | 3.41 (0.35) | 3.50 (0.31)             | 3.35 (0.37)               | 3.38 (0.34)     | 3.41 (0.35)     |
| Attitudes towards inclusive education | 4.62 (1.04) | 4.76 (0.95)             | 4.58 (1.07)               | 4.80 (0.95)     | 4.51 (1.03)     |
| Self-efficacy beliefs    | 5.79 (0.75) | 5.95 (0.68)             | 5.70 (0.80)               | 5.69 (0.73)     | 5.80 (0.76)     |
Results showed a significant stronger correlation between teachers’ self-efficacy beliefs and use of inclusive teaching practices among novice compared with expert teachers ($z = -2.05, P < .05$). Additionally, the correlations between teachers’ attitudes towards inclusive education and the use of inclusive teaching practices were not significantly different, but there was a minor tendency towards a higher correlation for novice compared with expert teachers ($z = -1.6, P = .055$). The correlations between teachers’ attitudes towards and self-efficacy beliefs in inclusive education ($z = 0.56$, n.s.) did not show any significant differences.

In the first model, teachers’ attitudes towards inclusive education and expertise were assumed to predict teachers’ self-efficacy. This model showed good fit indices: there was a non-significant chi-square coefficient (indicating

![Diagram](image)

**Figure 1:** Four different models for the influence of teachers’ attitudes and self-efficacy beliefs in inclusive education in teachers’ use of inclusive teaching practices

| Predictors                                             | Unstandardised coefficients | Standardised coefficients |
|--------------------------------------------------------|----------------------------|---------------------------|
| (Constant)                                             | 2.207                      | .543                      |
| Attitudes towards inclusive education                  | -.075                      | -.126                     |
| Self-efficacy beliefs                                  | .209                       | .447                      |
| School level (primary vs. secondary)                   | -.086                      | -.120                     |
| Novices vs. experts                                    | .018                       | .023                      |
| Attitudes towards inclusive education x self-efficacy beliefs | .014                       | .021                      |

$P < .05$

Table 2: Results of the regression analysis for predictors of teachers’ use of inclusive teaching practices
Table 3: Correlations between teachers’ use of inclusive teaching practices, their attitudes towards inclusive education and their self-efficacy beliefs

|                      | Inclusive teaching practices | Attitudes towards inclusive education | Self-efficacy beliefs |
|----------------------|-----------------------------|--------------------------------------|----------------------|
| Inclusive teaching practices | -                           | -                                    |                      |
| Attitudes towards inclusive education | .27**                     | -                                    |                      |
| Self-efficacy beliefs | .60**                      | .46**                                | -                    |

**P < .01

Table 4: Correlations between novice and expert teachers’ use of inclusive teaching practices, attitudes towards inclusive education and self-efficacy beliefs are above the diagonal. *P < .05; **P < .01

|                      | Inclusive teaching practices | Attitudes towards inclusive education | Self-efficacy beliefs |
|----------------------|-----------------------------|--------------------------------------|----------------------|
| Inclusive teaching practices | -                           | .42**                                | .73**                |
| Attitudes towards inclusive education | .20*                      | -                                    | .41**                |
| Self-efficacy beliefs | .53**                      | .48**                                | -                    |

Note: Expert teacher correlations are below the diagonal and novice teacher correlations.

that the observed data fit the model; see Figure 1), with other indices as follows: chi-square/df = 3.41/3 = 1.13; CFI = .997; GFI = .992; and RMSEA=.025.

In the second model, we assumed that school level would predict teachers’ use of inclusive practices. The second model also showed good fit indices: there was a non-significant chi-square coefficient (indicating that the observed data fit the model), with other indices as follows: chi-square/df = 9.48/6 = 1.58; CFI = .983; GFI = .983; and RMSEA=.051.

In the third model, we assumed that both teachers’ attitudes towards inclusive education and self-efficacy beliefs would predict their use of inclusive teaching practices alongside school level. The third model showed low fit indices: there was a significant chi-square coefficient of 6.04 (P < .05), indicating that the observed data did not fit the model, with other indices as follows: chi-square/df = 3; CFI = .973; GFI = .987; and RMSEA=.096.

In the fourth model, we assumed that teachers’ self-efficacy would predict their attitudes towards inclusive education, and that school level would predict teachers’ use of inclusive teaching practices. This model showed the worst model fit, with a significant chi-square coefficient chi-square 78.99 (P < .01), indicating that the observed data did not fit the model, with other indices as follows: chi-square/df = 26.3; CFI = .489; GFI = .868; and RMSEA=.339.

In concluding, the first and second models showed acceptable fit indices. However, the first model showed the best-fit indices to explain the observed data in this study.

Discussion

The present study was undertaken to determine whether the theory of planned behaviour (Ajzen, 1991) framing could be supported in the context of teachers’ use of inclusive teaching practices. Therefore, the link between teachers’ attitudes towards and self-efficacy beliefs in inclusive education with their use of inclusive (differentiated and individualised) teaching practices was examined.

First, the psychometric properties of the Inclusive Teaching Practices Scale (ITPS-T; see Lindner et al., 2019; Schwab et al., 2019) had yet to be investigated in a study with an appropriately sized sample, so we performed such investigation; our results showed that the overall scale was based on two subscales (differentiation and individualised teaching practices), and that both the internal consistency of the overall scale and the internal consistency of its subscales were indeed acceptable, corroborating the previous findings of the aforementioned studies. Therefore, the teacher version of the ITPS is suitable to assess teachers’ daily use of inclusive teaching practices towards their students. Given that the instrument consists of 14 easy-to-respond items, it is not time-consuming and can be easily administered for research purposes. However, as highlighted by Lindner et al. (2019), teachers might differ in the degree of usage of inclusive teaching practices among different student subgroups (e.g., students with special educational needs, students with a different first language than the main language of instruction), so future studies with a more student-specific approach to assess teachers’ use of inclusive teaching practices might be a meaningful addition to our current theoretical knowledge on the topic (see also the concept of student-specific teacher self-efficacy; Zee, Koomen, Jellesma, Geerlings, and de Jong, 2016).

Our descriptive results indicated that teachers’ self-perceived use of inclusive teaching practices seems to be high. However, these results are limited because we collected data only on teachers’ perceptions, and not on the perceptions of other stakeholders on the topic. As previous results imply (e.g., Lindner et al., 2019), students’ and teachers’ perceptions of the latter’s use of inclusive teaching practices might vary widely (e.g., Kunter and Baumert, 2006). The perceptions of both groups over...
Teachers’ use of inclusive teaching practices might be influenced by conscious and unconscious mechanisms (e.g., different memories, needs and biases, such as self-serving strategies). Therefore, we recommend for future studies to not only use the teachers’ version but also include the students’ version of the ITPS, or even other observational methods (e.g., classroom observations), to get a more detailed picture of the factual situation of teachers’ use of inclusive teaching practices.

Our results confirmed our hypothesis 1, as primary school teachers’ scores for use of inclusive teaching practices were higher compared with those for use of secondary school teachers. This was also confirmed by the results of a simple group comparison. However, results of the regression analysis (when controlling for teachers’ self-efficacy beliefs) did not support a difference between these two subgroups regarding the same variable.

Nonetheless, our results did not confirm hypothesis 2; contrary to previous studies (e.g., Schwab et al., 2019), novice and expert teachers did not show statistically significant differences regarding the use of inclusive teaching practices.

The results that showed the associations between teachers’ attitudes and self-efficacy beliefs towards inclusive education and teachers’ use of inclusive teaching practices were somewhat complex. In line with previous literature (e.g., Savolainen et al., 2012), teachers’ positive attitudes towards inclusive education were associated with higher levels of self-efficacy beliefs.

In the regression analyses, teachers’ self-efficacy beliefs and school level significantly predicted teachers’ use of inclusive teaching practices, whereas teachers’ attitudes towards inclusive education did not. However, the correlation between teachers’ attitudes towards inclusive education and their use of inclusive teaching practices was significant (although the range of such correlation was low). Moreover, a moderate-to-high correlation was found between teachers’ self-efficacy beliefs and use of inclusive teaching practices; particularly, this correlation was stronger among novice teachers, indicating that, among teachers with less teaching experience, self-efficacy seems to play a more important role towards their use of inclusive teaching practices. Similarly, among novice teachers, attitudes towards inclusive education showed a higher tendency to associate with use of inclusive teaching practices. Finally, teachers’ attitudes towards inclusive education were shown to predict, to some extent, their self-efficacy beliefs in inclusive education, and the latter was shown to predict teachers’ use of inclusive teaching practices. Comparing our results about this influence of teachers’ attitudes and self-efficacy beliefs towards their use of inclusive teaching practices with the results of a previous study (e.g., Savolainen et al., 2012), it seems that they are in contrast. However, our results are exclusively based on cross-sectional data, so the interpretation of our results and its application in different contexts should be made with care. Further, we do believe that causality needs to be analysed in a future study, preferably by using a cross-lagged panel design and several measurement points.

Impact for future research and practice
Although our results emphasised the importance of teachers’ attitudes towards inclusive education and, especially, of their self-efficacy beliefs in inclusive teaching practices towards the actual use of such practices, evidence on how these variables can be influenced remains lacking. For instance, Lautenbach et al. (2020), in a study focused on examining the effects of interventions on pre-service teachers’ attitudes towards or self-efficacy beliefs in inclusive education, were not able to show the effects of information-based and practical field experience interventions on these variables in the experimental group (compared with a control group that did not undergo the interventions). Notwithstanding, their results highlighted the importance of field experience towards the promotion of the studied variables. Thus, although several authors (e.g., Arthur-Kelly, Sutherland, Lyons, Macfarlane, and Foreman, 2013) stressed that these variables need to be addressed and included within teachers’ curricula, empirical evidences on how to effectively address these topics remain to be provided. Additionally, it seems that the training of pre-service teachers needs to change; as Lewis (2019) pointed out, university programmes and teacher trainings need to be improved, and university teachers need to practise, by themselves, what they try to teach their students within their classrooms. Therefore, pedagogy university teachers need to make further use of individualised and differentiation teaching practices in their courses, hence becoming the role models their students (namely aspiring teachers) may most likely need.

Conclusion
In line with past literature, this study highlighted the importance of teachers’ attitudes (at least to some extent) towards inclusive education and self-efficacy beliefs in inclusive education regarding their daily use of inclusive teaching practices, especially for novice teachers. As teachers’ use of teaching practices is of great importance for students’ development (e.g., engagement; see McKellar, Cortina, and Ryan, 2020), it is essential to ensure that teachers address students’ needs adequately and do not use a ‘one-size-fits-all approach’. There is an urgent need for changes regarding educational policy (giving schools and teachers more flexibility) and pre-service and in-service teacher trainings (ensuring that teachers are aware of the importance of the use of inclusive teaching strategies and are able to use them adequately).

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**Conflict of interest**

There are no conflicts of interest to declare.

**Appendix A**

**Table A1: Inclusive Teaching Practices Scale – Teacher General Version**

| Item                                                                 | Not true at all | Somewhat not true | Somewhat true | Certainly true |
|----------------------------------------------------------------------|-----------------|-------------------|---------------|----------------|
| 1 I take the academic achievement of my students into account.        |                 |                   |               |                |
| 2 I take the feelings of my students into account.                    |                 |                   |               |                |
| 3 I take the interests of my students into account.                   |                 |                   |               |                |
| 4 I explain the rules clearly.                                        |                 |                   |               |                |
| 5 I use a variety of ways to deal with the learning content (text, videos, pictures, etc.). |                 |                   |               |                |
| 6 I use a variety of assessment methods.                              |                 |                   |               |                |
| 7 I use a variety of grouping strategies.                             |                 |                   |               |                |
| 8 I vary learning activities to promote different learning styles.    |                 |                   |               |                |
| 9 I create a learning environment that encourages me to explore the topic. |                 |                   |               |                |
| 10 I encourage my students to take risks and make mistakes to enhance learning processes by trial and error. |                 |                   |               |                |
| 11 I use different lesson formats (e.g., lecture, free work, station work). |                 |                   |               |                |
| 12 I use different presentation techniques (e.g., white board, flipchart, power point presentation). |                 |                   |               |                |
| 13 I collaborate with colleagues (e.g., another teacher).             |                 |                   |               |                |
| 14 I give individual feedback                                         |                 |                   |               |                |

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