

Research Article

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Effective practice in inclusive and special needs education

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Abstract

The present study attempts to evaluate the effective teaching practice for children with special learning needs. The research question framed in the present study for investigation is which practice will be effective in different inclusive classroom settings and what are the factors that contribute for effective practices? Qualitative research was carried out in the present study using the case study method of embedded single case design to answer the research question. This study was carried out in South Norway. Twenty four Schools from four municipalities in three counties were sampled for the present study. Eighty three observations were carried out in the classrooms of selected schools where different inclusive classroom practice was followed. The study observed different inclusive classroom settings namely traditional practice, variety and flexible practice, one to one support practice outside and within the classroom and small groups outside the classroom. The investigators derived different criterion under three categories: 1) interaction 2) support and 3) adaptation for analyzing the best inclusive classroom practices. The following criteria were used under the interaction category; teacher interaction and collaboration, teacher and students interaction and collaboration. The criteria used in the support category are general teacher support, special teacher support, teacher supporting student participating in the learning community. The adaptation category has following criteria; classroom facilitation, learning materials and teachers instructions. The result of the study showed that each type of practice has its own advantages and disadvantages in the education of children with special needs. The strength and weakness of each practice were analysed. The finding from the traditional practice shows that those students that need special support do not get the support they need to master their learning. Under the one to one support practice the students got the support they needed to master their learning and they had positive interaction with the teacher in the students' learning process, and the same results

Keywords

teaching practice,
education,
classroom and small
groups,
traditional practice,
learning process.

were found with one to one support inside the classroom. In small group practice the students had more support and a closer interaction with the teacher than in the traditional practice. The present study concluded that varied and flexible practice in the classroom had met all the criteria listed by the investigators and served the necessary learning requirements of children with special needs. Whereas the remaining four practices had served children with special need to a certain extent only. The study stated that there is a lack of expertise on the part of the general teachers to deliver adapted teaching learning process in an inclusive classroom practice. The study implied a need to build competencies on the part of the general teachers and provide necessary teaching - learning interaction, support and adaptation in all type of inclusive practices.

Introduction

This research paper dealt with the effective practices in Inclusive and Special Needs Education. Inclusive Education means that all students in a school, regardless of their strengths or weaknesses in any area, become part of the school community. The term *Inclusion* generally means ending all separate special education placement for all students and full time placement in general education with appropriate special education supports within that classroom (Garvar-Pinhas & Schmelkin Pedhazur, 1989; Lipsky & Gartner, 1996). There are some individuals who by virtue of their physical and mental abilities require a more relevant or appropriate instruction than is usually available within formal educational structures. A domain of education has been constructed to satisfy their learning requirements (Laura & Ashman, 1985). This domain is called 'Special Needs Education'. This field of Special Needs Education encompasses heterogeneous groups who demand varied services: visually impaired, hearing impaired, mentally retarded, orthopaedic handicapped, children with behavior disorders, gifted or talented and finally the learning disabled or children with learning difficulties. Special Needs Education meets the needs of children with specially designed instructional programme to compensate/overcome their disabilities/difficulties. In past, the learning requirements of these children were provided in special settings, such as special classes, special schools and special residential schools or institutions. Recently, inclusion emerges out with the constitutional provision of equal opportunity for

all these individuals. The concept of integration' stemmed out from the perspective of democracy. Integration leading to inclusive schools cannot be about renegotiating the roles of 'special' educators to meet the needs of 'special' children in ordinary classrooms (Stainback, Stainback & Forest, 1989, p.ix).

To achieve a quality in Inclusive Education school plays vital role. All individuals are unique and 'special' with their strengths and weaknesses. As education binds us together, it has its root in the past and is meant to equip us for the future. It transfers knowledge, culture and values from one generation to the next. It promotes social mobility and ensures the creation of values and welfare for all. For the individual, education is to contribute to cultural and moral growth, mastering social skills and learning self-sufficiency. It passes on values and imparts knowledge and tools that allow every one to make full use of their abilities and realise their talents. It is meant to cultivate and educate so that individuals can accept personal responsibility for themselves and their fellows. Education must make it possible for an individual or a person to develop so that they can make well-founded decisions and influence their own future. It is all about participating in a society to a maximum extent for a successful life. Inclusion is a concept where social and cultural interactions are the main focus (Buli-Holmberg & Ekeberg, 2009). As Inclusive education is the knowledge of putting one's potential to maximum use it has the power to develop every citizen to be the potential contributor for their nation. Any nation's progress lies in the hands of well educated and talented citizens (Strømstad, M.,

Nes, K. & Skogen, K. 2004). Hence it is a binding duty of every nation to provide quality education to their citizen irrespective of their ability, caste, creed, race, religion and other differences.

Concept of Inclusion

In every country, the paradigm shift in Special Needs Education is to promote the inclusion for children with special needs in academic, vocational and social aspects. The idea of Inclusive Education was given impetus by two conferences set up under the support of United Nations. The first of these, held in Jomtein, Thailand in 1990, promoted the idea of 'education for all', this was followed in 1994 by a UNESCO conference in Salamanca, Spain, which led to a Statement that is being used in many countries to review their education policies. The Salamanca Statement proposes that the development of schools with an 'inclusive' orientation is the most effective means of improving the efficiency and ultimately the cost-effectiveness of the entire education system. Inclusion is a collaborative process among students, parents, and educators which enables students with and without disabilities to learn together in the same class to the greatest extent possible utilizing appropriate support services (Grapevine- Colleyville ISD Inclusion Task Force Report of 1997, P.1). The Federal Individuals with Disabilities Education Act (IDEA) and its 1997 amendments make it clear that schools have a duty to educate children with disabilities in general education classrooms. Later on, in 1997 'The International Journal of Inclusive Education' persuades the same broad outset of 'Inclusive Education', involving an examination of all the processes of inclusion and exclusion in education. The instruction of special needs students in the regular classroom may well deviate from the 'normal' programme. Individual educational plan, more instruction time, individual attention, other instructional methods or specialised professional skills and materials or the resources required to serve better for the children with special needs. In addition to these, resources teachers knowledge, attitude and competencies form the basis for effective inclusive educational set up (Sujathamalini, 2002;

Reddy et al, 2006). Skogen & Holmberg (2002) quoted that a common understanding of the term inclusion, a high level of expertise (formalised through training or informal expertise acquired through long practice and the exchange of experiences through various types of co-operation) and systematic work within the field with local development workers are important factors for practice inclusion well.

Effective practices in Inclusion

Inclusive Education is a challenge for teachers who must instruct a classroom including a combination of children with diversified needs and children with special needs. Inclusive classroom settings are arranged in a different ways to attain mastery in learning among a diverse group of learners. In some inclusive schools the previous traditional classroom practice was adopted without any change in the instruction and material (Buli-Holmberg 2008). In this type of inclusion the children with special needs are included as such where traditional teaching practice followed in the regular classroom without any priority arrangements or adaptations made. But in some schools the concept of inclusion is done with teachers' collaboration for planning and delivering the instruction, preparing and use of instructional materials to suit the needs of children with special needs. Special teachers are assigned to assist the children with special needs within and outside the classroom for meeting the learning requirements of this diverse group of learners. Opens school system with flexible classroom arrangements with creative instructional methods are also done in some inclusive school system. Thus various forms of practices are followed in inclusive settings to promote mastery in learning among children with special needs. As there are lot of practices followed in an inclusive setting, it is needed to find out the effective practices in inclusion. In every practice there are certain important features that need to be carried out to promote mastery in learning among children with special needs. They are *interaction* including teacher collaboration and students' collaboration, different kind of student *support* and variety and flexibility in instructional and material *adaptations*.

Interaction - Teachers collaboration

Teacher Collaboration is a strategy that has been successful in various classrooms (Lederer, 2000). It is not a new instructional technique in the field of Special Needs Education. It is more effective in inclusive settings. The collaborative teaming model is the ideal model in inclusive classrooms because it capitalizes best on the talents and skills of the participating teachers (Boudah, Schumacher, & Deschler, 1997; King-Sears, 1995; Miller & Savage, 1995; Minke, Bear, Deemer & Griffin, 1996; Pugach & Seidl, 1995; Villa, Thousand, & Chapple, 1996; Walther-Thomas, Bryant, & Land, 1996). The variation in teaching roles and responsibilities required in collaborative arrangements require a belief that all students can learn, coupled with competent communication and problem-solving skills (Friend & Bursuck, 2006; Gable & Hendrickson, 2000). Collaboration requires an important amount of faith between partners and a flexible approach in lesson planning and implementation of instructional strategies. Collaborative programs should be well planned with a structure in which the teachers' roles and responsibilities are specified and carried out along with daily management and instructional decisions and classroom interactions (Cole et al., 2000; Friend & Bursuck, 2006; Wood, 1998).

Interaction - Teachers and Students Collaboration

The school is a mini society where the children learn to live in together (Buli-Holmberg & Ekeberg, 2009). The concept of inclusion helps children with special needs to stay in a more society based life at their school age (Strømstad, Nes & Skogen, 2004). In an inclusive set up they get more exposure than what they would get from exclusion, this can help to mould them for their future life. There is more focus on social inclusion in the school and classroom than the academic and cultural inclusion (Buli-Holmberg 2008, Buli-Holmberg, Guldahl & Jensen 2007). Therefore, an inclusive school is more focused on a place to learn to live together rather than to live together to learn. Vygotsky's main emphasis is on the

interaction between the individual and the environment (1978). He claims that development is dependent on surrounding conditions such as home conditions and the learning environment in schools. Vygotsky describes the proximal zone of development as follows: *It is the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers* (Vygotsky 1978:86). He says that the proximal zone of development is between the actual and potential zone, and considers that development happens when a child moves from the actual to the potential zone of development. Vygotsky attaches great importance to cooperation with more competent others, adults, youth or children in the process of development. Children can attain a higher level of development and achievement through cooperating with others, than they will manage without this consideration. The more competent interactions and collaboration a learner receives may help the learner progress in the process of learning. Wenger (1998) claims that learning is not limited to education, he also includes learning from daily life. He describes how identity is created through participating in the community of practice. He point out four components which he says from the wholeness in the process of learning; practice, community, identity and meaning. Learning depends on being a real participator in the community of practice. Through participating and negotiations about meaning in the community of practice the individual develops a personal identity. Practice is an expression for one's historical and social resources, frames and perspectives that can support mutual engagement when one acts. The Community represents participation, where one's actions are considered as valuable and where one's performing and participating can be identified as competence. Identity represents how learning changes who a person is. Meaning is an expression for one's (often changing) ability to experience one's life and world as meaningful that one creates histories .

Adaptation - Variety and flexibility in Instructional and Material

There is different instruction methods commonly used to cope with this varied learning environment. Even though the inclusive educational practice is a challenge for regular school teachers they are the active agents exposed to a lot of problems in implementation. Even then they have to develop and implement the inclusive education policies and bring out satisfactory outcomes for themselves and for the pupils. As inclusion stemmed out from the right for equal education of all children, teachers should provide education to them based on their abilities and disabilities.

Teaching all students in the same way no longer meets the rigorous academic demands of today's education reform (Hitchcock, Meyer, Rose, & Jackson, 2002). Effective teaching of diverse students requires different instructional methodology, curriculum materials, and assessment methods (Bateman & Bateman, 2002; Hitchcock et al., 2002). Students who are actively involved and engaged in planning and evaluating their own learning experiences are more likely to improve academic achievement (Choate, 2000). The independence of students with disabilities, in terms of effort and task persistence, is essential in an effective inclusive services environment (Choate, 2000; Friend & Bursuck, 2006; Gee, 2002). Students with disabilities often lack an awareness of their strengths and weaknesses (Brinckerhoff, 1994; Scanlon & Mellard, 2002) as well as skills in self-determination and advocacy (Durlack, Rose, & Bursuck, 1994; Field, 1996; Janiga & Costenbader, 2002). All students with or without disabilities need to learn three types of skills: 1) dispositions and habits of mind, such as inquisitiveness, diligence, collaboration, work habits, tolerance, and critical thinking; 2) content area knowledge, in science, social studies, language arts, computers, the arts, etc; and 3) basic academic skills such as reading, writing, and mathematics (Jorgensen, Fisher, and Roach, 1997). These three types of skills should be included in the curriculum of general education classes as well as in various types of inclusive

settings. Student's collaboration, teaming and problem solving strategies in the classroom accommodating a diverse group of learners are common approaches in quality inclusive curriculum (McGregor, Halvorsen, Fisher, Pumpian, Bhaerman, & Salisbury, 1998; Tichenor, Heins, & Piechura-Couture, 1998).

To perform such multidimensional role the teacher's plays a vital role. The teacher should develop a plan within the curriculum that suits all the children with diversified needs. Deschenes, Ebeling, & Sprague (1994) noted a variety of instructional approaches for teachers to design curricula that accommodate a wide range of learners. They are: co-operative learning structures, Multidimensional student grouping, and multilevel instruction, Peer supports, Concrete experimental learning activities, community based instruction. Effective Inclusive Education is based on a multidisciplinary approach which warrants regular teachers, special teachers and other professionals' competencies. Special teachers and regular teachers work together for framing curriculum for the children with special needs. Teachers with special teaching competencies in Special Needs Education will always automatically and intuitively adapt the curriculum and instruction to meet the needs of each student. An inclusive curriculum that involves collaboration with colleagues makes this task even easier, enabling the educators to facilitate changes and adaptations (Snyder, 1999; Tapasak & Walther-Thomas, 1999; Tichenor, Heins, & Piechura, Couture, 1998). A lack of expertise and training for general and special teachers, insufficient resources, inadequate shared planning time, and the absence of administrative support are the primary barriers to inclusive efforts (King & Youngs, 2003; Scruggs & Mastropieri, 1996; Scruggs et al., 2007, Baker & Zigmond, 1995; Schumm, Vaughn, Gordan, & Rothlein, 1994). General and special teachers' exposure to a variety of inclusive services models influences their willingness and readiness to implement inclusive practices (McLesky, Waldren, So, Swanson, & Loveland, 2001; Van Laarhoven, et al., 2006). Teachers skilled in scientifically based reading instruction, classroom

organization and behavior management have the competencies to establish classrooms conducive to learning and improved results in reading (Oliver & Reschly, 2007; Smartt & Reschly, 2007). Over time many educators have noted that different individuals within their classroom perform better at some tasks than others and that an individual who performs well in one activity may perform badly in another and vice versa (Buli-Holmberg, Guldahl & Jensen 2007, Dunn & Dunn 1993, Vermunt, 1995). Drawing from these observations, educators and theorists have concluded that individuals possess varying learning styles that correspond to the individual's differences in perceptive ability, cognitive processing, information management, and sensory variability. At this juncture a teacher should understand their students' learning styles and plan instructional procedures based on their students' learning styles, abilities and disabilities. The teachers have to adapt the teaching instructional methods and instructional materials to suit the students' needs and abilities for better inclusive educational practice. As there are so many practices stated for an inclusive education, it is the need of an hour to explore which one is an effective practice that interacts, support and adapt the instructions to suit the diverse learners in an inclusive classroom. Therefore the present study has been undertaken to answer the following research questions.

Research Questions of the Study

There are different practices carried out in an inclusive education. We are not quite sure which practice will benefit the children with special needs in an inclusive classroom. To identify the pros and cons of different practices followed in an inclusive classroom the present study had lead the following research questions. Which practice will be effective in different inclusive classroom settings and what are the factors that contribute for effective practices?

Methodology and Design of the Study

The qualitative research was adopted in the present study. Case study method of embedded single case design was used to answer the research question. Case study method is relevant because it is helpful to investigate specific individual or specific context for in depth analysis. There is no single way to conduct a case study, and a combination of methods (e.g., unstructured interviewing, direct observation) can be used. In the present study, case study design with direct observation method was adopted. The concept of inclusion is complex and requires observations to investigate the research question from different point of view in their natural settings (Yin, R. K, 2003).

This study consists of multiple observations as the study environment is not confined to one setting it covered multiple sites to draw qualitative analysis (Padegett, 1998). In our observations we have selected them from five different ways that the schools organised their inclusive practice. These are 1) Traditional teaching practice in the classroom, 2) Variety and Flexible teaching practice in the classroom, 3) One to One teaching within the classroom 4) One to One teaching outside the classroom 5) Teaching in Small Groups outside the classroom. Several observations were done related to each of these three inclusive practices. The validity of the findings is obtained with these multiple observations in each inclusive practice were embedded and analysed.

Sample of the Study

Three counties from South of Norway (Oslo, Akershus and Buskerud) served as a locale for the study. Twenty four schools in four municipalities in the above counties were selected based on simple random sampling technique. The 83 students with special needs from first grade to

tenth grade in inclusive settings were the sample for the present study, and the investigators observed 83 students with special needs in different inclusive classroom settings. The result from the 83 observations showed five ways of organisation of inclusive classroom settings. The 83 cases were divided in this five different teaching practice in the inclusive classroom settings; 23 cases from Traditional teaching practice in the classroom (23 of 24 schools), 17 cases from One to One teaching practice within the classroom (11 of the 24 schools), 5 cases from One to One Teaching Practice outside the classroom (5 of the 24 schools), 31 cases from Teaching Small group outside the classroom (all of the 24 schools) and 7 cases from Variety and

Flexible teaching practice in the classroom (1 of 24schools).

Data Analysis

The investigators developed different criteria to analyse the effective inclusive practices for children with special needs. With the theoretical framework the investigators listed the most important criteria to analyse the effective practices out of those five different inclusive classroom settings. The listed criteria have categorised in three dimensions namely; interaction, support and adaptation. The ten criteria are illustrated in table 1 below.

Table 1: Criteria of Effective Inclusive Practice

Interaction Criteria	Support Criteria	Adaptation Criteria
1. Teacher collaboration	4. General teachers role	7. Mastery of learning
2. Teacher and Students collaboration	5. Special teachers role	8. Classroom facilities
3. Students collaboration	6. Students participating in the learning community	9. Learning materials
		10. Instructions

Interaction

Teacher collaboration: It is important in inclusive settings to have interaction within teachers for planning the classroom instruction and delivering. This teacher’s interaction promotes better learning environment to the students with special needs (Cole, et al., 2000; Friend & Bursuck, 2006; Wood, 1998).

Teacher and Students collaboration: Interaction of teachers with students creates motivation within the students to learn better. This interaction helps the students to come out with their strengths and weaknesses. In turn the teacher can adapt the teaching procedures and instructional materials according to the students’ ability level (Bateman & Bateman, 2002; Hitchcock et al., 2002).

Students’ collaboration: Students’ interaction plays a vital role in the concept of inclusion. To improve collaboration between students with and

without special needs it is necessary realizing the vision of inclusion. The inclusion is successful when the students without special needs accept the students with special needs which lead for peer acceptance and peer tutoring (McGregor, Halvorsen, Fisher, Pumpian, Bhaerman, & Salisbury, 1998; Tichenor, Heins, & Piechura-Couture, 1998). Interaction within students promotes peer guidance in learning process. Interaction within learning community helps them to learn together and identify their competencies (Wegner, 1998).

Support

General teachers’ role: Students with special needs require additional support from general teachers than other students to attain mastery in learning. This support from general teachers helps them to work out their classroom activity without any difficulty (Vygotsky, 1978, Wenger, 1998).

Special teachers' role: Support from special teacher is vital for students with special needs and require specific assistance and adaptation in the instructional procedures and the students activities (Hitchcock, Meyer, Rose, & Jackson, 2002).

Students' participating in the learning community: As inclusion focus on holistic involvement of students with special needs in regular classroom it is important to have a supportive from learning community. This supportive learning community will provide effective peer guidance and peer tutoring (Vygotsky, 1978; Wenger 1998, Buli-Holmberg, Guldahl & Jensen, 2007).

Adaptation

Mastery of learning: This adaptation from the general and special teachers helps students to meet their unusual needs that are required to be fulfilled for attaining mastery in learning (Vygotsky, 1978; Skogen & Holmberg 2002, Buli-Holmberg & Ekeberg 2009; Dunn & Dunn, 1993; Vermunt, 1995).

Classroom facilities: Inclusion of students with special needs doesn't result in successful learning if the classrooms facilities are not adapted to the diverse learner. We can't teach all the children in the same way. The classroom environment need to be adapted to make it barrier free and least restrictive environment for the children with special needs to move around and use the classroom facilities in a full-fledged manner (Hitchcock, Meyer, Rose, & Jackson, 2002).

Learning materials: The students with special needs require adaptation in the learning material to suit to their current ability level and achieve mastery in learning. These adapted learning materials will make the students with special needs to feel at ease in learning environment (Bateman & Bateman, 2002; Hitchcock, et al., 2002).

Instructions: Teacher needs to adapt their teaching methods to meet the needs and abilities of children with special needs. The effective teaching of diverse learners requires different

instructional methodology (Bateman & Bateman, 2002; Hitchcock, et al., 2002).

These criteria were formulated by the investigators with a literature background to analyse the effective inclusive settings for children with special needs. The obtained data was analysed in relation to research questions with the above criteria. This criterion has been developed based on our literature overview and theoretical framework for effective practice in inclusion. At the same time, on the basis of information received from the sample were also crystallised in the results of the present study. In this way, the analysis involved both inductive and deductive thinking on the part of the investigators. Our general understanding has been rooted in a tradition that focused on lived experience which requires hermeneutic ability to make interpretive sense of the phenomena to find out the school situations and relations of children in classroom (Van Manen, 1997). Therefore the obtained data was analysed with the framed criteria with real school life situations. The grade points one to ten of each criterion under three dimensions are the coding procedures in the analysis of data. The obtained data were analysed and discussed to answer the research questions. Under each of the five different practices the investigators have narrated one typical observation and analysed the positive and negative points to pinpoint the best practice in inclusive classroom. The qualitative data have also been quantified in the table that combines the type of practice and the criteria used for analyses.

Results and Discussion

The data gathered through direct observation were analysed with criteria to find out the effective practices of the different inclusive classroom settings based on critical evaluation related to the research question. In the presentation of the result the investigators have chosen one typical observation from each of the five different inclusive classroom settings. The observation was interpreted with its advantages and disadvantages in view of the children with special needs. Later

on in the discussion of each of the observation we have also used the criteria to find out the effective practice out of different inclusive classroom settings. Overall, five such observations are presented for the five types of practices in an inclusive classroom.

Traditional teaching practice in the classroom

We as investigators have chosen to define the Traditional Teaching Practice as a classroom where children with and without special needs are included without any special support. In the regular classroom there is no modification done for the students with special needs and therefore we categorised this as Traditional Practice. We have twenty three observations from traditional practice in the inclusive classroom. To illustrate the trend in the analysis of our findings we have chosen one example. There are twenty three similar observations from Traditional Practice at different grades in 23 of the schools that showed almost the same practices as in the below example. The example present below is from one observation where maths subject was taught to seventh grade to twenty five students with one teacher.

The teacher started the class with general introduction to all the students about the topic. After the introduction the teacher asked questions on the prior knowledge and tried to link to the present problem. Some students answered the teacher's question. He connected the theoretical framework of the problem with practical examples from the students' daily life. After that the teacher gave exercise to all students and went around in the class to give support to the students. The students who got doubts raised their hands. He went to the students who had raised their hands and helped them to solve the problem. Some students did not do the exercise. There were also some students with special needs who failed to solve the problems even with the support of the teacher.

Investigators comments to this observation: The teacher did not manage to individually adapt his teaching to all the students' needs and particularly

those with special needs. They needed special instructional techniques that are different from regular students. At some point the teacher wasn't able to succeed with the students that did not learn in the traditional way of teaching. When the teachers teach traditionally some students will feel that they aren't included.

Investigators analysis of these observations related to the ten criteria: In this observation we evinced that in the interaction dimension criterion No. 2 (interaction with teacher and all students) was met when the general teacher gave instruction to all students. Interaction with teacher and all students showed that all students were taught in the same way. The teacher first gave an introduction to all the students in general irrespective of the students' abilities and needs. In a way, he hasn't given an adapted education to the diverse ability of the students in introduction part. We have the same results from our analysis of the other 22 observations that shows that all students can't be taught in the same way to meet the academic demands of diverse learners (Hitchcock, Meyer, Rose, & Jackson, 2002).

We also evinced in this observation that criterion No.4 (support from general teacher) under the support dimension was met. The teacher created a situation to break the abstract concept into a concrete concept, when he connected the theoretical framework of the problem with practical examples from the students' daily life. By his way of explanation some students in the class understood the concept. When he explained from simple to abstract he reached more students in understanding the steps to solve the problem. In introduction part the teaching style is less inclusive way but when he went to the students to clarify their doubts then it is more of inclusive class than before. This may be because he might have thought that the introduction part is more general to all and then for the explanation part he had adopted the ability to cater to the diversity of the students because he had to meet their individual needs. At some point he couldn't reach the children with special needs because the students hadn't come out with their special needs and because of that he wasn't able to solve their needs. It is also difficult for a teacher to reach all

the students with diverse needs in an inclusive classroom with traditional teaching methods. On the other hand, he also needs some special education techniques to solve the diversified needs of the students in an inclusive classroom.

It is evinced in this observation and the other 23 observations that there is a lack of special education techniques to promote an inclusive classroom. It is a need of an hour to develop certain techniques among teachers in these traditional classrooms with such special teaching techniques. Hence successful inclusive education should engage diverse students with diverse instructional methodology, curriculum materials and assessment methods (Bateman & Bateman, 2002; Hitchcock, et al., 2002).

One to One Support teaching practice outside the classroom

We as investigators have chosen to define One to One support practice outside inclusive classroom to a student with special needs from one teacher. This is analysed based on five observations. Five similar one to one Support practices outside classroom are observed by the investigators and the same practice was evinced. The example observation below was in fourth grade and language was taught.

The student with special needs was together with her class. The general teacher motivated all the students with and without special needs about the topic they are going to learn. She questioned to get prior knowledge on the task and then she presented the material. After explaining the concept she gave them exercise to do. The student with special needs received the same instruction as other students. Then the student with special needs went together with the special teacher to the resource room. The special teacher helped the student to understand how to solve the task by adapting the materials to the student level and ability. This adaptation by the special teacher helped the student to complete the task. After completing the task the student with special needs returned to classroom.

In the above observation as the general teacher gave the same instruction to the student with special needs as given to other students the criterion No 2 (interaction with teacher and all students) under interaction dimension was met . Then student went to resource room and got help from special teacher. The student worked with special teacher in a separated room and it is a hindrance for these students to interact with other students. She got the special support and adaptive devices for the learning that helped her to demonstrate mastery in learning, but in a closed circumstance, where the concept of inclusion is not taken its full functioning. As the term inclusion is that of making a child to learn to live together and live together to learn. This method lacks an interaction among students with and without special needs even though they attain mastery in learning. The mere learning doesn't make them to be successful in their social life. So there is a need to have total inclusion. This is possible only when there is full time placement in general education classes with appropriate special education support within that classroom is provided (Garvar- Pinhas & Schmelkin-Pedhazur, 1989; Lipsky & Gartner, 1996). But at the other extreme the one to one support outside the inclusive classroom helps the students to actively involve and engaged in planning and evaluating their own learning experiences and improve their academic achievement (Choate, 2000). In this observation the criterion No. 5 (support from special teacher), No. 7 (adaptation for mastery of learning), No. 8 (adapted classroom facilities), No. 9 (adapted teaching materials) and No. 10 (adapted teacher instruction to meet the needs and abilities of children with special needs) were effectively met. When the students are outside the classroom they are aware of their strengths and weaknesses (Brinckerhoff, 1994; Scanlon & Mellard, 2002) as well as skills in self-determination and advocacy (Durlack, Rose, & Bursuck, 1994; Field, 1996; Janiga & Costenbader, 2002).

One to One Support teaching practice within the classroom

The investigators have chosen to classify One to One support practice within the inclusive classroom to a student with special needs with two teachers in the classroom (one general and one special teacher). Seventeen similar classes are observed for analysis and almost the same practice was evinced. The example observation below was in sixth grade and science subject was taught.

It was early morning the class started with 25 students handled by a general teacher and there was a special teacher near the student with special needs. Before the class the general and special teachers interacted with each other and planned their instruction hours together. The general teacher gave the introduction to all the students and the special teacher explained the introduction adapted to the student's with special needs level. After giving the introduction the general teacher explained the activity to all the students. The student with special needs was supported by the teacher to start the activity explained by the general teacher. The special teacher simplified the activity to meet the level of mastering the particular task. All the time the special teacher was with the students with special needs and gave the support to do the activity and follow up the students' progress. With the special teacher's support the student with special needs managed to complete the task given by the general teacher. At the same time, the general teacher was guiding the other students to do the activity.

The analyses revealed that under interaction dimension the criterion No.1 (interaction with teachers during planning and teaching) was met in the investigators observation as the two teachers interacted with each other and planned their teaching process. As the general teacher gave a common introduction to the all students including the students with special needs and then the special teacher gave introduction once again to the students with special needs in an adapted way and made sure that these students understood what the general teacher is explaining the

criterion No. 2 (interaction with teacher and all students) is also effectively observed in this practice. A lot of focus was made on the students with special needs by the support teacher rather than the general teacher. At the same time the general teacher did not interrupt what the support teacher was doing for the students with special needs. The split of work by the general teacher for the other students, and the special teacher for the students with special needs was observed where it is only physical inclusion was taking its form rather than full inclusion. In a way it is an excluded classroom because the general teacher has not taken the full responsibility of students with special needs. On the other side, the special teacher only focused on the students with special needs and there was no interaction with the general teacher.

In the above observation the students have attained the mastery in learning and the criterion No. 5 (support from special teacher), No. 7 (adaptation for mastery of learning), No. 8 (adapted classroom facilities), No. 9 (adapted teaching materials) and No. 10 (adapted teacher instruction to meet the needs and abilities of children with special needs) were effectively met. On the other hand there are some criteria like interaction within teachers and interaction of teachers with all students which are important for the best practice in inclusive classrooms which are not observed. The full inclusion will be followed if both the teachers take their turn to introduce the topic and the activity they are supposed to carry out in an adapted format. Then there will be an interactive session within the teachers and students with and without special needs. Collaboration between teachers is an instructional technique in the field of special education. It is more effective if teachers collaborate to create inclusive settings as it capitalizes best on the talents and skills of the participating teachers (e.g., Boudah, Schumacher, & Deschler, 1997; King-Sears, 1995; Miller & Savage, 1995; Minke, Bear, Deemer & Griffin, 1996; Pugach & Seidl, 1995; Villa, Thousand, & Chapple, 1996; Walther-Thomas, Bryant, & Land, 1996).

Small Group outside the classroom

The investigators have chosen to classify a small group outside the inclusive classroom for three to six students with special needs with special teacher. Thirty one similar small group practices are observed by the investigators and almost the same practice was evinced during observation. The example observation below was in seventh grade and a science subject was taught.

A science topic was going on in a classroom with five students. It was a small group with special needs students and special needs teacher. The teacher motivated and gave the same introduction for five students about the topic they are going to learn. She questioned on their prior knowledge and then she presented the material. After explaining the concept she gave them practical exposure on the topic. The teacher explains the concept and helped the students to finish the exercise. The students with special needs worked together with the teacher's help to complete the task and learnt the material. The students were in interaction with the special teachers when they were working with the exercise. There was little interaction between the students in small group while they were doing exercise. But there is no interaction of these groups with other students in the school.

Students in this observation received the same instructional procedures from the special teacher as in a traditional classroom and a criterion No.2 (interaction with teacher and all students) is met. The students were outside the class they belong to receive special needs education. The teacher was able to concentrate on each student as the group was small and cater to their special needs within the class to attain mastery in learning and met a criterion No. 7 (adaptation for mastery of learning). This small group also facilitated the teacher to have individualised support when required which in turn facilitated mastery in learning (Vygotsky, 1978). The criterion No. 5 (support from special teacher), No. 8 (adapted classroom facilities), and No. 10 (adapted teacher instruction to meet the needs and abilities of children with special needs) under support and

adaptation dimensions were also effectively met. The students within the group were interacting with each other but they haven't got the chance for interaction with the other students in the class (Wenger, 1998). It is more like special class rather than an inclusive class setup.

Variety and Flexible teaching practice in the classroom

The investigators have chosen to classify variety and flexible teaching practice in the classroom. Seven similar classrooms were observed by the investigators and evinced successful inclusion practice. The example observation below was in second grade and a social science subject was taught.

It was early morning the three teachers went to a classroom with prior discussion for planning their teaching together. They went to handle a social science class. The students with and without special needs were in the classroom. Two teachers were sitting inside the class along with the students. One teacher gave the introduction and other teachers also supported with additional information and with adapted techniques to explain the concept in a more clear way to benefit the students with special needs. Then the students were assigned to work within small groups where the students with special needs are also there within the group. While all the students are working the three teachers were going around and helping all the students with and without special needs. The classroom facilities were also adapted by the teachers to the suit all the students needs. All of them were able to support with adapted and special techniques required to meet the diversified needs of the students in the classroom. At times teachers also gave individualised instruction to the students who need additional support. At some point one teacher worked with one student and the other teachers were guiding the rest of the students. At the end of the session it was quiet surprising that all students gained mastery over the topic which they were planned to do with their collaborative, individualised and small group work for students with and without special needs.

This observation evinced a variety and flexible classroom teaching. All the criteria under three dimensions – interaction, support and adaptation in inclusive classrooms were observed by the investigators. Under the first dimension of interaction - all the teachers took similar responsibility and shared their work. The teachers interacted with each other and at the same time they also interacted with all students (Criteria No.1 & No.2). Students also interacted with each other within the class (Criteria No.3). In the second dimension support - teachers were moving around the class area and helping the students when they needed individualised instruction (Criteria No. 5). The shift in different ways of working by teacher instruction & interaction, student’s individual work and group activity had created flexible and creative learning environment (Criteria No.10). In this practice a better classroom climate was maintained by general teachers’ support (Criteria No.4) which provided a supportive learning community (Criteria No.6) which is important for the diversified needs of the students. Under the adaptation dimension – the teachers provided adapted mastery of learning (Criteria No.7) and classroom facilities (Criteria No.8); they also tailored learning materials to the current ability level of students with special needs (Criteria No.9). The teachers also personalized their instruction to meet the needs of children with special needs (Criteria No.10). Thus the observation under three dimensions clarify that all

the criteria have met. This result is comparable to the literature stated by Deschenes, Ebeling, and Sprague (1994). They noted a variety of instructional approaches to curricula that accommodate a wide range of learners. In the above result we confirm that they give importance for co-operative learning structures, multidimensional student grouping, multilevel instruction, peer supports, concrete experimental learning activities and community –based instruction. All the above instructional approaches were observed in the above practice in the flexible and creative inclusive classroom. The above observation shows the faith between partners and the flexible approach in lesson planning and implementation of instructional strategies. In this observation collaborative teachers are prepared with a structure in which the teachers’ roles and responsibilities are specified and carried out along with daily management and instructional decisions (Cole, et al., 2000; Friend & Bursuck, 2006; Wood, 1998).

Summary of Number of Observation in Schools and Criteria met under different inclusive settings

Table 2 presented below shows the summary of the types of practices, observations carried out in different inclusive settings and criterion met in each type of inclusive practice for analysing successful effective inclusive practice.

Table 2: Type of Practices correlated to Criteria of Effective Inclusive Practice

S.No	Type of Practice	No. of Observation	No. of Schools (N-24)	Criteria met in each type of inclusive practice
1	Traditional Practice in the classroom	23	23	2 & 4
2	One to One Support Practice Outside classroom	5	5	2,5,6,8,9&10

3	One to One Support Practice within inclusive classroom	17	11	1,2,5,6,8,9&10
4	Small Group outside classroom	31	24	2,5,6,8,&10
5	Variety and Flexible practice in the classroom	7	1	All
		Total - 83	Total - 24	

Conclusion and interpretation

To answer the research question: Which practice will be effective in different inclusive classroom settings and what are the factors that contribute for effective practices, the investigators used the criterion analyses to find out which practice will be effective and the factors that contribute to the effective inclusive practices. To conclude the results from the observations were correlated with the criterion listed by the investigators to know the effective practice and the factors responsible for inclusive settings. The results have also been supported with theoretical background and found out the best practice for an inclusive practice.

I. Interaction in the classroom

As mentioned earlier, we have three criteria under the dimension interaction in inclusive classroom. There are different types of interactions: 1) teacher - teacher interaction during planning and teaching, 2) teacher – student interaction and 3) student – student interaction. Those interactions form a base for effective inclusion of children with special needs and the classroom practice that involve all those three interactions effectively will serve for better inclusion.

Criterion 1: Interaction within teachers: Our analyses show that in the traditional teaching practice, there was only one teacher in the class and there is no possibility for interaction between teachers. The similar observation was also found in one to one support and small group practices. At this point, the variety and flexible classroom

had the best interaction between the teachers. When there is more than one teacher in the classroom there are more possibilities for interaction between teachers. It paves a way for effective collaboration, teaming and reciprocal teaching (Boudah, Schumacher, & Deschler, 1997; King-Sears, 1995; Miller & Savage, 1995; Minke, Bear, Deemer & Griffin, 1996; Pugach & Seidl, 1995; Villa, Thousand, & Chapple, 1996; Walther-Thomas, Bryant, & Land, 1996, Friend & Bursuck, 2006; Gable & Hendrickson, 2000). The variety and flexible environment gave the teachers possibilities flexible to interact with each other and help the students with special needs. This type of collaboration helps the teacher to share their competencies and this will certainly benefit the students with special needs to interact with the teachers with various skills and talents (Cole, et al., 2000; Friend & Bursuck, 2006; Wood, 1998).

Criteria 2: Interaction with teachers and students: In the traditional classroom it was one way process where the teacher was lecturing and the students were listening. Our analyses show that the teacher’s interaction with the students with special needs is very limited. There was weak interaction between teachers and students in this practice. In other types of practice the interaction were not so strong than that of variety and flexible classroom. The variety and flexible practice had created more opportunity for interaction between teachers and all students. The learners benefit from their teachers’ and students interaction (Bateman & Bateman, 2002; Hitchcock et al, 2002).

The environment is least restrictive and conducive for the learners to concentrate and learn in other types than the traditional method. But in a flexible classroom the environment demonstrates better option for effective interaction.

Criteria 3: Interaction of students with and without special needs: In the variety and flexible classroom there was a good opportunity for interaction between students with and without special needs. The results show that those teachers in the flexible classroom used the opportunity in a positive manner for effective inclusion. We didn't saw interaction between students in the traditional classroom and very rare in other practices. Participation in group and pair create possibilities for developing effective learning environment for inclusive education (McGregor, Halvorsen, Fisher, Pumpian, Bhaerman, and Salisbury, 1998; Tichenor, Heins, and Piechura-Couture, 1998).

II. Support in inclusive Classroom

For children with special needs warrant a different kind of support in the inclusive classroom to get equal opportunities. We have listed four criteria under the dimension support in inclusive classrooms for analyses. They are 1) support from general teacher, 2) support from special teacher, 3) supportive learning community.

Criteria 4: Support from General teachers: Our analyses shows that the general teacher in the traditional classroom interacts less with the students and the students had little support from the general teacher in the learning process. The opposite observation was noted in the variety and flexible classroom where the teacher had the possibilities to give support to each student in the teaching learning situation. When the teachers were aware of the students' diversity and individual needs with the teaching skills it has helped them to extend support effectively (Vygotsky, 1978, Wenger, 1998).

Criteria 5: Support from Special teachers: In the varied and flexible classroom we observed that there was an apparent support from the general

and special teachers to the students with special needs. The conclusion of our analyses exhibits that it is because of their competency they possess to teach the children with special needs. Special teacher's knowledge and skill has been effectively utilised for extending different instructional methodology with adaptive and assistive devices required for the children with special needs. In the other practices there was also support from the special teachers except in traditional practice. In the traditional practice the general teacher lack in knowledge and skill to serve the children with special needs and hence they adapt the same instructional methodology for all students. But the same instruction will no longer help the students with diverse needs in a classroom (Hitchcock, Meyer, Rose, & Jackson, 2002).

Criteria 6: Supportive learning community: The variety and flexible classroom has the opportunities for creating a learning community. The analyses show that it was in a varied and flexible practice that there was an opportunity to get support from the peer group through peer tutoring which promoted peer acceptance and guidance. But peer tutoring is used to a certain level in the other practices, but they hadn't used all the possible opportunities. The teacher has to focus on helping for peer tutoring and guidance, for effective inclusive learning (Vygotsky, 1978; Buli-Holmberg, Guldahl & Jensen, 2007; Dunn & Dunn, 1993; Vermont, 1995; Wenger, 1998).

III. Adaptation in inclusive classroom

Different types of adaptation that is required for the effective inclusive classroom. In the present study for criterion analyses three criteria have listed out. They are 1) adaptation for mastery in learning process, 2) adapted classroom facilities, 3) adapted teaching materials and 4) adapted teacher instruction to meet the needs and abilities of children with special needs.

Criteria 7: Adaptation for mastery of learning: The students in all the inclusive practices were more or less made adaptation for mastery of learning from the special teacher and general teacher were evinced from our analyses. To

acquire mastery in their learning the students need support from their special and general class teachers'. The students in four of inclusive practices got adaptation from their special and general teachers' and demonstrated mastery in learning to a certain extent, but, it is not in the case of traditional method as there is no special teacher and general teacher can only instruct the whole group (Vygotsky, 1978; Buli-Holmberg, Guldahl & Jensen, 2007; Dunn & Dunn, 1993; Vermunt, 1995).

Criteria 8: Adapted Classroom facilities: Our analyses evince variety and flexible classroom have created a more adapted classroom facilities where the student can learn more freely and individually according to their abilities. We have evinced proper lighting and seating arrangement for children with special needs, adaptive devices such as group hearing aids and architectural barrier free environment for free movement of children with physical limitations (Dunn and Dunn, 1993, Buli-Holmberg, 2008; Hitchcock, Meyer, Rose & Jackson, 2002). But the same is not observed in the traditional practice where only a few classroom facilities were available.

Criteria 9: Adapted learning materials: More adapted teaching materials where evinced in the one to one support practice and in the variety and flexible classrooms than the others. Adaptive learning materials such as building blocks, memory learning materials for children with mental retardation, assistive devices for visual and hearing problems, relevant computer assisted instructional packages and kinaesthetic and tactile materials very observed (Buli-Holmberg, Guldahl and Jensen, 2007; Dunn and Dunn, 1993). We saw that these adaptive teaching learning materials motivated the children with special needs and other students as well to be actively engaged in their learning process (Bateman & Bateman, 2002; Hitchcock et al., 2002). These materials also help them to develop the necessary skills required to learn and mastery their subjects.

Criteria 10: Adapted special teaching competencies among teachers to teach children with special needs: In the one to one support practice inside and outside we observed that the teachers' demonstrated special teaching competencies among teachers to teach children with special needs. That was also the case in a small group outside the inclusive varied and flexible classroom. When we are really responsible for the children with special needs then we really push our self to learn the necessary skills to teach them. This is truer in the case of variety and flexible classroom teachers where they collaborate with other teachers and share their competencies. They demonstrated special teaching competencies and motivated the children with special needs to learn and acquire mastery in learning (Bateman & Bateman, 2002; Hitchcock et al., 2002). Somehow they are possible to go with teaching these children effectively but still we have also observed that they warrant more training in teaching children with disabilities (Sujathamalini, 2002; Boudah, Schumacher, & Deschler, 1997; King-Sears, 1995; Miller & Savage, 1995; Minke, Bear, Deemer & Griffin, 1996; Pugach & Seidl, 1995; Villa, Thousand, & Chapple, 1996; Walther-Thomas, Bryant, & Land, 1996).

The above analyses evinced that the variety and flexible teaching practice met the entire ten criteria for the inclusive classroom. We also saw that the other practices met only some of these criteria which focussed more on mastery in learning than interaction in learning. Inclusive learning takes place only when there effective interaction with mastery in learning. It is also demonstrated that there is a lack of support from learning community in other practices than the flexible and creative inclusive practice. Overall results show that the each practice can't be ignored as it has its own strengths and weaknesses. But it can be improved to meet the criterion listed in this study to meet the needs of children with special needs effectively.

Summary

The study is carried out to answer the research questions. For identifying the effective inclusive practice, the investigators have seen different instructional practices followed in inclusive classrooms (Bateman & Bateman, 2002; Buli-Holmberg & Ekeberg, 2009; Hitchcock et al. 2002; Buli-Holmberg, 2008; Choate, 2000; Gee, 2002). The investigators had identified the different classroom practice and classified under five different categories. They are: Traditional practice, One to One support practice outside the classroom, One to One support practice within inclusive classroom, Small group outside the classroom and Variety and Flexible practice. Each practice has been analysed based on the criterion framed by theoretical framework to know more about the nature of those practices. The result of the study revealed the effective practice out of those above categories of inclusive classroom settings. The study evinced that all the instructional practices that have observed have potential for development of better quality in the inclusive education practice but at different degrees of level for children with special needs. Even the children in traditional classroom develop better but the degree of development is very high in variety and flexible classrooms. The result and discussion of the study revealed that interaction in inclusive classroom is an important issue to promote mastery in learning among children with special needs. A glance of the individual when teachers interact with children with special needs helps them to find out their inner strengths and weakness (Vygotsky, 1979; Buli-Holmberg, 2008). Looking within the childrens ability and disability enables us to plan and design the curriculum that suits their needs. This will be strengthened when the teachers collaborate within themselves and with the children (McGregor at al. 1998; Tichenor, et al., 1998). Interaction within the students with and without disabilities can also extend peer acceptance, peer guidance and peer tutoring (Buli-Holmberg, Schiering, & Bogner 2007; Strømstad, Nes & Skogen, 2004). It gives opportunity to learn from the competent peers.

The study showed that the support in inclusive classroom from general and special teachers is imperative in the education of children with special needs respectively. In one to one practice students get support only from special teachers and in traditional practice they get support only from general teachers. The support from both general and special teacher is a holistic approach for an effective instruction and it is observed only in flexible and creative classroom practice. This support from both teachers will create a successful inclusive classroom practice where they can also get the possibility to get support from learning community and demonstrate mastery in learning (Vygotsky, 1978; Buli-Holmberg, Guldahl & Jensen, 2007; Dunn & Dunn, 1993; Vermunt, 1995). We evinced different level of mastery in learning among children with a special needs depending upon their abilities and disabilities and their teachers support (Hitchcock, Meyer, Rose, & Jackson, 2002).

Adapted inclusive classroom facilities and teaching materials were evinced in this study. The investigators have documented that there are different classroom facilities and teaching materials in the flexible and creative classroom than in the traditional practice. The adaptation is more in other instructional practices referred to in the study than the traditional practice. Adapted special teaching competencies among teachers to teach children with special needs are observed in all the instructional practices and it is found to be high in the flexible and creative classroom (Bateman & Bateman, 2002; Hitchcock et al., 2002).

Overall results of the present study showed that flexible and creative practice was the best practice that met the learning requirements of children with special needs successfully which evinced all the criterions under three dimension interaction, support and adaptation in teaching learning process leading to effective inclusion. The other instructional practices had met the learning needs to a certain extent only. The best instructional practice in inclusive classroom should possess

effective interaction of teachers and students with proper support from the teachers with adapted special teaching competencies that cater successfully to the needs of children with special needs in inclusive classroom.

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