

## Elementary teachers' pedagogical competencies in supporting students with learning difficulties

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### ABSTRACT

Pedagogical competency is one of four competencies that all teachers need to be proficient within the Indonesian National Teaching Standards. Yet, there is limited understanding of how these competencies relate to inclusive education practice. This study used a combination of survey and interview data to explore the pedagogical skills of elementary teachers working in inclusive schools. Survey data showed that teachers utilized a range of accommodations and modifications within their classrooms to assist them to be inclusive of all students. These accommodations and modifications were often associated with support from other persons (e.g., shadow teacher, parents, peers). While teachers expressed frustration with the learning of students, interview data found that teacher frustration was more about their perceived inability to meet the needs of students. Directions for on-going work to investigate and enhance teacher pedagogical competence within the context of inclusive education Indonesia are discussed.

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## 1. INTRODUCTION

There were 175 parties have ratified the Convention on the Rights of Persons with Disabilities [1]. As part of this binding commitment to uphold the rights of persons with disabilities, they have recognized the human right of all children with disabilities to receive an education. A key attribute of this commitment is that students with disabilities would have “access to and progress in high-quality formal and informal education without discrimination” [2]. This is further reinforced by Goal 4 within the sustainability development goals (SDGs) that “...ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities...” [3].

While the Convention was signed and ratified by countries for the past 15 years, countries are still developing strategies and processes to ensure students with disabilities are afforded a quality inclusive education. Countries within ASEAN, for example, are pursuing the intent of the Convention vigorously with differing levels of progress and success [4]. On the 10th anniversary of the Convention, the United Nations (UN) released General Comment No 4 as response to their monitoring of how countries were progressing in achieving the intent of the Convention. A particular statement from General Comment No 4 was confirming, yet quite sobering: “... despite progress achieved, the Committee on the Rights of Persons with Disabilities ... is concerned that profound challenges persist. Many millions of persons with disabilities continue to be denied a right to education, and for many more, education is available only in settings where they are isolated from their peers and receive an inferior quality of provision.

Although this comment was not targeting any country or region, a review of reports by countries to the UN on their progress in achieving the intent of the Convention provides evidence of differing barriers they encountered (e.g., attitudes of educators and schooling communities; limited understanding of the human rights model of disability). Looking at individual state parties, trends in schooling data can support concerns about participation by students with disability in education. In the Indonesian context, although interest over inclusive education in every level of education has been growing [5], students with disabilities' access to inclusive education is still limited [6], as well as education in general [7].

In examining research and policy within the field of inclusive education, a barrier to including students within the regular education context is the knowledge, skills and attitudes of educators [8], [9]. The UN General Comment No 4 stresses the need for teachers to have positive attitudes and strong professional knowledge, stating, "A process of educating all teachers at pre-school, primary, secondary, tertiary and vocational education levels must be initiated to provide them with the necessary core competencies and values to work in inclusive educational environments." The education of all students within an inclusive educational context requires a whole of context ethos working towards a common goal [10]. The context requires administrative structures that provide the basis for supporting this ethos (e.g., flexible use of human and physical resources, procedures that support teachers, parents, students to address environmental restrictions that pose barriers for student learning). In addition, there is need for high quality inclusive practice and pedagogy across all instruction settings, supported through sustained and meaningful professional learning [11].

Despite these research-based findings for developing and sustaining an inclusive environment, the UN report highlights on-going concerns about how such environments are adopted within schooling contexts. The attitude of educators towards educating students with disabilities in the general education classroom is one barrier to achieving a stronger up-take of inclusive practices, and enhanced student learning for all students. The influences on teacher attitudes are varied. In a survey of 155 teachers in Greece, teacher attitudes toward inclusion were impacted by their previous experience in teaching students with disabilities [12]. A survey of 179 teachers in Greece and Cyprus also found similar findings [13], however, a survey of 322 Serbian teachers reported no relationship between previous experience of teaching students with disabilities and their attitudes [14]. This non-significant relationship was also found in a study of 252 pre- school and primary school teachers in Slovenia [15]. While they reported no significant relationship to previous experience, teacher's overall attitudes were positive towards inclusive. The study was not able to establish what experiences impacted teacher attitudes towards inclusion (teacher professional knowledge and competencies).

The success of students in the classroom can be determined by the professional knowledge and skills of the teacher. In different countries, these skills and knowledge are captured within accreditation or teaching standards. Within the Indonesian context, these skills and knowledge are provided within the standards of academic qualification and teacher competence. These standards comprise the competencies of pedagogy, personality, social, and professional. Pedagogical competence in the Indonesian context, as outlined in the standards of academic qualification and teacher competence, comprises 10 statements. These statements of competence address knowledge of student development, theory of learning, planning, use of ICT, communication with students, assessment and evaluation of student learning, and the teacher's ability to reflect on their teaching.

Teacher pedagogical knowledge has a strong impact on their intentions to include students with disabilities in their classroom. A study shows that a training program on inclusive education provided to regular education teachers in Indonesia had a significant impact on their professional knowledge [16]. This impact of professional knowledge or perceived behavior control aligns with findings from other studies of teachers' intentions to be inclusive [17]–[19].

The level of pedagogical knowledge that teachers in Indonesia have about inclusive educational practices is variable, as gleaned from the few studies in the area. In a study involving 45 teachers, it was found that only two of the regular education teachers had training in inclusive education [20]. The level of knowledge about pedagogical competence in regards to catering for students with special needs was found to be "low". The study did not provide any insight into the strengths of these 45 teachers, or what areas were of relative weakness. In a similar study involving 39 teachers, it was found that primary school teachers reported higher levels of pedagogical competence in the area of inclusive education than secondary school teachers. The authors did not provide the relative extent and depth of knowledge held by teachers [21].

Pedagogical competence is one that must be demonstrated by teachers in catering for students with special needs (e.g., students diagnosed with learning disabilities, attention deficit with hyperactivity disorder, mild intellectual disabilities). The types of strategies that teachers can utilize to support students is varied, and will be dependent on the needs of the student, and learning environment. As such, utilizing pedagogical competencies, especially for students whose needs may challenge traditional teaching approaches, can be undertaken within a problem-solving framework. Teachers need to be able to assess and evaluate student learning (Competency 8), and reflect on their teaching to establish if further refinement is required

(Competency 9 and 10). This work can include and be enhanced through collaboration with peers, parents, associated professionals, and the student [22], with strong links to social competencies.

Competencies 1 and 2 address teachers' understanding of students. This includes understanding student development, and how they can support student learning based on the strengths, interests and motivations students bring to the education context. If trying to teach basic skills or recall of information, this understanding will support teachers set tasks that support the student [23]. This contrasts with ensuring that students with special needs are not excluded from learning higher order skills (e.g., meta-cognitive strategies). How teachers foster these meta-cognitive strategies requires a strong understanding of learning theory and pedagogy, as well as maintaining high expectations of students (Competency 6) [24]. A strong understanding of pedagogical strategies (e.g., scaffolding instruction, using graphic organizers, providing feedback) can support students with disabilities to access and participate in the classroom curriculum.

Establishing a learning environment that supports all learners is key to achieving an inclusive classroom. It is about taking stock of the learning environment to address barriers (e.g., use of visual schedules for supporting self-regulation; keeping clear areas in the class to facilitate movement and reduce distractions) (Competency 4). Considering all resources within the environment (i.e., human and physical), and how they can be utilized to support students can promote an inclusive environment. Schools have increasing access to a range of technologies; so considering the manner in which this could be used to support learning (e.g., demonstrations of strategies for solving math problems; a way to provide alternative access to reading materials) (Competency 5) [25]. In some cases, resources may not be as obvious. For example, how to use peer tutoring to help practice basic skills [26] or use of peer mediated learning to support academic skills and social behaviors within groups [27].

Teachers who know their students across academic and social domains come to understand their strengths, interests and motivations. Teachers develop and achieve this understanding through being able to communicate and relate to their students, hearing their voices, and collaborating respectfully (Competency 7) [28]. They can use this understanding when planning classroom curriculum that caters for all students (Competency 3), establishing positive learning environments within the classroom and across the school, as well as providing students with a learning environment that provides opportunities to show their learning (e.g., additional time, adjusting reading materials).

Pedagogical competence is the essence of teacher competence. It is the knowledge that underpins the professional competence of teaching, and is an essential competence in catering for all students, including those identified with learning difficulties. It underpins a teacher's capacity to plan and implement accommodations in and modifications to the learning environment, and to facilitate access to learning for all students. Learning accommodations are changes to instructional strategies that provide access to learning; modifications are changes made to materials and media to facilitate learning and understanding for students with a diversity of learning backgrounds. This research focused on teacher knowledge and the use of learning accommodations and modifications, especially for students who face barriers and difficulties learning within the regular schooling environment.

## 2. RESEARCH METHOD

The aim of this study was to explore accommodations and modifications used by regular teachers when teaching students with learning difficulties. Furthermore, it explored teacher reflections on how these accommodations and modifications supported the learning of both students with learning difficulties and without learning difficulties. A mixed methods approach was used; exploring general teacher knowledge using a survey, while focus group interviews were used to establish in greater depth teacher knowledge of pedagogical competence and inclusive educational practice [29].

Participant teachers were recruited from 15 primary schools across Special Region of Yogyakarta, Indonesia, attending a workshop on inclusive education. All schools participating in the workshop were designated as an 'inclusive school', and within the Ministry of Education system in Indonesia, enrolled students with disabilities. The schools chosen were located across Special Region of Yogyakarta to gather a broad representation of teachers to the greatest extent possible. This included teachers from the metropolitan area of Yogyakarta, as well as coastal and inland rural areas. There were 28 year 3 to 5 teachers recruited for the study. They had a total of 522 students enrolled in their classes, with class sizes ranging from 20 to 40 students. A total of 60 or 11.5% of students were identified with a disability (i.e., as identified through a screening tool adapted from the US National Center for Learning Disabilities). Of the 28 participating teachers, 65.5% were female (n=19) and 34.5% were male (n=9). The mean age of the participants was 38.4 years, with the majority of the participants 31-60 years or older (72.4%). The mean of the teaching experience was 15.2 years. The majority of teachers (n=24; 85.7%) held a bachelor degree (n=24) and three teachers had diploma II (2 years post-secondary school program).

As this was an exploratory study, the instruments developed sought to gather a range of information on the approaches that teachers took in catering for students with disabilities. The initial instrument used was a survey questionnaire. This survey collected biographical data on the participants including age, gender, and years of experience. The second section of the survey asked participants to identify what difficulties students experienced in their classrooms, along with the types of instructional approaches they did use to support student learning in classroom. These approaches were listed for the teachers and had been collated as part of a pilot with teachers in the region.

Each of the teachers was interviewed on return of their survey. The interview was informal and open ended, and focused on elaborating on the accommodations and modifications that they used to cater for students with disabilities in their classrooms. They were asked to discuss other accommodations they made, and how their students with and without disabilities responded to the approach, and to describe the impact of the accommodation or modification of student learning. Teachers were then asked to describe, in relation to their teaching, the obstacles they faced in catering for students with disabilities, the types of approaches they used that addressed some of these obstacles, and to reflect on their general perspective about working with students with disabilities in the regular education classroom.

The survey data were analyzed in a descriptive manner. Interview data were analyzed through a grounded theory approach [30]. Initial coding at an individual response level was undertaken, and reported on an Excel spread sheet. These codes were then collapsed into categories, and then themes.

### 3. RESULTS AND DISCUSSION

The proportion of teachers using the listed strategies to cater for students with a learning difficulty is reported in Figure 1. Many of the most commonly used strategies relate to providing additional assistance in some form to the student (e.g., teacher assistance, remediation, parent help, peer tutoring). Teachers did provide evidence of how they changed their pedagogical approach to cater for students (e.g., reading instruction, peer tutoring, explicit questioning). A further set of accommodations was around changes to the classroom environment (e.g., seating position, group work, and extra classes). The two least-used strategies were withdrawal, and use of a 'To Do List'.

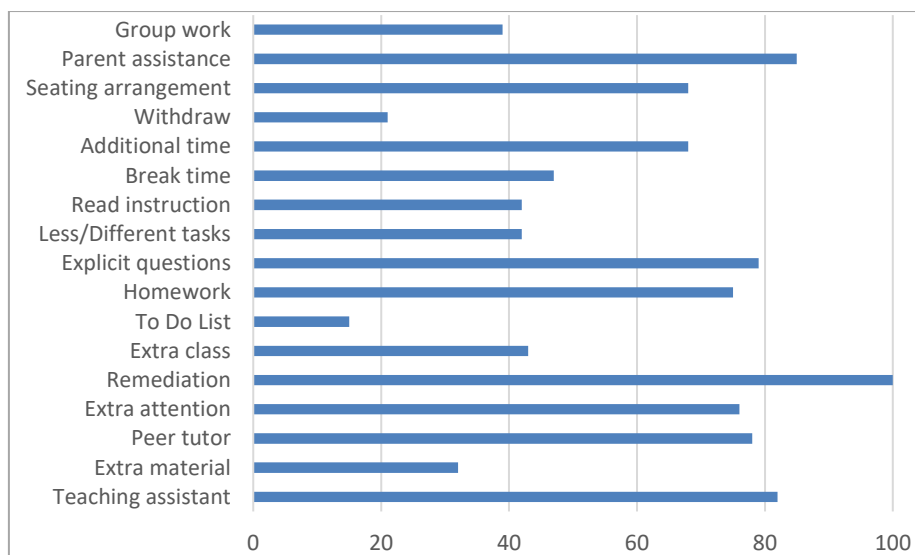


Figure 1. Percentage of teachers reporting the strategies they use to support students with learning difficulties

During the interviews, teachers elaborated on the use of these strategies, their importance in the contextualization of their use and meaning. All teachers nominated remediation, yet interview data imputed that this strategy appeared to encapsulate many of the other strategies. The nomination of remediation highlighted an overall concern that teachers had about their professional knowledge in catering for students with learning difficulties, and how these concerns could be addressed. A common one they used, or wished they could use, was 'teacher assistance'. This assistance came in the form of a 'shadow teacher', a 4-year trained special education teacher. This strategy was linked to the strategy of 'Attention' and 'Parent Help'. The

'Parent Help' strategy, referred to by 24 of the teachers, was found through the interviews to sometimes involve parents employing a shadow teacher to support their child in the classroom.

The use of a peer tutor was nominated by 22 of the teachers. Teachers described peer tutoring as a peer sitting with, and supporting where possible, a student with learning difficulty. When questioned further, teachers described it as students with learning difficulties copying the work of their peer, with occasional support and explanations. Teachers indicated very strongly they would like to know more about how to use peer tutoring in their classroom.

Teachers commented that they would like more resources to help support their students. On visiting schools, the teachers highlighted some of the additional resources they would like to have (e.g., more shadow teachers, books, teaching materials). They also elaborated on the teaching strategies they used. There were 22 teachers, for example used 'Seating Arrangement'. A number of teachers described how students with learning difficulties sat to one side of the classroom, as a group. It was here that the shadow teacher could work with the students without disturbing the rest of the classroom. It was also evident how strategies like 'Additional Time', 'Explicit Questioning' and 'Remediation' could be implemented in this modification. These observations partially explained why six teachers nominated the strategy of 'Withdrawal'; in many cases the school did not have another space for students to be withdrawn to.

The teachers provided an insight into the pedagogical strategies they used to cater for students with disabilities in their classrooms. The concerns they expressed about their professional competence in catering for students with learning difficulties concurred with previous research [31], [32]. Through the interview process, underlying themes appeared that linked pedagogical competence to attitudes and beliefs. Four key themes drawn out of the interviews and supported by the survey are discussed.

### 3.1. Teacher knowledge

Teachers were eager to find out more in regards to catering for students with learning difficulties. Peer tutoring, for example, was a strategy many teachers had become aware of during workshops, and had been applying in their classrooms. In describing the manner in which they applied it in the classrooms, it became apparent that its fidelity of use might have been compromised. For example, one teacher explained how she had paired a student experiencing difficulty learning with another more skilled peer. When asked about training of the tutor, it was apparent this had been limited and follow up checks on implementation fidelity had not been addressed. As the teacher explained, "I used the material (peer tutoring), but the student is not learning."

Teachers in the quest for more knowledge expressed the desire for a program or package of work they could give to the students to help them. This sense of a 'magic fix' was an underpinning theme where teachers felt that the problem was within the child, and that they did not have the capacity to make an impact on student learning. A number of teachers referred to the child as needing "to go to the special education teacher." This finding was underpinned by an unstated admission by teachers that they were unsure about how they could best cater for students with learning difficulties [33].

### 3.2. Teacher understanding of children

Teachers were aware of the differences between students in their classroom, and expressed these differences in a number of ways. A primary identifier was the label that was applied to students (e.g., *Anak Berkebutuhan Khusus*/ABK or inclusion child). That is, the students were seen as different in terms of a label or internal unalterable characteristic. There was an underlying implication that a student with learning difficulties was "incapable" of learning, and that "teachers sometimes lack focus on children."

Teachers did not talk very often about specific differences in regards to a student's academic or social skills and knowledge. They were acutely aware that students were experiencing difficulty with their learning in their current context, and commented on their need to know more about their students (e.g., "know more about the science of learning difficulties"; collaborating with colleagues about the needs of students). Yet the emphasis on the year level curriculum, represented through a rigid framework, prevented teachers seeking accommodations in terms of the level and extent of content covered.

This language and professional discussion align with pedagogical Competencies 1 and 2, understanding your students. Teachers appeared to expect students to have the knowledge and skills to engage with the classroom curriculum, but provided limited evidence of establishing students' current strengths and interests. Further, the strategies they used to support students were about shifting the responsibility to a shadow teacher, or peer.

The interview data provided evidence that teachers had future intentions or desires to enhance their competency in catering for the educational needs of students with learning difficulties. One teacher commented on gaining a greater understanding of the "learning science of learning disabilities" from outside agencies. Other teachers wanted to collaborate with colleagues and others about how they could support their students (e.g., "working with guardians as a companion"; Professional Competency).

### 3.3. Curriculum and planning

The focus on what students ‘could not do’ was in some part reflected in the curriculum and “media” that many of the teachers were accessing. Teachers were using the ‘old’ education curriculum, which had been slated for replacement in 2013. This curriculum is rigid in nature, and adherence to its implementation often provided little scope for teachers to be flexible and accommodating of differing student needs. Teachers also reported that they worked through the curriculum, and associated textbooks as required which provided little opportunity for repetition in learning, or to reduce the complexity of a task. The accommodation that teachers often applied was ‘Additional Class’ or ‘Teacher Assistance’, resulting in the students completing something different from the other students away from the class. Teachers were frustrated by this situation and highlighted the disabling effect that “bell curve thinking” has on student learning [34].

The new curriculum has not been fully adopted, yet offers an alternative for teachers. The new curriculum adopts a student-centered approach to education programs. It gives teachers the opportunity to plan differentially (Competencies 3 and 4) based on their understanding of each student in class (Competency 1). The new curriculum supports teachers to consider their educational context, and to use practices that are aligned with strong research evidence for enhancing student learning. The underpinnings of this new curriculum are well suited to more inclusive approaches to education like inclusive pedagogies, and the universal design for learning framework [35].

### 3.4. Expectations and attitudes

Teachers expressed on a number of occasions their desire to enhance their professional knowledge to accommodate the learning needs of students with learning difficulties. They talked about wanting to know more about “how they could plan and teach for students with disabilities”, aligned with Competency 10. Teachers across the 15 schools, however, expressed low expectations of students with learning difficulties. They used terms like “incapable” or “unable” to describe students. These low expectations of students concur with survey results reported in other studies [20]. The interview data, however, provided greater insight as to why teachers expressed these low expectations. A number of teachers highlighted that the difficulty they experienced in catering students with learning difficulties was related to a lack of input from parents (e.g., lack of parental attention to child learning outcomes). Further, in developing a resolution to the difficulties they faced, it often involved someone else (e.g., teachers cannot accept conditions of students; parents pay attention to child development).

Ongoing professional learning to enhance teacher capacity and practice to be inclusive of students with disabilities may need to address cultural perceptions about disability amongst teachers [36]. In addressing a human rights approach to accessing and participating in education, it will challenge teachers to be responsive to each student within the classroom context they develop [37]. This is in contrast to findings in this study where someone else would provide access to an often different education in a different setting.

## 4. CONCLUSION

Teachers provided an insight into their desire to be more inclusive of students with learning difficulties. They also expressed frustration at not being able to achieve this goal. While they identified strategies that fit with the intent of the pedagogical competencies of the standards of academic qualification and teacher competence (e.g., understanding learners, organizing learning, use of assessments to inform the learning process), there was a sense of limited clarity and depth of understanding about how some of these were applied. The use of peer tutoring, for example, was a strategy that many teacher participants used to cater for students with learning difficulties but appeared to be used with limited fidelity. Furthermore, in examining the role of teacher competency in building inclusive practices, an understanding of the principles of inclusive practice and the intent of legislation is required.

Teachers in this study also reported strategies that often required the students to be taken in a new context. While this study reported a number of strategies that did not meet these ideals, there were a number that did provide evidence of an underlying desire by teachers to engage professionally in being inclusive of all students. Although this study provides a unique insight into the understanding of these teachers on accommodating students with learning difficulties in regular schools, it cannot be generalized beyond this group. The range of strategies listed was limited to this understanding, and greater synthesis with evidence-based practices may have resulted in a differing set of strategies. While this may have been ideal, the strategies listed were contextually relevant to the teachers where this study was conducted. It was also evident at times that examining one competency highlighted the interplay between competencies.

A more extensive study may seek to investigate this interplay, teasing out specific patterns and relationships that could support and enhance the use of inclusive practices. Moreover, in investigating pedagogical competence this study has highlighted that participant teachers were generally positive in their

attitudes and beliefs about the inclusion of students with disabilities. Their responses, however, allude to the nexus between attitudes and beliefs, and teacher professional knowledge and competence. Development of one, alongside the other, appears necessary to make a shift in the competence and professional standing of teachers in being inclusive.




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