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TEACHER EDUCATION & DEVELOPMENT | RESEARCH ARTICLE

Perceptions and attitudes about inclusion: Findings across all grade levels and years of teaching experience

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Abstract: Kindergarten through 12th-grade classrooms is almost exclusively inclusive instructional settings. Supports for the regular education teachers vary as time and budgets permit, placing increased responsibility for providing instruction to children with disabilities on these teachers. Professional development targeted at teachers' self-efficacy with respect to inclusion best practices should be provided, with such efforts informed by the specific needs of the participants. This paper presents an investigation of the implementation of a measuring instrument for that purpose with findings and implications for guiding professional development.

Subjects: School Psychology; Teachers & Teacher Education; Teaching & Learning; Continuing Professional Development; Educational Psychology

Keywords: inclusion; professional development; retention

1. Introduction

Inclusion has become an almost universally accepted best practice in education since its legislative mandate by way of the Individuals with Disabilities Education Act (IDEA) and its requirement for providing educational services in the least restrictive environment (LRE) for students with disabilities. Regular education teachers have thus been increasingly providing instruction for students with



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PUBLIC INTEREST STATEMENT

As educators become increasingly tasked with adhering to stricter standards, requirements, and measures of professional evaluation, the responsibility of administrators and other stakeholders in education grows with respect to addressing focused professional development. The current best practices among K-12 educators embraces the practice of inclusion of students with disabilities into regular classroom settings to the extent possible. In order to retain existing regular education teachers and to attract new teachers, reducing teacher stress with respect to inclusion practices should be a primary focus. The area of inclusion practices and providing teachers with the skills and supports needed for them to be successful in their classrooms should be at the forefront when decisions are made by school district administrators about how best to expend their resources for professional development.

an array of disabilities who may spend up to the entire school day in their classrooms, albeit with assistance from special education resource teachers to one degree or another (Bryant, Bryant, & Smith, 2016). No Child Left Behind in 2001 furthered the move toward inclusion classrooms in its mandate to individual states to evaluate and implement processes and procedures for advancing inclusion practices and to increase rigor for instruction in core content areas. According to the 35th Annual Report to the US Congress on the Implementation of IDEA (2013), 61.1% of students with varying disabilities spend 80–100% of the school day in a regular education classroom. Of the remaining 39.9%, almost half spend between 40 and 80% of the school day in regular education classrooms and the other half with either less time or in self-contained classrooms.

Inclusion is an approach to exceptional student education which entails a comprehensive and systematic coordination of educational services for students with disabilities (Sailor & Roger, 2005). One of its provisions is that such students be placed in regular education classrooms as is feasible and according to the principle of LRE (Sailor & Roger, 2005). The impact of inclusive classrooms on regular education teachers has not always been positive. Findings of recent studies indicated that not all teachers are prepared, or *feel* that they are prepared, and that negative attitudes about the practice contribute to reduced self-efficacy leading to teacher stress as they seek to meet the educational needs of students with disabilities in their classrooms (Barnes & Gaines, 2015; Brackenreed, 2011; Fuchs, 2010; Hwang & Evans, 2011; Schwarzer & Hallum, 2008).

Teacher stress has been attributed to a variety of factors among which are lack of teacher training—either preservice or inservice (Alahbabi, 2009; Hwang & Evans, 2011; Itkonen, 2007; Odom, Buysse, & Soukakou, 2011; Wah, 2010), having to provide instruction for students requiring more than “regular” classroom instruction (Ozdemir, 2006), lack of administrative and special education teacher support (Avramidis, Bayliss, & Burden, 2000; Fuchs, 2010; Hwang & Evans, 2011), and an increase in negative teacher–student interactions (Stevenson & Harper, 2006). Each of these factors can be seen as an aspect of the regular classroom teachers’ experiences as they provide instruction for all students in inclusive classrooms.

Another factor now contributes to heightened stress levels among regular classroom teachers in inclusion settings, and that is the recently implemented policy of having their annual evaluations be partially based on their students’ standardized test scores, which can include the scores of students with disabilities (Jiang, Spote, & Luppescu, 2015). It is not yet known what the compounded effect of this additional stressor for teachers will be, or what effect it will have on teacher retention and recruitment efforts.

Professional development (PD) programs, also sometimes known as in-service training or teacher education, are the route taken in order to address issues or practices that challenge teachers or to provide information and applications about new approaches in instruction (DeMonte, 2013). PD is the means of providing support for teachers and for them to gain more knowledge and self-confidence—a heightened sense of self-efficacy—in areas necessary for them to be successful in their classrooms (DeMonte, 2013). Effective PD has been identified as having an application element and being relevant to the teaching experiences of the participants (Masuda, Ebersole, & Barrett, 2013).

The purpose of this study was to investigate specific groups of regular classroom teachers’ attitudes and perceptions about inclusion in order to better inform PD programs. The groups identified for the study can be considered “naturally occurring” as teachers are already grouped according to the grade-level range taught by virtue of their placements at their respective schools. The other set of groups, based upon years of teaching experience, is also important when targeting PD as part of an induction program for novice teachers or as part of retention efforts for veteran teachers.

This study addressed two research questions as follows with their respective hypotheses.

- (1) Is there a statistically significant difference among teachers at different grade-level ranges with respect to their attitudes and perceptions about inclusion?
- (2) Is there a statistically significant difference among teachers with different years of teaching experience ranges with respect to their attitudes and perceptions about inclusion?

The researchers hypothesized that teachers at lower grade levels and teachers with more years of experience would have a more positive attitude than their colleagues about inclusion.

2. Methods

2.1. Participants

Participants consisted of a self-selected convenience sample of 90 kindergarten through 12th-grade regular education teachers from elementary, middle, and secondary schools in two school districts in the northwest panhandle area of Florida. *Exceptional student education teachers* and *special content area teachers*, such as reading or mathematics specialists, were not included as only the regular education teachers were of interest here.

2.2. Measuring instrument

The Multidimensional Attitudes Toward Inclusive Education Scale (MATIES) (Mahat, 2008) was used (see Table 1). The survey item responses are Likert scale as follows: Strongly disagree, disagree, somewhat disagree, somewhat agree, agree, and strongly agree. Survey items are categorized into three domains: cognitive, affective, and behavioral. Two additional items were included to gather demographic information about grade-level taught and years of teaching experience. Half of the MATIES items' express positive attitudes about inclusion and the other half, negative (see Table 2).

2.3. Procedure

Permission to contact the teachers was initially obtained from the respective authority at the two school districts and then from the principals of the respective schools. Plans for the study and details of the survey were presented and explained to the faculty in an email sent inviting them to participate. The email contained information regarding informed consent with the embedded link to the survey instrument in Survey Monkey. Informed consent was obtained once the teacher clicked on the link to begin the survey. Once the survey was completed and submitted by the participant, the completed form was returned to an account on Survey Monkey that was created by the researchers to collect the survey responses.

2.4. Reliability and validity

The MATIES uses item and teacher separation indices to arrive at high levels of reliability. Cronbach's alpha was calculated at between 0.77 and 0.91. Internal validity was obtained through the use of a correlational design to study the relationship between the variables. Internal validity was also obtained through the use of a measuring tool (MATIES) that measured high in the areas of construct validity and content validity. Since the sample population of teachers used ($n = 90$) was higher than the required amount for generalizability to the population when conducting correlational studies, findings are generalizable to the target population of teachers, thus fulfilling the requirements for external validity.

Table 1. Items on the multidimensional attitudes toward inclusive education scale (MATIES)

<i>Cognitive</i>	
1	I believe that an inclusive school is one that permits academic progression of all students regardless of their ability
2	I believe that students with a disability should be taught in special education schools
3	I believe that inclusion facilitates socially appropriate behavior amongst all students
4	I believe that any student can learn in the regular curriculum of the school if the curriculum is adapted to meet their individual needs
5	I believe that students with a disability should be segregated because it is too expensive to modify the physical environment of the school
6	I believe that students with a disability should be in special education schools so that they do not experience rejection in the regular school
<i>Affective</i>	
7	I get frustrated when I have difficulty communicating with students with a disability
8	I get upset when student with a disability cannot keep up with the day-to-day curriculum in my classroom
9	I get irritated when I am unable to understand students with a disability
10	I am uncomfortable including students with a disability in a regular classroom with other students without a disability
11	I am disconcerted that students with a disability are included in the regular classroom, regardless of the severity of the disability
12	I get frustrated when I have to adapt the curriculum to meet the individual needs of all students
<i>Behavioral</i>	
13	I am willing to encourage students with a disability to participate in all social activities in the regular classroom
14	I am willing to adapt the curriculum to meet the individual needs of all students regardless of their disability
15	I am willing to physically include students with a severe disability in the regular classroom with the necessary support
16	I am willing to modify the physical environment to include students with a disability in the regular classroom
17	I am willing to adapt my communication techniques to ensure that all students with an emotional and behavioral disorder can be successfully included in the regular classroom
18	I am willing to adapt the assessment of individual students in order for the inclusive education to take place

2.5. Data analysis

Survey response data compiled in Survey Monkey was entered into SPSS for descriptive and statistical analysis. Participants were divided into three groups according to grade-level taught: one for elementary (grades kindergarten through 5), one for middle level (grades 6 through 8), and the other for secondary (grades 9 through 12). Participants were also divided into three groups for years of experience, with the first group having 1–5 years of experience, the second 6–10, and the third 11+ years of experience. In addition to demographic frequency data and descriptive analysis of individual item responses, ANOVAs were performed among demographic groups' responses to examine differences. Since half of the MATIES items were identified as expressing a negative attitude, values for those items were subsequently converted to their positive counterparts, thus enabling the researchers to obtain an overall positive attitude score for participant groups. Percentage scores were then calculated allowing for further descriptive analysis of the responses. Responses were also examined with respect to the cognitive, affective, and behavioral domains of the survey items for similarities or differences.

3. Results

Descriptive statistics for individual MATIES items are presented in Tables 2 and 3. Table 2 displays results for the three grade-level range groups as well as for all participants for each item on the survey. Table 2 also identifies each item with respect to whether it expresses a positive or a negative attitude about inclusion. ANOVA results for these groups indicated a statistically significant difference for Items 3, 4, 5, 10, 11, 15, 16, and 18 (see Table 4). The Levene test for the equality of variances among the groups found that the variances were significantly different for Item 3 ($F = 4.93, p < 0.01$), Item 5 ($F = 3.11, p < 0.05$), Item 10 ($F = 7.51, p < 0.001$), Item 11 ($F = 3.58, p < 0.05$), and Item 15 ($F = 4.82, p < 0.01$). Using the *post hoc* Tamhane statistic for these items and the *post hoc* Tukey test (at $p < 0.05$) for Items 1, 4, and 16 resulted in significant pair-wise differences as follows: for Item 1 between elementary and secondary, for Item 3 between elementary and secondary as well as between elementary and middle, for Item 4 between elementary and secondary, for Item 5 between elementary and middle, for Items 10 and 11 between elementary and secondary, for Items 15 and 16 between elementary and middle as well as between elementary and secondary, and for Item 18 between elementary and secondary.

Figure 1 displays the findings for these three groups in graph format with values for the negative items converted to reflect positive mean responses as described previously. Presented in this way, one easily sees that Item 4, which affirms a belief that all students can learn in a regular classroom, embodying the fundamental spirit of inclusion, elicited the lowest positive response across grade-level groups. Item 13, having to do with social rather than instructional activities in the classroom, elicited the strongest positive response across the grade-level groups. In general, the means indicated a more positive than negative attitude.

Table 2. Response means and standard deviations for MATIES items by grade-level range taught

Item	Type	Elementary (n = 33)		Middle (n = 23)		Secondary (n = 34)		Total (n = 90)	
		Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.
1	Positive	3.58	1.32	3.78	1.51	4.47	1.19	3.97	1.37
2	Negative	3.82	1.26	3.65	1.07	3.18	1.27	3.53	1.24
3	Positive	3.39	1.37	4.35	0.78	4.44	1.46	4.03	1.36
4	Positive	2.73	1.48	3.22	1.48	3.82	1.60	3.27	1.59
5	Negative	2.64	1.14	1.74	0.75	2.18	1.17	2.23	1.11
6	Negative	3.00	1.27	2.30	0.93	2.44	1.16	2.61	1.18
7	Negative	2.97	1.40	2.65	1.30	2.79	1.47	2.82	1.39
8	Negative	3.06	1.58	3.30	1.49	2.97	1.47	3.09	1.50
9	Negative	2.45	1.23	1.96	0.93	2.09	1.11	2.19	1.12
10	Negative	2.88	1.54	2.09	1.38	2.03	1.03	2.36	1.37
11	Negative	3.40	1.58	2.57	1.38	2.26	1.16	2.76	1.46
12	Negative	3.00	1.43	2.43	1.24	2.26	1.19	2.58	1.32
13	Positive	5.06	1.03	5.48	0.59	5.32	0.68	5.27	0.82
14	Positive	4.42	1.15	4.78	1.35	4.74	1.11	4.63	1.18
15	Positive	3.91	1.61	5.40	0.72	4.68	1.22	4.58	1.40
16	Positive	4.24	1.06	5.09	1.12	4.91	1.24	4.71	1.19
17	Positive	4.33	1.24	5.04	1.19	4.56	1.24	4.60	1.24
18	Positive	4.00	1.27	4.65	1.22	4.76	0.96	4.46	1.19

Notes: "Type" refers to positive or negative attitude with respect to high score on the item. Values are 1 = Strongly Disagree, 2 = Disagree, 3 = Somewhat Disagree, 4 = Somewhat Agree, 5 = Agree, 6 = Strongly Agree.

Table 3. Response means and standard deviations for MATIES items by years of teaching experience

Item	Type	0–5 (n = 27)		6–11 (n = 17)		11 or more (n = 46)		Total (n = 90)	
		Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.
1	Positive	4.22	1.19	4.12	1.11	3.76	1.54	3.97	1.37
2	Negative	3.41	1.15	3.35	1.17	3.67	1.32	3.53	1.24
3	Positive	4.30	1.17	4.12	1.11	3.85	1.53	4.03	1.36
4	Positive	3.70	1.59	3.29	1.65	3.00	1.53	3.27	1.59
5	Negative	2.26	1.13	2.12	1.22	2.26	1.08	2.23	1.11
6	Negative	2.59	0.93	2.35	1.17	2.71	1.31	2.61	1.18
7	Negative	2.59	1.25	3.35	1.41	2.78	1.45	2.82	1.39
8	Negative	3.41	1.47	3.00	1.50	2.93	1.53	3.09	1.50
9	Negative	2.07	0.92	2.53	1.28	2.13	1.17	2.19	1.12
10	Negative	2.22	1.31	2.29	1.31	2.45	1.44	2.36	1.37
11	Negative	2.22	1.22	2.47	1.12	3.17	1.58	2.76	1.46
12	Negative	2.37	1.18	2.24	1.03	2.83	1.47	2.58	1.32
13	Positive	5.30	0.72	5.24	0.66	5.26	0.93	5.27	0.82
14	Positive	4.96	1.16	4.71	0.77	4.41	1.30	4.63	1.18
15	Positive	4.96	1.22	4.59	1.17	4.35	1.56	4.58	1.40
16	Positive	4.93	0.96	4.59	1.06	4.63	1.36	4.71	1.19
17	Positive	4.89	1.09	4.59	0.94	4.43	1.41	4.60	1.24
18	Positive	4.78	1.22	4.59	0.87	4.22	1.25	4.46	1.19

Notes: “Type” refers to positive or negative attitude with respect to high score on the item. Values are 1 = Strongly Disagree, 2 = Disagree, 3 = Somewhat Disagree, 4 = Somewhat Agree, 5 = Agree, 6 = Strongly Agree.

Table 4 displays individual item mean responses of the three groups according to years of teaching experience. ANOVA results for these groups indicated a statistically significant difference for Item 11 only, $F(2, 87) = 4.34, p = 0.016$. A *post hoc* Tukey test (at $p < 0.05$) showed that the significant difference was between the 1–5 and the 11+ years of teaching experience groups.

Figure 2 displays the results for the years of teaching experience groups in the same way in which Figure 1 does for the grade-level range groups. For both sets of groups, Item 4 (“I believe that any student can learn in the regular curriculum of the school if the curriculum is adapted to meet their individual needs.”) elicited the least positive and Item 13 (“I am willing to encourage students with a disability to participate in all social activities in the regular classroom.”) elicited the most positive mean responses. The plot patterns in both figures are similar across groups overall.

With converted values for each item, an overall positive attitude about inclusion score for each participant was calculated allowing for an overall score for each of groups to be generated for additional comparison. Analysis of mean scores by participants’ grade-level taught showed that the mean for the secondary grade-level group ($M = 4.58, SD = 0.83$) was higher than that for the middle grade-level group ($M = 4.56, SD = 0.55$) and than that for the elementary-level group ($M = 3.97, SD = 0.81$). A one-way ANOVA was calculated and the difference was significant, $F(2, 87) = 6.61, p = 0.002$. A *post hoc* Tukey test showed a significant difference between the elementary and middle-level groups at $p < 0.05$, and also between the elementary and secondary groups at $p < 0.01$. These findings do not support the hypothesis for the first research question—that teachers of lower grade levels would have a more positive attitude than that of their counterparts.

Table 4. One-way ANOVA for grade level range groups on nine MATIES items

Variable and source	SS	MS	F (2, 87)
<i>Item 1</i>			
Between groups	14.46	7.23	4.13*
Within groups	152.44	1.75	
<i>Item 3</i>			
Between group	21.42	10.71	6.50**
Within groups	143.48	1.65	
<i>Item 4</i>			
Between groups	20.20	10.10	4.32*
Within groups	203.40	2.34	
<i>Item 5</i>			
Between groups	11.09	5.54	4.87**
Within groups	99.01	1.14	
<i>Item 10</i>			
Between groups	14.31	7.16	4.09*
Within groups	152.31	1.75	
<i>Item 11</i>			
Between groups	22.47	11.24	5.88**
Within groups	166.15	1.91	
<i>Item 15</i>			
Between groups	30.31	15.15	9.18***
Within groups	143.65	1.65	
<i>Item 16</i>			
Between groups	11.87	5.93	4.50*
Within Groups	114.62	1.32	
<i>Item 18</i>			
Between groups	10.99	5.49	4.14*
Within groups	115.33	1.33	

* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

Figure 1. Mean positive responses by grade-level range taught.

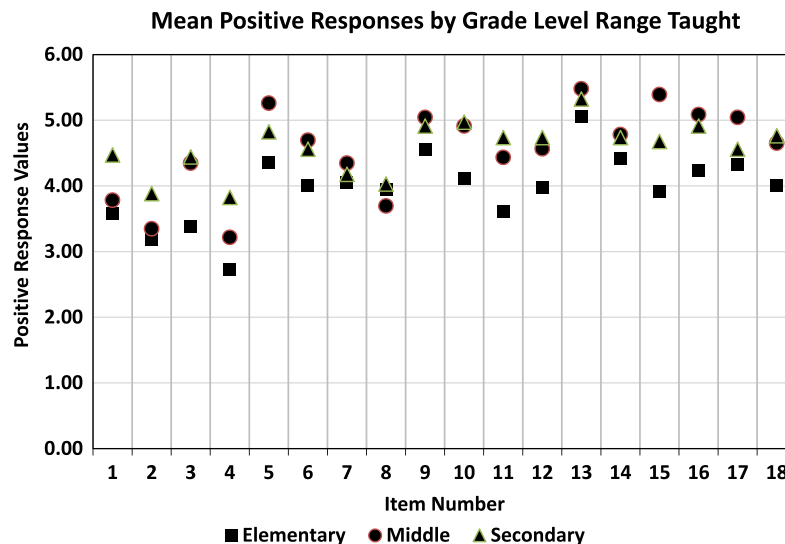
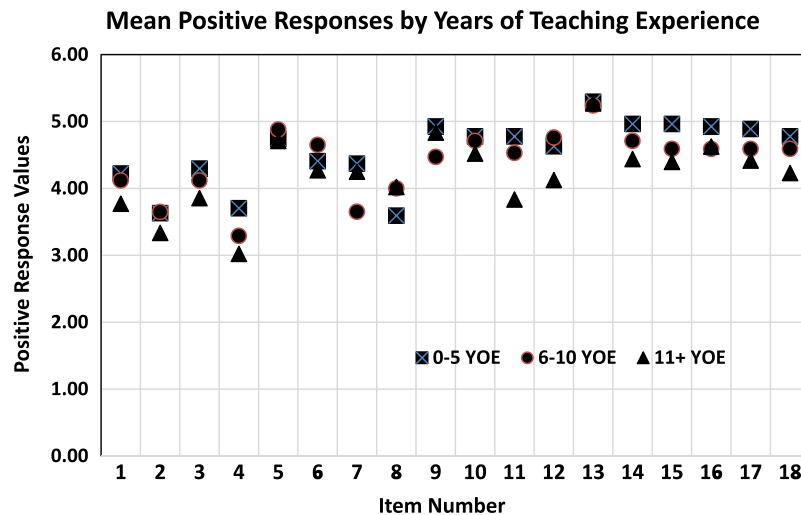


Figure 2. Mean positive responses by years of teaching experience.



Analysis of mean positive attitude scores by years of experience showed that the group with the least years of experience (1–5 years) had the highest mean score ($M = 4.55, SD = 0.78$) and the group with the most years of experience (11+ years) had the lowest mean score ($M = 4.22, SD = 0.84$). The middle group (6–10 years) mean was $4.40, SD = 0.73$. A one-way ANOVA test showed no statistically significant differences among these groups, $F(2, 87) = 1.44, p = 0.78$. Findings did not support the second hypothesis—that teachers with more years of teaching experience would have a more positive attitude toward inclusion than their more experienced colleagues.

As previously noted, the individual items on the MATIES are grouped into three domains: cognitive (Items 1–6), affective (Items 7–12), and behavioral (Items 13–18). The mean positive attitude for each domain was 3.99, 4.37, and 4.61, respectively. The behavioral domain was the one for which participants expressed the most positive attitude, although the behavioral items are an expression of what the participants would be willing to do as opposed to what they may actually be doing in their classrooms.

4. Discussion

As the analysis has indicated and as would be expected, there are both similarities and differences among the participant groups that should be used to not only better understand their attitudes and perceptions about inclusion but to also assist school district administrators and other professionals when deciding how to target PD resources with respect to inclusion practices. It is clear from the data presented which aspects of inclusion classrooms elicited stronger negative attitudes. Items 2 (“I believe that students with a disability should be taught in special education schools.”) and 4 (“I believe that any student can learn in the regular curriculum of the school if the curriculum is adapted to meet their individual needs.”), for instance, elicited the least positive responses regardless of demographic group and the two items are similar in spirit insofar as they express the belief that students with special needs should receive instruction in other than regular classrooms. For this group of participants, a recommendation would be made to return to the fundamental principles of inclusion as a focus of PD. It is noteworthy that more years of teaching experience do not seem to have had an impact on the participants’ attitudes in a positive direction, which seems counterintuitive. The expectation would be that positive attitudes with respect to actually providing instruction in inclusion classrooms would increase with more teaching experience.

When there were significant differences between the grade-level range groups, such differences were primarily found between the elementary and secondary teachers, with the elementary group being less positive. Future research should investigate this further to identify specific reasons for this finding. Elementary teachers expressed more negative attitudes and perceptions for almost every

item even when the differences were not necessarily significant. The increased negativity found might relate to the numbers of students with special needs in elementary classrooms as opposed to those in middle level or in secondary classrooms. Future research should include an item that asks teachers to identify the number of students with disabilities for whom they typically provide instruction in order to account for this possible confounding variable.

We can also see from Figures 1 and 2 that, regardless of the grouping, participants were more positive or less positive with respect to the same items. Responses on the set of items that are categorized as behavioral were higher across all groups of participants, noting again that these items express a willingness to engage in particular behaviors rather than behaviors already being implemented. This, however, could be used to advantage in PD as a springboard from which specific inclusion practices should be emphasized and reinforced. It is also of note that each of the items on the MATIES affective section is framed in negative terms. While the focus of this study was not to investigate the nuances of wording, this factor may have an impact on eliciting responses that are either more or less positive.

While there was only one item for which the years of experience groups differed significantly, the pattern seen in Figure 2 shows that, almost to an item, teachers with more than 10 years of experience had decreased positive attitudes across items. It would be of interest for further investigation to identify the reason(s) for this result. Research has shown that, in order to develop and maintain positive attitudes about inclusion, ongoing PD is a key (Avramidis & Kalyva, 2007). Similarly for the group of elementary school teachers, those responses were almost uniformly less positive than the other two grade-level groups.

Using an instrument such as the MATIES with faculty across schools or in an entire district would not only provide information as discussed above, but might also serve as a form of reassurance to regular education teachers that their challenges and accompanying stress levels with respect to inclusion are of interest and importance to their leadership. The recommendations made here are for this group of participants and the authors recommend replication in respective settings. PD professionals would be well served to conduct such an assessment with some regularity and frequency—at least on an annual basis.

Lastly, we include a look at ethical considerations for providing instruction for students with disabilities. The Council for Exceptional Children (2015) provides a set of ethical standards that may increasingly apply to even regular education teachers as inclusion practices continue to be a part of most classrooms environments. These standards include general principles such as maintaining high expectations for students with disabilities, high levels of professional competence and integrity, and collegiality with other professionals providing services to the student—all of which could and should be applicable to all teachers in inclusion classrooms for the benefit of the students with disabilities under their charge.

5. Conclusion

Attitudes and perceptions may shift, populations of teachers are always in flux and an identification of areas requiring PD should be an ongoing endeavor. The expectation that any given faculty can rely on past experience with a particular instructional model—in this case, inclusion—becomes decreasingly valid. While many novice teachers may be “fresh” from their educational institutions with recent coursework and clinical experiences still at the fore of their professional awareness, the actual implementation of the models and theories has yet to happen. As has been mentioned, teachers look to their administrators for support and the kinds of professional development opportunities that will contribute to their self-efficacy, to reduced stress levels, and to increased effectiveness with their students (Helms-Lorenz, Slof, Vermue, & Canrinus, 2011; Reilly, Dhingra, & Boduszied, 2014). These factors are known to be in relationship with teacher “burnout” and attrition rates (Klassen & Chiu, 2011; Yu, Wang, Zhai, Dai, & Yang, 2015).

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