

## **Exploring teachers' perceptions of effective inclusive practices with students with ASD: A Structural Equation Modeling approach**

Cecilia Latorre-Coscolluela<sup>a\*</sup>, Pilar Rivera-Torres<sup>b</sup>, and Marta Liesa-Orús<sup>c</sup>

<sup>a</sup> *Department of Educational Sciences, Faculty of Human Sciences and Education, University of Zaragoza, Valentín Cardenera, 4, 22003 Huesca, Spain, [clatorre@unizar.es](mailto:clatorre@unizar.es);  
<http://orcid.org/0000-0002-6083-8759>*

<sup>b</sup> *Department of Marketing Management and Market Research, Faculty of Economics and Business, University of Zaragoza, Gran Vía, 2, 50005 Zaragoza, Spain, [privera@unizar.es](mailto:privera@unizar.es);  
<https://orcid.org/0000-0001-9319-5895>*

<sup>c</sup> *Department of Educational Sciences, Faculty of Human Sciences and Education, University of Zaragoza, Valentín Cardenera, 4, 22003 Huesca, Spain, [martali@unizar.es](mailto:martali@unizar.es);  
<http://orcid.org/0000-0002-9685-8399>*

\* Corresponding author. Department of Educational Sciences, Faculty of Human Sciences and Education, University of Zaragoza, Valentín Cardenera, 4, 22003 Huesca, Spain (+0034 659793756)

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The role of teachers is already considered one of the most decisive factors in the success or failure of a child with Special Educational Needs being taught and learning alongside their peers in mainstream settings. The objective of this study is to analyse the perceived efficacy of inclusive practices in achieving quality educational inclusion, and the intensity with which they are implemented in mainstream schooling contexts. The aim is also to study whether there is a positive effect of this perceived efficacy in achieving quality inclusion on pupils with Autism Spectrum Disorders. Similarly, it is analysed whether there is a mediating effect in this relationship of the variable related to the intensity of use (understood as the degree of use that teachers make of inclusive practices). To this end, 454 teachers from the Spanish education system completed an online questionnaire. Use of structural equation modelling reveals that the efficacy teachers perceive of the inclusive practices they use has positive effects on achieving the inclusion of these pupils. We found a mediating effect of the intensity with which the practices are implemented on this achievement of inclusion. The implications of these results are discussed with a view to introducing improvements in prior teacher-training programmes to empower and improve the confidence teachers have in their inclusive practices.

Keywords: perceived efficacy; practices; inclusion; Autism Spectrum Disorders; structural equation modelling

## **1. Introduction**

Besides many other actions, the practice of educational inclusion obviously involves considering the educational situation of the most vulnerable student population, which includes pupils with autistic behaviours (Gavish 2017). Under this inclusive paradigm, schools are required to transform to meet the needs of children with autism spectrum disorders (hereinafter ASD). In the last decade, several research papers include and define educational practices that should be implemented in school classrooms under the inclusive model. In their research, Cardona (2000) and Chiner (2011) classify practices that have proven to be most effective in favouring the learning of all students in highly diverse

classrooms into four main groups: class organisation and effective management strategies; teaching and learning assessment strategies; grouping strategies; and, finally, activity adaptation strategies. The first group includes specific practices, for example promoting respect for differences and positive interpersonal relationships. Secondly, teaching and learning assessment strategies refer to practices applied to solve problems, motivation techniques and, in general, anything that encourages children to learn. Thirdly, by using grouping strategies, teachers can form groups with a variety of characteristics; this aspect is deemed necessary to benefit from the wealth of differences in classrooms. Lastly, there are activity adaptation strategies, referring to adjustments the teacher makes to the scheduled activities for the group and to the content or format of the materials to encourage all pupils to access the curriculum and promote their participation.

Understanding teachers' beliefs about the teaching practices is crucially important because they relate to providing high-quality educational programs and improving children's developmental and learning outcomes (Berger et al. 2018; Mashburn et al. 2008). Bandura, the first author to introduce the concept of self-efficacy in the literature, suggests that teachers' beliefs about the practices they implement have a direct effect on both the academic development of all their pupils and on general guidelines they support in the educational process they are responsible for (Bandura 2006). More specifically, although the term defined by Guskey and Passaro (1994) refers specifically to perceived teacher efficacy of oneself, their definition can help us understand how a professional's perceived efficacy of an inclusive practice can influence the impact this action exerts on pupils' learning and, especially, on inclusion in a mainstream school context. According to the social cognitive theory of Bandura (1977), the perception of efficacy can also be understood as an expression of confidence that certain actions can lead to success or mastery of other actions. Therefore,

the perception of effective inclusive practices is not something that teachers possess (for example, a capacity), but rather a belief about what can work well (Bandura 2007).

The perceived efficacy of certain inclusive practices has been related to better management of student behavior in inclusive classrooms (Main & Hammond, 2008; Yada & Savolainen 2017). It has even been proved that teachers with a high perception of efficacy in implementing their inclusive practices are supportive of children with SEN being educated in mainstream school settings. This belief is not held by other teachers that do not manifest this perception (Chao et al. 2018). Furthermore, as certain authors (Zee, de Jong and Koomen 2016) point out, if teachers believe that a particular educational practice can benefit their pupils, they are more likely to decide to use it. So far, however, scientific findings related to children with ASD suggest that teaching these children in mainstream settings is more challenging than with pupils with other needs.

## **2. Purpose**

From a broad perspective, this study takes the following research questions as its starting point: Are there relationships between the perceived efficacy by teachers of inclusive practices for students with ASD and the use made of these practices? What relationships are established between these two variables and the achievement perceived by teachers of the educational inclusion of these students? Thus, the objective of this study is to analyse the possible relationships between the perceived efficacy by teachers about a set of inclusive practices for students with ASD, the use of these practices today and, finally, the perceived achievement of educational inclusion. Subsequently, we research a possible multidimensional structure of practices considering the two analysis dimensions: perceived efficacy and intensity with which they are implemented. We also investigate whether there is a possible mediating effect of the intensity with which these practices are used in the relationship

between perceived efficacy and the perceived achievement of inclusion. These effects have been controlled by a series of variables typical of the surveyed individuals (such as gender, age or academic studies) and of the setting where they work (type of school, professional role or experience with pupils with ASD). Figure 1 shows a visual summary of this approach.

(Insert Figure 1 about here)

### **3. Method**

#### ***3.1. Sample***

The analysed population is teaching staff working in mainstream schools in the autonomous community of Aragon (Spain). The sampling procedure was developed around the school unit. First, the schools' management was contacted and informed by email. In a second stage, the directors of the schools disseminated the web link that led to the survey among all the teachers in their school. At the same time, these directors were asked to motivate the teachers to participate in the study. Considering the total number of teachers in the Autonomous Community of Aragon, approximately 4% of them responded to the survey. We received a total amount of 454 valid questionnaires. Table 1 shows the contextual variables and teachers' personal details. The analysis of these variables suggests that the sample distribution percentage is representative of the study's general population. A considerable majority (84.4%) of the surveyed teachers work at state schools. Concerning the teachers' professional role, almost half of the sample work in general education (48.7%), approximately 30% work in the field of special education and in education and educational psychology guidance teams, and 20% form part of school management teams. Over half the teachers have between one and five years' experience of working with pupils with ASD, and only 20% have six years or more of experience working with these children in mainstream school settings. The number of women in the sample is higher than that of men (81.5%). The participants' age distribution is similar for the '31–45' and '46–65' categories, while only

11% of the total sample are '22–30'. Finally, concerning the level of university studies attained, almost 60% of the teachers have a Bachelor's degree and 31% have a Master's degree.

(Insert Table 1)

### ***3.2. Defining variables and instrument***

After reviewing the body of theory on the study subject, four blocks of educational strategies were taken as the starting point. Each strategy included a series of inclusive practices that might have an influence on achieving a higher quality of educational inclusion for pupils with ASD. Firstly, we established classroom organisation and management strategies with indicators referring to promoting pupil interaction, encouraging autonomy, listening prior to the presentation of tasks and acknowledging pupils' success. Secondly, teaching and learning assessment strategies included practices for making methodological guidelines more flexible, encouraging active participation, using support methods, fostering capacity for dialogue, and progressive monitoring of pupil achievement. The third content block, grouping strategies, integrated practices involving pupil group variation in the classroom and implementing cooperative learning methods. Lastly, the indicators in activity adaptation strategies included presenting a variety of options on what and how to learn, adjusting learning methods and varying the resources used. The content validity in selecting these indicators was based on available literature on this subject and the conclusions derived from an expert panel.

In an introductory section of the questionnaire, the participants were specified that the research topic of the study focused on the population of students with ASD in particular. Similarly, in the heading of each of the questions and indicators that made up the questionnaire, reference was made to these students in particular to avoid confusion with students with SEN in general. Thus, the perceived efficacy of each of these practices in

including pupils with ASD in the classroom is the first variable to be analysed. This variable was measured on a Likert-type scale of 0-10 in which 0 meant "it is a very ineffective practice" or 10 meant "it is a very effective practice". The second variable is the current intensity with which these practices are applied in classrooms. This variable was measured on a Likert-type scale of 0-10 in which 0 meant "this practice is not used at all" or 10 meant "this practice is used a lot". The outcome variable called 'perceived achievement of inclusion' of pupils with ASD was defined by considering two indicators: *a decrease in barriers to the learning and participation of pupils with autism* and *an increase in their inclusion*. This variable was measured on a Likert-type scale of 0-10 in which 0 meant "strongly disagree" or 10 meant "strongly agree". Finally, we also added a set of control variables related to the type of school where the teachers worked, their professional role, experience with pupils with ASD and other personal details (gender, age and academic studies) (see Table 1). The original questionnaire that was used to collect the data can be consulted at the following web link:

<https://drive.google.com/file/d/1hSv6IJLr0gMymSIgXSmDso70l0ROPRrx/view?usp=sharing>

### **3.3. Data Analysis**

The study's data were analysed using structural equation modelling with latent variables. The study's models were estimated with the MPLUS programme, version 7.4 (Muthén and Muthén 1998, 2007) using robust maximum likelihood. This establishes the corrections collated by Maydeu-Olivares (2017) both for the goodness-of-fit statistics and for the estimates of the standard errors of the considered parameters.

In a first phase, we tested the measurement models of the theoretical constructs. For this, we conducted a confirmatory factor analysis that included four dimensions. After this process, we obtained four latent first-order variables for general strategies that included

inclusive practices: class organisation and management; teaching and learning assessment; grouping; and, lastly, activity adaptation. We conducted a second confirmatory factor analysis on the intensity with which the practices are used and we obtained the same four groupings. The resulting correlations between these latent dimensions were considerably high. As a result, we considered appropriate estimating a second-order model (Bagozzi 2010) that included a higher-order dimensional structure called 'inclusive practice'. First, we estimated the AVE coefficient by Fornell and Larcker (1981) with a minimum value of .50 and, second, the omega coefficient (CRC) by McDonald (1985) with a minimum value of .70.

After examining this set of models, we propose that the relationship between the variables should meet these conditions: firstly, the perceived efficacy of practices has a direct effect on the perception of the achievement of educational inclusion for children with ASD; secondly, perceived efficacy also has an indirect effect on achieving the inclusion of these pupils by encouraging the intensity of use, which, in turn, has an influence on achieving inclusion; thirdly, perceived efficacy exerts a direct effect on the intensity of use of these inclusive practices; and, finally, the intensity of use (considered as the mediating variable) has an influence on the perceived achievement of inclusion of children with ASD.

#### **4. Results**

Firstly, as seen in Table 2, which contains the descriptive statistics, perceived efficacy in all the inclusive educational practices has a score higher than 6 in a scale between 0 and 10 points. Dispersion in the teachers' perceptions can also be observed in perceived efficacy of some educational practices. The practices with the highest dispersion level in agreement on their efficacy to include children with ASD are group variation and implementation of cooperative learning techniques (SD = 2.48 and 2.27, respectively). From this we can infer



that the efficacy of all the selected practices has been approved and that, in general, the people surveyed do not completely agree.

In parallel, we can see differences in the results for perceived efficacy levels. In other words, as far as the teachers are concerned, not all educational practices are considered equally effective for encouraging the inclusion of pupils with ASD in school. The practices considered the most effective include: acknowledging children's success ( $M = 8.65$ ); making methodological guidelines more flexible ( $M = 8.55$ ); and, finally, progressively monitoring their learning achievements ( $M = 8.59$ ). In contrast, the two grouping practices were scored as the least effective: periodic variation of groups in the classroom ( $M = 6.85$ ) and structuring group work into cooperative learning teams ( $M = 7.66$ ).

Concerning the intensity of using this set of educational practices in classrooms, Table 2 shows that the lowest average scores highlight different opinions on what and how to learn ( $M = 6.76$ ) and the use of support methods with children requiring them, without making use of traditional support services ( $M = 6.73$ ). The most commonly used practices refer, firstly, to acknowledging pupils' success ( $M=8.41$ ) and, secondly, to the incentive of gradual independence ( $M = 7.99$ ). The highest dispersion level is in the use of a variety of support methods with children requiring them ( $SD = 2.13$ ) and in the use of cooperative learning techniques ( $SD = 2.07$ ). Therefore, not all practices are used with the same intensity with children with ASD in mainstream classrooms.

(Insert Table 2)

Figure 2 shows the relationship between the measurements of perceived efficacy and the intensity with which these educational practices are used. Despite some exceptions, there is generally a positive relationship between the two. Quadrant 1 (top right) groups a total of six educational practices whose efficacy and intensity are above average. The practice based on acknowledging pupils' success stands out from all the others. Quadrant 2 (bottom right)

contains practices related to adjusting learning methods for pupils and making methodological guidelines more flexible. The intensity of use of practices attaining average scores needs to be increased, since professionals' perceived efficacy of them is high enough. Even if average perceived efficacy is exceeded, these practices do not attain the average score for their intensity of use. Quadrant 3 (lower left) contains practices with a lower than average perceived efficacy and intensity with which they are used. These practices translate to varying class groups, using cooperative learning techniques and having a variety of options for learning. Consequently, the least effort might be directed at these practices as teachers do not have high confidence in them for including children with ASD.

(Insert Figure 2 about here)

We defined the confirmatory factor analysis models (also known as 'measurement models') to estimate the suitability of the above-described structures. Concerning the perceived efficacy variable, the first model tested four latent first-order dimensions: 'E\_MS' (class organisation and management strategies); 'E\_TS' (teaching and learning assessment strategies); 'E\_GS' (grouping strategies) and 'E\_AS' (activity adaptation strategies). The statistics and goodness-of-fit indices of the first-order confirmatory analysis model present a reasonable fit ( $\chi^2 [71] = 219.7$ ; RMSEA = .07; SRMR = .04; CFI = .94). There is evidence of convergent reliability and validity based on the parameter estimates in Table 3. All factor loads are significant, the explained-variance coefficients exceed .56 and the reliability coefficients of the latent variables exceed the minimum cut-off points, since the minimum AVE value is .67 and the minimum CRC value is .82.

(Insert Table 3)

Considering that the correlations between these subdimensions were considerably high and significant (from .56 to .86), we tested the existence of a higher-order construct by estimating a second-order factor analysis model comprising four first-order dimensions and

one second-order dimension (see Table 3). In this case, the model's goodness-of-fit statistics demonstrate a reasonable fit and they are specified in the following:  $\chi^2 = 248.5(73)$ ; RMSEA = .07; SRMR = .05; CFI = .93. The factor loads are very similar to the loads in the estimated first-order model. Concerning the reliability of the latent variables in this second-order model, factor-load estimates are significant (between .64 and .95), and AVE and CRC exceed the minimum cut-off values (between .68 and .74; and between .82 and .86).

We adopted the same confirmatory analysis procedure to validate the measurement model of the dimension related to the intensity with which teachers use educational practices. The results are shown in Table 4. The statistics of the analysis of the first-order model and the corresponding goodness-of-fit indices have made it possible not to reject this structure ( $\chi^2 [71] = 220.9$ ; RMSEA = .07; SRMR = .03; CFI = .95). Similarly, the estimate of the second-order model with four first-order dimensions and one second-order dimension has also made it possible to accept this structure ( $\chi^2 [73] = 236.1$ ; RMSEA = .07; SRMR = .04; CFI = .94). The factor-load indices ( $\lambda > .65$ ) and explained-variance percentages ( $R^2 > .42$ ) can be considered appropriate for both models. The convergent validity and reliability coefficients (CRC and AVE) of latent variables are also above values considered acceptable (AVE > .50 and CRC > .70).

(Insert Table 4)

Consequently, considering the operationalisation of the observed variables (indicators), a measurement model (of perceived efficacy and intensity of use for both variables) of inclusive educational practices comprising four first-order dimensions can be confirmed: classroom organisation and management practices; teaching and learning assessment practices; grouping practices; and, finally, activity adaptation practices. Taken as a whole, they result in a higher-order construct than has been called, in each case, 'efficacy of inclusive practice' and 'intensity of use of the inclusive practice'.

The ‘perceived achievement of inclusion’ endogenous variable, comprising two observable indicators, was also operationalised. Significant factor loads arise from estimating the parameters and their results exceed the value of .80, while the explained-variance coefficients ( $R^2$ ) exceed the value of .64. In addition, the reliability indices ( $\alpha = .85$ ; AVE = .75; CRC = .87) can be considered adequate because they exceed appropriate minimum values. Consequently, ‘perceived achievement of inclusion’ is determined as a construct for which there is evidence of reliability and convergent validity. Taking the estimation of all these values as a reference, we conducted a third confirmatory factor analysis in which we included all the study variables, namely, perceived efficacy, the intensity with which the practices are used and, finally, achieving inclusion (Table 5). In this measurement model, the factor loads obtained are consistent with those provided above. This table also includes the correlations between the errors of the indicators. Twelve of these error correlations are significant and positive, while two of them are not significant.

(Insert Table 5)

In a final phase, we analysed the effects proposed in the theoretical structural model hypothesised above, with two latent variables (perceived efficacy and intensity with which educational practices are used) and a latent endogenous outcome variable (perceived achievement of inclusion). In this model, we also considered the study’s control variables. Table 6 shows the results of the mediation model. The goodness-of-fit statistics of the final model (model 4, in which all control variables have been included) are reasonable enough to consider that the model is a good fit (mediation model:  $\chi^2 [678] = 1342.2$ ; RMSEA = .04; SRMR = .04; CFI = .92). A positive and significant effect of perceived efficacy on achieving inclusion is obtained, so we can conclude that the more the teacher trusts their practices, the more positive achieving the inclusion of children with ASD will be (.38,  $p$  value < .00). The data highlight a positive and significant indirect effect of perceived efficacy through the

intensity of using the practices (.07,  $p$  value < .00). This process results in the effect of perceived efficacy on achieving inclusion increasing if this variable (efficacy) results in more intensity of applying the practices in the classroom. As a result of introducing the mediating variable ('intensity of use') into the model, the direct effect of perceived efficacy on 'perceived achievement of inclusion' is less than the total effect. Therefore, this is a partial mediation model.

(Insert Table 6)

Considering the direct effects of the control variables on the model for measuring perceived efficacy, state school teachers perceive a lower efficacy of these educational practices compared to teachers in private or semi-private schools (-.09,  $p$  value < .05). In contrast to professionals that have no experience of working with pupils with ASD, teachers who have 6–10 years of experience perceive the most efficacy of these general educational practices for including children with ASD (.15,  $p$  value > .00). Regarding the personal age variable, teachers aged 31–45 perceive more efficacy of these practices than younger teachers aged 22–30 (.15,  $p$  value > .05). Finally, teachers with higher academic qualifications (Postgraduate degrees), in comparison with others who have studied basic university level courses, perceive higher levels of efficacy of educational practices (.09,  $p$  value > .05).

Statistically significant differences have also been found for the several categories of control variables in the model for measuring the intensity with which educational practices are used by these teachers. In comparison with general education teachers, special education professionals use these inclusive educational practices with less intensity (-.21,  $p$  value < .00). Regarding personal variables, females report more use of these practices (.11,  $p$  value < .05). In contrast to younger teachers, the practices are implemented with less intensity by professionals aged 31–45 and 46–65 (-.23,  $p$  value < .00; .22,  $p$  value < .00). Teachers with postgraduate university qualifications, however, report a lower use of these educational

practices in comparison with teachers with a basic qualification ( $-.14, p \text{ value} < .00$ ;  $-.14, p \text{ value} < .00$ ).

## **5. Discussion and conclusions**

The results obtained after testing the measurement and mediation models enable us to reach a series of conclusions relevant to the literature available at the moment. We have noted a positive relationship between mainstream classroom teachers' trust of their inclusive practices and achieving quality educational inclusion of children with ASD. Therefore, teachers that perceive more efficacy in the educational practices they use (in other words, they trust them more) also consider that children with ASD have managed to be included more positively. We also found that the confidence that teachers have in these inclusive practices is linked to the fact that they decide to use them with more intensity in the classroom. Furthermore, this intensity of use in the classroom also means that teachers perceive the achievement of inclusion for students with ASD. As mentioned by Lai et al. (2016), these results can be taken into consideration to make recommendations to those responsible for training these professionals.

To date, studies on the efficacy teachers perceive of their own practices have predominantly focused on descriptive analyses. Some of these studies (Lai et al. 2016) established that tasks requiring teachers to collaborate with each other are perceived by the teachers in primary and secondary education stages as more effective for promoting child inclusion. Pit-ten Cate et al. (2014) found that teachers of the primary education stage lacked a certain amount of confidence in the provisions in educational legislation for including pupils with Special Needs. However, no attention has been paid to the way in which the perceived efficacy of these practices is related to the achievement of educational inclusion of children with ASD. Therefore, the results of this study provide more evidence to this field of

knowledge, since it has revealed the link between having a high degree of trust in inclusive practices and the perception of achievement of inclusion of students with ASD.

Teachers considered truly inclusive understand and are sensitive to the many learning needs of each of the children whose education they are responsible for. Besides, along the lines highlighted by Lindsay et al. (2014), they are fully aware that their own continuing professional development can become a means of improving inclusive settings. Producing guides with good professional practices would be an extremely useful tool to make teachers feel more secure about the approaches and practices they implement in the classroom (Anglim, Prendeville, and Kinsella 2017). Along the lines recommended by Conn (2018), the aim is to disseminate a model of best practices in schools to establish an inclusion policy based on factors such as a pupil's diverse needs, the size of the school and the staff working there.

However, as some research studies have shown (Anglim et al., 2017), we must remember how crucial it is to have supportive teaching settings, teamwork and coordination of several services to ensure the successful inclusion not only of children with ASD, but also of every child at school. Therefore, demand continues for teachers to gradually adapt their practices, strategies and techniques to an inclusive educational setting in which updating, streamlining, creativity, leadership and inclusive co-teaching (Finkelstein et al., 2019) should be constantly present in a teacher's skill set. Implementing inclusive practices in educational systems is a complex process steeped in uncertainty, confusion and sometimes even contradictions (Kozleski et al., 2015). Choosing the best inclusive practices to use should be based, as Robinson (2017) says, on teachers' intelligent compromise between 'here' and 'now' and their own critical thought processes.

As limitations of the study, it should be noted that the measures of "efficacy" and "intensity of use" are subject to the perception of the teachers participating in the study.

Consequently, they could not be considered as completely objective measures. Similarly, it must be considered that the perceived effectiveness of certain inclusive practices cannot solely determine the success or failure of educational inclusion in schools. On the other hand, the cross-sectional nature of the data also implies the need to be cautious when establishing causal relationships between the study variables. Finally, and although the informants answered the survey considering the population of students with ASD as the object of investigation, there is the possibility that these answers were also linked to the population of students with special needs in general.

### **Geolocation information**

This research has been carried out in the Autonomous Community of Aragon, belonging to Spain.

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### **Declaration of interest statement**

No potential conflict of interest was reported by the authors.

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Table 1. Sociodemographic characteristics in the sample (N=454)

<b>VARIABLES</b>	<b>n</b>	<b>% OF THE SAMPLE</b>
<b>Type of school</b>		
<i>Private</i>	71	15.6
<i>Public</i>	383	84.4
<b>Professional role</b>		
<i>General education teacher</i>	221	48.7
<i>Special Education Teacher and Educational Support Teams.</i>	135	29.7
<i>Masters</i>	98	21.6
<b>Experience with pupils with ASD</b>		
<i>I do not have experience</i>	124	27.3
<i>Between 1-5 years</i>	239	52.6
<i>Between 6-10 years</i>	52	11.4
<i>More than 10 years</i>	39	8.7
<b>Gender</b>		
<i>Men</i>	84	18.5
<i>Women</i>	370	81.5
<b>Age</b>		
<i>Between 22-30 years</i>	50	11.0
<i>Between 31-45 years</i>	205	45.1
<i>Between 46-65 years</i>	199	43.9
<b>Academic studies</b>		
<i>Bachelor's Degree</i>	266	58.6
<i>University Degree</i>	141	31.1
<i>Postgraduate/Doctorate</i>	47	10.4
<b>Total</b>	<b>454</b>	<b>100</b>

Table 2. Descriptive statistics

		<b>EDUCATION PRACTICES</b>					
		<b>EFFICACY</b>			<b>INTENSITY</b>		
		Mean	SD		Mean	SD	
<b>Class organisation and management strategies</b>							
<b>MS.1</b>	<i>Promoting interaction</i>	<b>E_MS.1</b>	8.09	2.01	<b>I_MS.1</b>	7.91	1.55
<b>MS.2</b>	<i>Encouraging independence</i>	<b>E_MS.2</b>	8.18	1.93	<b>I_MS.2</b>	7.99	1.51
<b>MS.3</b>	<i>Listening to pupils</i>	<b>E_MS.3</b>	7.98	2.10	<b>I_MS.3</b>	7.78	1.71
<b>MS.4</b>	<i>Acknowledging success</i>	<b>E_MS.4</b>	8.65	1.80	<b>I_MS.4</b>	8.41	1.45
<b>Teaching and assessment strategies</b>							
<b>TS.1</b>	<i>Making methodological guidelines more flexible</i>	<b>E_TS.1</b>	8.55	1.73	<b>I_TS.1</b>	7.15	1.86
<b>TS.2</b>	<i>Fostering active participation</i>	<b>E_TS.2</b>	8.27	1.88	<b>I_TS.2</b>	7.85	1.66
<b>TS.3</b>	<i>Using support methods for learning</i>	<b>E_TS.3</b>	8.05	2.05	<b>I_TS.3</b>	6.73	2.13
<b>TS.4</b>	<i>Fostering the capacity for dialogue</i>	<b>E_TS.4</b>	8.08	2.04	<b>I_TS.4</b>	7.73	1.67
<b>TS.5</b>	<i>Monitoring achievements</i>	<b>E_TS.5</b>	8.59	1.74	<b>I_TS.5</b>	7.96	1.60
<b>Grouping strategies</b>							
<b>GS.1</b>	<i>Varying groups</i>	<b>E_GS.1</b>	6.85	2.48	<b>I_GS.1</b>	7.30	1.82
<b>GS.2</b>	<i>Working on cooperative learning</i>	<b>E_GS.2</b>	7.66	2.27	<b>I_GS.2</b>	6.98	2.07
<b>Activity adaptation strategies</b>							
<b>AS.1</b>	<i>Introducing variety as a means of learning</i>	<b>E_AS.1</b>	7.84	1.94	<b>I_AS.1</b>	6.76	1.93
<b>AS.2</b>	<i>Adjusting learning methods</i>	<b>E_AS.2</b>	8.21	1.88	<b>I_AS.2</b>	7.32	1.83
<b>AS.3</b>	<i>Varying resources</i>	<b>E_AS.3</b>	8.00	1.95	<b>I_AS.3</b>	7.24	1.73
		<b>PERCEIVED ACHIEVEMENT OF INCLUSION</b>					
		Mean	SD				
<b>AC_IN.1</b>	<i>Decreasing barriers to learning and participation</i>	<b>AC_IN.1</b>	6.85	1.74			
<b>AC_IN.2</b>	<i>Increasing inclusion</i>	<b>AC_IN.2</b>	7.27	1.87			

Scale from 0 to 10.

Table 3. Measurement Model of Perceived Efficacy of Education Practices

<i>First Order factor Model</i>					<i>Second Order Factor Model</i>						
	E_MS	E_TS	E_GS	E_AS	R2	E_MS	E_TS	E_GS	E_AS	<i>EP-Efficacy</i>	R <sup>2</sup>
E_MS.1	0.86				0.74	0.87					0.76
E_MS.2	0.86				0.74	0.86					0.74
E_MS.3	0.84				0.71	0.84					0.71
E_MS.4	0.86				0.74	0.86					0.74
E_AS.1		0.88			0.77		0.87				0.76
E_AS.1		0.89			0.79		0.89				0.79
E_AS.1		0.75			0.56		0.74				0.55
E_AS.1		0.82			0.67		0.82				0.67
E_AS.1		0.84			0.71		0.83				0.69
E_GS.1			0.71		0.50			0.66			0.44
E_GS.2			0.93		0.86			0.99			0.98
E_AS.1				0.84	0.71				0.83		0.69
E_AS.2				0.87	0.76				0.88		0.77
E_AS.3				0.76	0.58				0.75		0.56
	<b>E_MS</b>	<b>E_TS</b>	<b>E_GS</b>	<b>E_AS</b>							
<b>E_MS</b>	<b>0.85</b>									0.89	0.79
<b>E_TS</b>	0.86	<b>0.84</b>								0.95	0.90
<b>E_GS</b>	0.62	0.56	<b>0.82</b>							0.64	0.41
<b>E_AS</b>	0.75	0.86	0.72	<b>0.82</b>						0.89	0.79
<b>α</b>	0.92	0.82	0.77	0.86		0.92	0.82	0.77	0.86		
<b>CRC</b>	0.86	0.84	0.82	0.82		0.86	0.83	0.83	0.82	0.84	
<b>AVE</b>	0.73	0.70	0.68	0.67		0.74	0.69	0.71	0.68	0.72	
<b>Goodness of Fit:</b>	$\chi^2$ [71]=219.7 RMSEA=0.07 CFI=0.94 SRMR=0.04					$\chi^2$ [73]=248.5 RMSEA=0.07 CFI=0.93 SRMR=0.05					

Table 4. Measurement Model of Intensity with which the practices are used

<i>First Order factor Model</i>					<i>Second Order Factor Model</i>						
	I_MS	I_TS	I_GS	I_AS	R <sup>2</sup>	I_MS	I_TS	I_GS	I_AS	EP-Intensity	R <sup>2</sup>
I_MS.1	0.79				0.62	0.79					0.62
I_MS.2	0.78				0.61	0.78					0.61
I_MS.3	0.83				0.69	0.83					0.69
I_MS.4	0.74				0.55	0.74					0.55
I_AS.1		0.84			0.71		0.84				0.71
I_AS.2		0.87			0.76		0.88				0.77
I_AS.3		0.69			0.48		0.69				0.48
I_AS.4		0.84			0.71		0.84				0.71
I_AS.5		0.78			0.61		0.78				0.61
I_GS.1			0.65		0.42			0.65			0.42
I_GS.2			0.78		0.61			0.78			0.61
I_AS.1				0.82	0.67				0.81		0.66
I_AS.2				0.77	0.59				0.78		0.61
I_AS.3				0.82	0.67				0.82		0.67
	I_MS	I_TS	I_GS	I_AS							
I_MS	<b>0.79</b>									0.87	0.76
I_TS	0.88	<b>0.81</b>								0.99	0.98
I_GS	0.73	0.84	<b>0.72</b>							0.87	0.76
I_AS	0.75	0.89	0.87	<b>0.81</b>						0.90	0.81
$\alpha$	0.86	0.90	0.67	0.84		0.86	0.90	0.67	0.84		
CRC	0.79	0.80	0.72	0.80		0.79	0.81	0.72	0.80	0.91	
AVE	0.62	0.65	0.52	0.65		0.62	0.66	0.52	0.65	0.83	
<b>Goodness of Fit:</b>	$\chi^2$ [71]=220.9 RMSEA=0.07 CFI=0.95 SRMR=0.03					$\chi^2$ [73]=236.1 RMSEA=0.07 CFI=0.94 SRMR=0.04					



Table 5. Full Empirical Measurement Model of Perceived Efficacy, Intensity of Use and Perceived Achievement of Inclusion

	<b>E_MS</b>	<b>E_TS</b>	<b>E_GS</b>	<b>E_AS</b>	<b>R<sup>2</sup></b>	<b>I_MS</b>	<b>I_TS</b>	<b>I_GS</b>	<b>I_AS</b>	<b>EP-Efficacy</b>	<b>EP-Intensity</b>	<b>AC-Inclusion</b>	<b>R<sup>2</sup></b>	<b>Corr. Errors</b>
<b>E_MS.1</b>	0.86				0.74	<b>I_MS.1</b>	0.79						0.62	0.19**
<b>E_MS.2</b>	0.87				0.77	<b>I_MS.2</b>	0.79						0.62	0.24**
<b>E_MS.3</b>	0.84				0.71	<b>I_MS.3</b>	0.82						0.67	0.39***
<b>E_MS.4</b>	0.85				0.72	<b>I_MS.4</b>	0.73						0.53	0.46***
<b>E_AS.1</b>		0.87			0.76	<b>I_AS.1</b>		0.84					0.71	0.11
<b>E_AS.2</b>		0.89			0.79	<b>I_AS.2</b>		0.87					0.76	0.34***
<b>E_AS.3</b>		0.75			0.56	<b>I_AS.3</b>		0.70					0.49	0.44***
<b>E_AS.4</b>		0.83			0.69	<b>I_AS.4</b>		0.84					0.71	0.25**
<b>E_AS.5</b>		0.82			0.67	<b>I_AS.5</b>		0.77					0.59	0.34***
<b>E_GS.1</b>			0.65		0.42	<b>I_GS.1</b>			0.65				0.42	0.25***
<b>E_GS.2</b>			0.99		0.98	<b>I_GS.2</b>		0.80					0.64	0.00
<b>E_AS.1</b>				0.83	0.69	<b>I_AS.1</b>				0.82			0.67	0.33***
<b>E_AS.2</b>				0.88	0.77	<b>I_AS.2</b>				0.77			0.59	0.39***
<b>E_AS.3</b>				0.73	0.53	<b>I_AS.3</b>				0.81			0.65	0.22**
<b>AC_IN.1</b>												0.80	0.64	
<b>AC_IN.2</b>												0.93	0.86	
<b>E_MS</b>										0.90			0.81	
<b>E_TS</b>										0.95			0.90	
<b>E_GS</b>										0.65			0.42	
<b>E_AS</b>										0.91			0.83	
<b>I_MS</b>											0.88		0.77	
<b>I_TS</b>											0.99		0.98	
<b>I_GS</b>											0.86		0.74	
<b>I_AS</b>											0.91		0.83	
<b>EP-Efficacy</b>										0.86				
<b>EP-Intensity</b>										0.15	0.91			
<b>AC-Inclusion</b>										0.44	0.46	0.87		
<b>CRC</b>	0.86	0.83	0.82	0.81		0.78	0.80	0.73	0.80	0.85	0.91	0.87		
<b>AVE</b>	0.74	0.69	0.70	0.66		0.61	0.65	0.53	0.64	0.74	0.83	0.75		

$\chi^2$  [381]=897.31 RMSEA=0.05 CFI=0.93 SRMR=0.05

Note: \*Significance of the correlations between the measurement errors.

Table 6. Results of the Structural Models

	<i>Model_1</i>			<i>Model_2</i>			<i>Model_3</i>			<i>Model_4</i>		
	<i>EP-Efficacy</i>	<i>EP-Intensity</i>	<i>AC-Inclusion</i>	<i>EP-Efficacy</i>	<i>EP-Intensity</i>	<i>AC-Inclusion</i>	<i>EP-Efficacy</i>	<i>EP-Intensity</i>	<i>AC-Inclusion</i>	<i>EP-Efficacy</i>	<i>EP-Intensity</i>	<i>AC-Inclusion</i>
<b>DIRECT EFFECTS</b>												
<b>Type of school</b>												
<i>Public</i>	-0.10**	-0.07	-0.11***	-0.09**	-0.07	-0.10***	-0.08**	-0.09*	-0.09**	-0.09**	-0.07	-0.03
<b>Professional role</b>												
<i>Special/Support Teams</i>				0.08	-0.20***	-0.11**	0.07	-0.20***	-0.13**	0.07	-0.21***	-0.06
<i>Masters</i>				-0.01	-0.03	0.04	0.01	0.00	0.06	0.02	0.01	-0.08
<b>Experience with TEA</b>												
<i>Between 1-5 years</i>				0.10*	0.03	0.08	0.09	0.02	0.08	0.09	0.01	0.03
<i>Between 6-10 years</i>				0.17***	0.06	0.06	0.15**	0.07	0.08	0.15***	0.05	0.01
<i>More than 10 years</i>				0.07	0.08*	0.07	0.07	0.08*	0.10	0.07	0.07	0.04
<b>Gender</b>												
<i>Women</i>							0.02	0.12**	0.03	0.02	0.11**	-0.02
<b>Age</b>												
<i>Between 31-45 years</i>							0.15*	-0.19**	-0.06	0.15*	-0.23***	-0.04
<i>Between 46-65 years</i>							0.05	-0.20**	-0.18**	0.05	-0.22***	-0.11
<b>Academic studies</b>												
<i>University Degree</i>							0.07	-0.12**	-0.00	0.07	-0.14***	0.02
<i>Postgraduate/Doctorate</i>							0.09*	-0.13**	0.03	0.09*	-0.14***	0.05
<i>EP-Efficacy</i>											0.18***	0.38***
<i>EP-Intensity</i>												0.39***
<b>INDIRECT EFFECTS</b>												
<i>EP-Efficacy</i>												0.07***
<b>R<sup>2</sup></b>	0.011	0.005	0.011	0.046	0.040	0.029	0.069	0.089	0.049	0.070	0.119	0.380
<b>Goodness of Fit:</b>	$\chi^2$ [421]=1279.2 RMSEA=0.06 CFI=0.88 SRMR=0.05			$\chi^2$ [556]=1505.6 RMSEA=0.06 CFI=0.88 SRMR=0.05			$\chi^2$ [691]=1708.3 RMSEA=0.05 CFI=0.88 SRMR=0.04			$\chi^2$ [678]=1342.2 RMSEA=0.04 CFI=0.92 SRMR=0.04		

Figure 1. Study approach

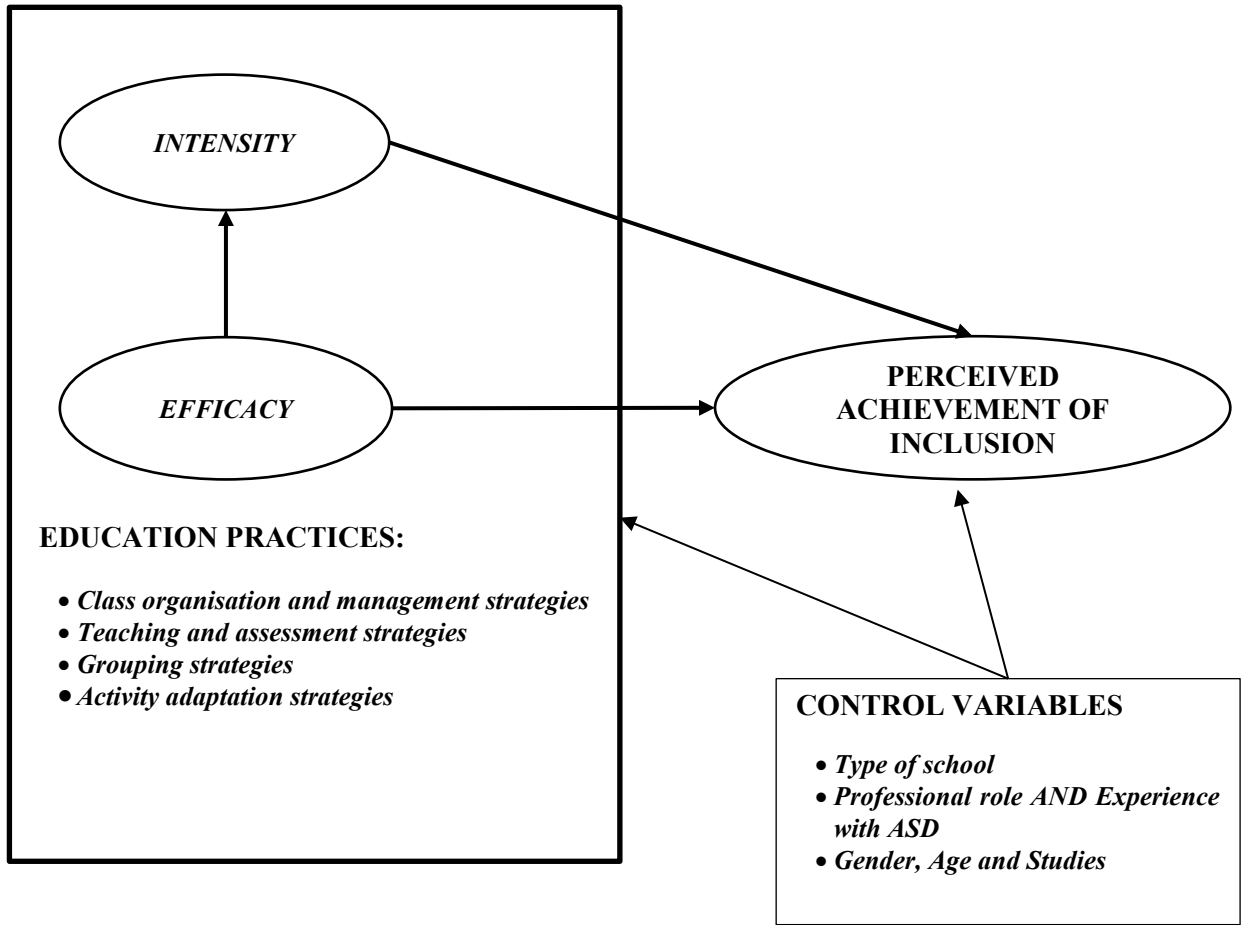


Figure 2. Relations between perceived efficacy and intensity of use of practices

***Class organisation and management strategies***

- MS.1 Promoting interaction
- MS.2 Encouraging independence
- MS.3 Listening to pupils
- MS.4 Acknowledging success

***Teaching and assessment strategies***

- TS.1 Making methodological guidelines more flexible
- TS.2 Fostering active participation
- TS.3 Using support methods for learning
- TS.4 Fostering the capacity for dialogue
- TS.5 Monitoring achievements

***Grouping strategies***

- GS.1 Varying groups
- GS.2 Working on cooperative learning

***Activity adaptation strategies***

- AS.1 Introducing variety as a means of learning
- AS.2 Adjusting learning methods
- AS.3 Varying resources

