INCLUSIVE PEDAGOGY: A MEANS TO ENHANCE TEACHERS' KNOWLEDGE OF CLASSROOM ASSESSMENT PRACTICES FOR CHILDREN WITH SPECIAL EDUCATIONAL NEEDS IN ORDINARY CLASSROOMS

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ABSTRACT
This article provides an overview of inclusive pedagogy, also referred to as the inclusive pedagogical approach. Conceptually, the approach is predicated on a shift in pedagogical thinking away from conventional approaches that work for most learners existing alongside something additional or different for those (some) who experience difficulties, towards one that involves providing rich learning opportunities that are sufficiently made available for everyone, so that all learners are able to participate in classroom life. The article also recommends how the approach can be incorporated into teachers' development of knowledge on how to handle assessment practices in ordinary classrooms for learners with special educational needs.

KEYWORDS
Inclusive pedagogy, teachers' knowledge, classroom assessment practices, children with special educational needs, ordinary classrooms.

INTRODUCTION
According to Ainscow, M. (2004), one of the challenges that emerge frequently in the literature, in relation to achieving systemic change towards inclusion, is the challenge of convincing teachers that they have a responsibility to uphold the education rights of all learners. The World Report on Disability (WHO, 2011) emphasises the need for teacher education on inclusion to be about attitudes and values, not just about knowledge and skills.
Preparing teachers for regular class teaching has undergone a major pedagogical shift in recent years. Training institutions are now required to ensure that pre-service teachers are competent to cater for the needs of an increasing range of diverse learners (Al Tarwana, 2008). This move has been furthered by international recommendations from UNESCO to include content on inclusion as part of teacher training programs (UNESCO, 1994). In preparing teachers for inclusive classrooms their attitudes, beliefs, expectations and acceptance of people with diverse needs may well be challenged.

Children with Special Educational Needs have right for appropriate education, based on their interests, needs and abilities together with their peers. Does the teacher in regular school possess the required general and specific competency and knowledge for teaching this category of learners? This is the main question in the field of compulsory education. To work in inclusive classroom, teacher has to know specific characteristics about disabilities, strategy of teaching and develop personal competencies to create stimulating environment for learning. This section of the literature review presents some competencies that ordinary teachers need in order to respond to the needs of every learner in their classrooms.

**Inclusive Pedagogical Practices in the Classroom**

There are numerous guides for teachers on how to do this. One such guide is UNESCO’s *Teacher Education Resource PackSpecial Needs in the Classroom* (UNESCO, 1993). This sought to move away from the existing approach to special needs in the classroom which focused on labelling and categorising children. Labelling was seen as a negative approach which lowers expectations; leaves ‘labelled’ children working alone; implies the need for additional, special resources that are not always available; and generally, prevents innovation in pedagogy that could benefit all learners. While revising this guide (originally published in 1993), Ainscow (2004) explained that the guide had originally emerged as a result of a critique of existing approaches and through the processes of collaborative planning and inquiry. This led us to take the view that the dominant perspective on special needs in education works to the disadvantage of the children it is intended to serve. Furthermore, it can be argued that the domination of this thinking on practice in the field has the effect of preventing overall improvements in schools.

In an alternative ‘curriculum view’, educational difficulties are defined in terms of tasks, activities and classroom conditions. Drawing on the school improvement literature and earlier work developing special needs practice in mainstream schools. Ainscow and Muncey (1989) identified common features of schools experiencing success:

- Confidence amongst staff that they can deal with children’s individual needs.
- A sense of optimism that all pupils can succeed.
- Arrangements for supporting individual members of staff.
- A commitment to provide a broad and balanced range of curriculum experiences for all children.

Ainscow (2004), further reflecting on the most successful school improvement he has been involved with, identifies five common features and good inclusive schools need to reflect this in the pedagogy and systems management their teachers deploy:

a. “The emphasis has been on development in the context of particular schools and including classroom-based staff development activities.
b. They have been conducted in ways that have encouraged collaboration between colleagues.
c. At various stages particular individuals have adopted key roles of leadership and co-ordination.
d. Timing was important in the sense that change in practice always seems to take longer than anticipated
e. Continued support for individuals is crucial as they wrestle with new ideas and attempt to develop classroom practice.”
The evidence from the above literature suggests that supportive leadership, collaboration and reflective thinking are crucial. A recent pedagogy programme based on co-agency, transformability and trust (called ‘Learning without Limits’) has demonstrated that these three principles, and the methods they lead to, can be used to transform education for all (Hart, 2004; & Swann et al, 2012).

Mitchell (2008) analyses the various pedagogies and methods that have proved effective for learners with special educational needs: co-operative group teaching; peer tutoring; a supportive classroom climate; social skills training; cognitive strategy instruction; self-regulated learning; memory strategies; phonological awareness and processing; behavioural approaches; functional behavioural assessment; direct instruction, review and practice; formative behaviour and feedback; assistive technology; augmentative and alternative communication. Indeed, most of these strategies have been shown to be effective for all learners. Such methods ought therefore to be taught to teachers/trainee teachers, but are they?

**Educating Teachers in Child-Centred and Interactive Pedagogy**

There is a lot of general material available on good teaching pedagogy that is child-focused and interactive. Examples include the wealth of materials on the EENET website or UNESCO Bangkok’s (2004) Embracing Diversity Toolkit. Many case studies exist, such as a pioneering, though small-scale, inclusive programme in Burkino Faso which uses child-focused activities to improve learning for all, and to include children with hearing impairment. The Integrated Education and Training Centre for Deaf and Hearing People runs teacher training workshops. “We use the workshops to give teachers an insight into the variety of (non-formal) techniques that can and should be used for teaching/learning. For example: Icebreakers, brainstorm groups, pair and group activities, role play, using visual images and games etc. We get them to discuss how they feel as workshop participants/learners, and we ask them to discuss ways of learning in the workshop and rules for making the workshop positive and constructive for everyone.” Teachers are then asked to run a ‘workshop’ in their classes, on a specific curriculum topic. This helps them see that these active-learning techniques are really relevant and useful (Imerovic, 2006).

As a contrast, Hardman (2011) warns against a simplistic polarisation between ‘teacher centred’ and ‘child centred’ pedagogy which ignores the realities of poor communities, suggesting building on practice of rote learning to develop class questioning, peer discussion and whole class discussion. Hardman elaborates on this in another article, demonstrating how more innovative methods can work alongside traditional approaches (Hardman and Stoff, 2012).

Currently, too much effort and too many resources are going into training teachers about the large range of impairments and their medical causes and presentation, for example The Education for All Movement (SSA) training in India. Too little time and effort goes into working on an inclusive pedagogy that will reduce the number of individual adjustments necessary for children with various impairments (Rieser, 2012).

That said, there are examples of literature that attempts to develop inclusive pedagogy in the way advocated by Rieser. For example, Bunch (1999), in his ground-breaking *How to Book of Inclusion* identifies four key areas teachers need to think about in planning an inclusive lesson.

1. As you are planning any lesson for pupils ask yourself: What are the essential knowledge, skills or understanding I want all students to get from the lesson?
2. Ask yourself – how do my pupils learn best? Take account of learning styles. Most pupils can learn in visual, auditory or kinaesthetic ways, though most have a preference and it is good to know these.
3. Ask – what modifications to the lesson plan would permit more pupils to learn more effectively in my classroom? All teachers are used to modifying their lessons to enhance their pupils learning.
4. How will my pupils show what they have learned? Ask the pupils to respond in ways they can handle. Assess pupils through their strengths, not their weaknesses

In addition, Perner and Porter (2008), based on work in Canada and Latin America, put forward a number of key points to develop differentiated or multi-level instruction when assuming inclusion of all students. The
process helps teachers to plan and implement one lesson to accommodate all students and encourages each student to participate at his or her own level.

- The teacher plans for all students within one lesson.
- The teacher is able to weave individual goals into the classroom curriculum and through instructional strategies.
- The necessity for separate programmes is decreased.

**Assessment for Children with Special Educational Needs**

Assessment is an important part in the life of children with special educational needs who do not have a typical development or meet the formal and informal expectations for learning and development (Partanen, 2016). The European Agency for Development in Special Needs Education (EADSNE) conducted a research project in 2003 and agreed on a general description of assessment (Watkins, 2007): Assessment refers to the ways teachers and other people involved in a pupil’s education systematically collect and then use information about that pupil’s level of achievement and/or development in different areas of their educational experience (academic, behaviour and social). In particular, it was highlighted in the research that the purpose of assessment for children with special educational needs is different in different countries. Two main purposes were described; firstly, the purpose of identification of children with special educational needs in order to decide on additional resources for support for their learning, or placement in special educational facilities. Secondly, assessment may serve the purpose of informing teaching and learning; by highlighting strengths and weaknesses the child exhibits in different areas of their educational experience. Thus, assessment should increase the knowledge of the needs of the child.

When considering the first purpose of assessment, in many countries where inclusive education is not yet a right, access to regular schooling but also placement in special schools still depends on the results of cognitive, behavioural and learning tests. For children with special educational needs, this might constitute a barrier to inclusion and to access to a regular school environment.

When considering the second purpose of assessment – to inform teaching and learning – which is the main focus of this article, three issues emerge regarding the methods of assessment of children with special educational needs. Firstly, since assessment needs to contribute to teaching and learning, the findings from assessment need to be linked to curriculum objectives and school subjects more clearly. Secondly, assessment results also need to be linked to tools, approaches and remediation that are valid for and implemented in the child’s individual educational plan (IEP). Thirdly and finally, assessment also needs to contribute information that helps the teacher to plan and adapt to the child’s individual learning, and invite the child to active participation and inclusion in reflecting upon the child’s own learning (Watkins, 2007).

Partanen, (2016) also emphasize that, the 2003 EADSNE project, involving all Ministries of Education in the European Union (EU), concluded with recommendations on inclusive assessment and specified that:

“*There is a need to develop systems of on-going, formative assessment that are effective for mainstream schools: giving schools and class teachers the tools to take responsibility for assessing the learning of all pupils including those with Special Educational Needs (SEN) and furthermore identifying (initially) the special needs of other pupils*.”

The term formative assessment in the quotation above refers to an assessment procedure where a child is invited to reflect on its own learning and to participate in an interactive feedback dialogue with the teacher. Formative assessment, in some contexts also called Assessment for Learning (AfL), in part originates from dynamic assessment (DA), originally a tradition of psychological assessment where the child’s potential level of cognitive functioning is activated through interactive, metacognitive feedback dialogues (Black & William, 2009). Thus, assessment plays different roles depending on the purpose in the context of the school system in each country.
In an inclusive school system the main purpose of assessment is not diagnostic, but rather to inform remediation, teaching and instruction for the benefit of children with special educational needs, corresponding to the second purpose described above. When assessment and remediation aims at including a child in the regular school environment, a challenge becomes designing assessment and remediation that are perceived by teachers and parents (as well as the child himself) as supportive for the child’s needs and optimal learning. Assessment should help the teacher to adapt the teaching, but also involve the child in an interactive process where the child is jointly involved in reflecting on its own learning.

The second purpose of assessment described—inform teaching and learning—creates some expectations regarding both the process of assessment leading to remediation, as well as instruments and procedures used during assessment. From the perspective of the assessment professionals, that is, clinical and school psychologists (but also special educational teachers), the “tools of the trade”, equally the assessment and remediation instruments, based on psychological constructs (for example intelligence, working memory, executive function and meta cognition) need to be valid in explaining and informing teaching and learning in the school domain.

Assessment Practices for Children with Special Educational Needs
Villamero (2014) explains that few empirical studies in developed countries have been conducted to explore the practices of primary school teachers in assessing the learning of students with special educational needs in regular classes. The following studies have been developed through qualitative methodologies involving interviews, observations, and document analysis.

Assessment as an element in the Individualized Education Plan (IEP) Process
Taylor (2009) conducted a study involving a primary school teacher with student with mild intellectual disability enrolled in her class. This study made an important point on how assessment critically contributes in the formulation and implementation of an Individualized Education Plan (IEP). The process started when the teacher made an informal assessment of the child to develop and evaluate teaching programmes. This was done by employing anecdotal records with observational data to document that child’s off-task behaviour. After three days, the teacher was able to determine the major challenge of the child, and that is being off-task most of the time in class. This gave the teacher the opportunity to initiate an intervention program in order to respond to the child’s problem. She, for example, changed the spelling exercises of the child into dictionary work. Furthermore, in order to increase the child’s on-task behaviour each day, the teacher initiated a reinforcement system. Due to the fact that the child had a little progress, the teacher decided to refer him for formal assessment which involved the Weschler Intelligence Scale for Children, Kaufman Test for Educational Achievement, Test of Visual Motor Integration, Test of Written Language, and Test of Written Spelling.

The results of the mentioned assessment processes paved way to the formulation of an IEP which specifically and critically includes a modified approach in facilitating the learning assessment of the child. As Taylor (2009) explains in the study: A special education teacher was assigned to work with the child for one hour each school day in the inclusion setting. During this time, he would receive structured one-to-one tutoring in handwriting (using stencils that would be faded gradually). In addition, his special education teacher would work with his general education teacher to incorporate the recommendations in his inclusive setting. Initially, the child would be requested to complete the tasks with no time limit. After he met the criteria for mastering the skill, however, he would be required to gradually decrease the time he needed to complete the task.

Assessment as a formative process
Brady and Kennedy (2011) conducted a study involving a science teacher in a large multicultural primary class with some students manifesting signs of behavioural disabilities. The study aimed at examining assessment as a formative process, rather than summative. This was concretely manifested with the teacher’s perspectives on what purposes assessment should serve: (1) provide feedback to students on how they are progressing so that they can target areas of need, (2) provide the same feedback to parents and, (3) provide information to teachers to inform teaching.
The teacher utilized a variety of teacher-devised tests which include multiple-choice questions, short response tests, requiring words, sentences, and the labelling of diagrams. He emphasized the value of the mentioned tests for ranking students. However, the teacher argued that the major purpose of testing is diagnostic and it should not promote the notion that “learning ends when a mark has been obtained” (Brady & Kennedy, 2011). The mentioned philosophy of the teacher paved way for him to use varied number of performance or practical assessment strategies specifically designed for the diverse needs of the students. Instead of doing pen-and-paper tests, for example, he assessed them in manipulating scientific equipment to make measurements.

In the study, it was observed that the teacher struggled in providing teacher-devised tests to his students with behavioural disabilities. This situation allowed him to apply the idea that performance assessment may also involve demonstrating a skill in other ways. The teacher cited, for example, that in his marine studies subject, it required a lot of basic recall and recognition. Students may simply bring pictures of dangerous marine creatures to the teacher and tick the appropriate outcome.

Assessment as demonstration of real achievement
McMiller (2010), in his study on assessment of children with disabilities, highlighted the importance of assessment as means of demonstrating the real achievement of students. The primary school teacher involved in his study was passionate about assessment that effectively demonstrates student achievement and thereby promotes student self-esteem. As McMiller (2010) asserts from the perspective of the teacher, “assessment should entail multiple ways for students to demonstrate an understanding. Some students may be able to explain knowledge but not write it. Some may be able to represent it by drawing but not explain it. This is typical to students with learning disabilities (McMiller, 2010). The teacher, influenced by the mentioned philosophy, used a broad range of assessment of strategies across all key learning areas with emphasis on visual arts. She believed that visual arts should be a legitimate focus of children with learning disabilities. This provides an indication of the teacher's preferred assessment strategies: ‘to facilitate independent thinking, exploration of a variety of materials and media, development of individual ideas, creative expression, development and refinement of skills and techniques, and a time for reflection' (McMiller, 2010).

The ‘time for reflection’ as an assessment strategy was concretely manifested in class through use of extensive student self-assessment. The teacher often would stop a lesson after 20 minutes to ask students what they have learned and to share ideas and learn from peers, and she typically would end a lesson with asking students to write five things they have liked about the lesson or learned from it. This is part of the teacher’s philosophy that students especially those with disabilities have the capacity to assess their own learning.

Teachers’ Knowledge of Classroom Assessment
The term assessment encompasses an array of definitions, concepts, and activities. The question arises, what do teachers need to know about assessments in order to be effective in the classroom? Further, whose responsibility is it to ensure that teachers are knowledgeable of assessment concepts? Marso and Frd L. Pigge (1993) addressed the issue of teachers' testing knowledge. They noted that before standards for teacher competence in the assessment were published in 1990, the testing community had not provided clear expectations for classroom teachers. However, Diamond and Fremer (1989), as cited by Marso and Pigge, note that in the United States of America, these standards can be found in the 1985 Standards for Educational and Psychological Testing, jointly developed by TheAmerican Educational Research Association (AERA), The American Psychological Association (APA), and The National Council on Measurement in Education (NCME). These standards have since been enhanced by the 1988 Code of Fair Testing practices in Education, again jointly sponsored by the previously mentioned three professional organizations. The Code is focused upon standardized educational testing but addresses the practices of both test developers and test users.

The main function is to address test and test score misuses. Neither the Code nor the standards address teacher-devised testing. Rick Stiggins (1985, as cited by Marso and Pigge) observed that the measurement community has provided less professional guidance for teacher-made testing than it has for standardized testing. The lack of focus on teacher-devised testing has occurred despite of the fact that the measurement profession perceives teacher-made tests, not standardized tests, to be the foremost assessment influence in K-12 classrooms (Wise 1993).
The measurement community, as it turns out, has concerns about the assessment knowledge of professional educators. An example of this can be seen in Diamond and Fremer (1989, as cited by Marso and Pigge) who noted that the Institute for Research on Teaching, which coordinated the development of the previously described fair testing code, was critical of the inadequate training of educational personnel in the interpretation and use of tests (Wise 1993). Concern over the lack of assessment knowledge held by teachers is not a recent phenomenon and has existed for decades. O’Sullivan and Chalnick (1991), as cited by Marso and Pigge note that in 1955, Noll, Thorndike, and Hagan suggested all teachers should know how to integrate measurement and evaluation knowledge with instructional knowledge.

Gullickson (1986) as cited by Marso and Pigge identified this concern over the inadequacy of teacher skill in the area of testing and evaluation dates back to James Conant’s book, The Education of American Teachers (1963); to Mayo’s survey (1964) of principals, superintendents, and professors of what teachers ought to know about testing; and to Mayo’s (1967) survey of pre-service teachers on what they know about classroom testing (Wise, 1993).

**Teacher Preparation Programmes and Assessment**

The perceived lack of teacher knowledge in regards to assessment can be attributed to a number of influences among which are systems and policies that are examination oriented. Another great area of concern is teacher preparation. Gullickson and Hopkins (1987), as cited by Marso and Pigge argue that pre-service instruction in educational assessment is simply not up-to-par. One problem is that courses that specifically aim at assessment tend to put a narrow focus on statistical manipulations. While statistical concepts are an important feature of assessment, these can be taught with a minimal emphasis on the computational components, in the interests of putting more emphasis on application concerns (Wise, 1993). It is also worth noting that assessment coursework in the pre-service curriculum occurs too early and fails to take advantage of the practicum and student teaching contexts, where application opportunities are more relevant.

Teachers tend to show a concern for assessment issues that deal directly with classroom instructional decisions. The focus is on questions such as: “How do I best prepare the test for a given course? How do I use test information to make specific kinds of decisions? Or how do I evaluate ongoing classroom actions?” These are the types of issues that teachers typically address in the classroom. Gullickson (1986) found that pre-service measurement classes, on the other hand, tend to show more concern for the ways that test results can be analyzed, summarized, and used to improve test quality. Standardized testing issues were also important in these classes and included topics such as differentiating between norm- and criterion-referenced tests, and dealing with concepts such as norms, norm interpretation, validity, and reliability (Wise, 1993). Obviously there is overlap between what is desired by teachers and what is offered by many professors, but the differences are striking. Interestingly, all pre-service teachers do not necessarily take a measurement course.

Gullickson (1986) points out that many teachers have only a minimal exposure to educational measurement in their pre-service courses. A survey by Gullickson and Hopkins (1987) showed that about 70% of teacher education programs offered a measurement course. Of these, only about three fourths required such a course for the pre-service teachers, and when the course is optional, typically less than one quarter of the students will use that option Gullickson and Hopkins (1987). Schafer and Lissitz (1987) state that in many teacher education programs the teaching of assessment resides within other courses and not in a separate course. Thus, pre-service teachers may receive their assessment instruction from professors who do not have expertise in that area (Quilter, 1999). As many pre-service teachers learn about assessment from professors without assessment expertise, it brings up the question of how much they are learning about assessment in these courses. Additionally, course content within teacher education programs are affected by licensure requirements set by states. States where assessment competence is required will see more assessment content within teacher education courses (Trevisan, 2002).
The Role of Assessment in Differentiation

Differentiated assessment is an ongoing process of evaluation where the teacher gathers information and data before, during, and after instruction to better facilitate the learning. This process ensures success for all students in the differentiated class with data provided from a variety of sources assisting in giving an overall view of student achievement. It is essential that when assessing students in the differentiated class, assessment should be authentic; meaning that it offers students a variety of tasks demonstration in real-life skills, tells the educator if the student has acquired the skills or concepts, is based on standard criteria to achieve validity, and guides students for roles in adult life (Chapman & King, 2012).

With the increasing diversity in classrooms, teachers are faced with a broad range of students representing a wide variety of educational needs. To effectively address students’ diverse education needs, teachers must engage in good decision making. Any teaching act is the result of a decision, whether conscious or unconscious, that the teacher makes after the complex cognitive processing of available information. This reasoning leads to the hypothesis that the basic teaching skill is decision making (Shavelson, 1973). Although Shavelson, highlighted the importance of decision making in teaching, he also emphasized that decision making occurs after the complex cognitive processing of available information. Thus, there is a connection between information and decision making.

As teachers face classrooms that are composed of a broad range of students, representing a wide variety of educational needs, one response to addressing students’ varied academic needs is the philosophy of differentiation, for example, differentiating instructional strategies, content and material. As defined by Tomlinson (2001), differentiation is the recognition, articulation, and commitment to plan for students' differing needs. This philosophy becomes even more important and necessary in today's classrooms. To be successful in the 21st century, all students must have not only knowledge and understanding of content, but also the capacity to think critically, analyze, synthesize, and make inferences. Biggs (1999) defines instruction as “a construction site on which students build on what they already know”. The role of the teacher is to serve as the foreman of this construction site.

However, as mentioned above, in order to effectively plan and implement differentiated instruction, teachers must engage in informed decision making. Such teachers consider a myriad of instructional approaches and resources based on pre-identified instructional goals and objectives and guided by worthy assessment data revealing student need throughout the course of construction. In a differentiated classroom, informed decision making involves a teacher focusing on what to teach, how best to teach it, and how to assess the students' proficiency with what was taught, while giving attention to students' varying readiness levels, interests, and learning profiles.

Although one goal of assessment should be to develop a partnership for learning among students, parents, and teachers, there are instructional decisions that rest squarely on the shoulders of a teacher. These decisions fall into one of three phases in which assessment is integral: (a) planning instruction (the pre-assessment phase); (b) guiding instruction (the ongoing or formative assessment phase); and (c) evaluating instruction (the summative assessment phase). Delineating the phases of instruction and the types of decisions made at each phase allows for understanding the link between differentiated instruction and assessment. It is also important to note that assessment data gathered, regardless of the phase, are only helpful in improving instruction when teachers are willing to modify their practices based on the data.
Concluding Remarks

This presentation demonstrates how educating teachers on teaching pedagogy that is child-focused and interactive can lead to instruction and proper assessment for the benefit of children with special educational needs in ordinary classrooms. The article also illustrates a few empirical studies in developed countries that have been conducted to explore the practices of primary school teachers in assessing the learning of students with special educational needs in regular classes. It is clearly recommended in this work that teachers’ preparation programmes should include statistical concepts that are an important feature of assessment. These can be taught with a minimal orientation on the computational components, in the interests of putting more emphasis on application concerns.
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