An Analysis of a Scaffolding Collaborative Contextual Method of Inclusive Teacher Toward the Students with Special Needs in Elementary School

Ni’matuzahroh¹ & ²
¹ Faculty of Psychology, University of Muhammadiyah Malang, Indonesia.
² Department of Psychology, Asia University, Taichung, Taiwan (R.O.C.)
nimatuza@gmail.com

Uun Zulfiana
Faculty of Psychology, University of Muhammadiyah Malang, Indonesia
zulfiana_uun@yahoo.com

Mein-Woei Suen²,³,⁴,⁵
² Department of Psychology, Asia University, Taichung, Taiwan (R.O.C.)
³ Gender Equality Education and Research Center, Asia University, Taichung, Taiwan (R.O.C.)
⁴ Department of Medical Research, Asia University Hospital, Asia University, Taichung, Taiwan (R.O.C.)
⁵ Department of Medical Research, China Medical University Hospital, China Medical University, Taichung, Taiwan (R.O.C.)
blake@asia.edu.tw

Abstract: Scaffolding collaborative contextual method is a method aimed at providing assistance and collaboration of inclusive teachers to the students with special needs in accordance with the situation of students and schools so that students can exceed their potential. The purpose of this research is to study the Scaffolding Collaborative Contextual Method used by teachers in inclusive classes. The subjects involved in this research were inclusive class teachers (N=17) from 8 inclusive schools in Batu, Malang, Indonesia. The data were collected through observation and interview. The data were analyzed using a qualitative method by performing data reduction, classification, and collaboration in the inclusive classes. The results of the research showed that (1) inclusive classroom management highly depended on the teachers’ competence, facilities, and students’ characteristics. Inclusive schools in Batu implemented 3 inclusive class management models, namely integration of general model, advanced model integration, and two general and advanced model; (2) teachers’ scaffolding had led to teaching strategies and encouraged students to achieve goals in diverse forms such as demonstration, repetition, or providing special hours for material enrichment; (3) there were some schools that performed individual learning programs, yet they had not transferred the responsibility to the students. In general, the collaboration between inclusive teachers and other teachers was generally good. They performed mutual cooperation in the form of sharing learning methods and sharing tasks in dealing with inclusive classes. More details will be discussed further in this paper.

Keywords: elementary school, inclusive class, inclusive teacher, scaffolding collaborative contextual method, students with special needs

Introduction

Inclusive education is a process that provides learning opportunities to all students which has been a great challenge for the education system throughout the world (Baldiris, Zervas, Fabregat & Sampson, 2016). The inclusive education aims at ensuring that all students with various needs and preferences (such as students with special needs) receive equal opportunities in accessing learning sources, services, and experiences (Florian & Linklater, 2010). Inclusive education also aims at creating a responsive school towards the needs of children and society (Stubs, 2002). Inclusive education comes from the awareness of human rights and the realization to accept differences as a blessing to complete each other. The Indonesian government has been developing inclusive education which was followed by an international symposium at Bukit Tinggi in 2005 to emphasize the development of inclusive education (Mangunsong, 2009) — then issued a circular letter concerning Inclusive Education from the General Directorate of Ministry of Education No.380/C.C6/MN/2003 on January 20, 2003. Inclusive education began to be held and developed in each district consisting of elementary, primary and secondary high school and vocational high school (Ditjen Dikdasmen, 2007).

The increase of significant quantity, however, is not followed by its quality improvement. The education elements require improvement in curriculum...
modification for academic and non-academic assessment, the lack of human resources competent (teachers), the lack of detailed policies, the absence of inclusive class management, and the unreadiness of social environment. The environment includes peers, parents of students with special needs, and the parents of regular students (monitoring result of inclusive schools by the Directorate of PSLB, as cited in Harijanto, Syaifuddi, Widiastuti, 2011). The issues have led to a number of feedbacks, such as stressing on teachers to meet the needs of regular students and students with special needs, bullying practice from peers towards students with special needs, and the less significant learning achievement from the students with special needs (Ni’matuzahroh & Nurhamida, 2013; 2014). Research from Hariyono, Syaifuddin, and Widiastuti (2015) showed that the inclusive management in Central Java is lack of effectiveness, especially in term of the identification process and assessment, the absence of curriculum designated for students with special needs, and the ineffective management of teachers, facilities, and funding.

Among all problems to address, the most important issue is the teachers’ competence in managing the inclusive class. This issue occurs because teachers are highly engaged in the learning process of inclusive class; therefore, they have significant roles in running an ideal program in the class. As a consequence, it is important to note that the teachers must have proper competence in handling various requirements according to their students’ preferences as well as provide them with an equal learning opportunity. Besides, in the presence of students, the teacher is the authority holder in the class who is authorized to manage the class to run optimally (Baldiris, Zervas, Fabregat & Sampson, 2016). Inclusive class conditions are, in fact, more complex than regular classes because they combine students with special needs with regular students. Therefore, it requires different approaches from teachers by increasing their competence with various learning methods that are appropriate with the context of inclusive classes. For this reason, it is necessary to analyze the method of scaffolding or assistance provided by teachers and the collaboration among teachers in the implementation of inclusive classes that are appropriate to the conditions of the school.

Scaffolding is a process of involvement of others to help individuals to improve their abilities, namely techniques to change the level of assistance for learning. During the teaching session, more skilled people (teachers or students who are more capable) adjust the guidance given to students based on the level of students’ performance. When the task that students are going to learn is new, then more skilled people can use direct instruction; by the time the students’ competence increases, the guidance can be reduced (Santrock, 2011). Pol, Volman, and Beishuizen (2011) defined 3 forms of scaffolding in teacher-student interaction, namely: 1) contingency, which refers to teaching strategies where the teacher might use several tools as a diagnostic strategy and interventions that are adapted to student behaviors, 2) fading, which refers to the process given by the teacher to encourage students to achieve their goals and gradually release the support so that students are able to achieve it independently, and 3) transfer of responsibility, which is a substitution in which a teacher shares his responsibilities with the students. Research by Radford, Bosanquet, Webster, and Blatchford (2015) indicated that scaffolding in learning proven to be able to support students in dealing with tasks and improve their learning motivation, learning functions, and increase their independence.

Vygotsky also emphasizes that some mental processes develop when children interact with peers. Then the child can do challenging tasks if guided by someone who is more competent and more advanced than them. In his theory, Vygotsky distinguishes two types of abilities that characterize children’s abilities, namely the level of actual development and limit on tasks that children can work independently without the help of others. Both levels of potential development are limits to tasks that can be done by children with the guidance of more competent individuals. The range of tasks that children cannot solve independently but can be completed with the help and guidance of others is referred to as the zone of proximal development (ZPD). The involvement of other people who are more competent in this case the teacher, parents, and peers in the learning process, will greatly affect student learning outcomes so that they can exceed their capacity within certain limits (Santrock, 2011); Vygotsky calls it as zone of proximal development (ZPD) or the distance between what children can do independently, and what children can do in interaction with adults or peers who are more skilled (Cheng & Yu, 2009).

In the context of research learning, Mursitolaksmi (2007) found that scaffolding-based program interventions proven to be able to increase the use of reading metacognitive strategies in third-grade elementary school students in Jakarta. Teachers and peers who function as scaffolds can help beginner students to reduce the zone of proximal development and develop metacognitive strategies that are more effective in reading activities.

Assistance in the learning process in several studies was carried out in a collaborative and reciprocal form. Thurston et al. (2009) stated that learning through reciprocal teaching with peers (among students in Scotland and Catalonia) was able to improve the English development in elementary schools even though it was conducted through e-learning. The English improvement was reached because peer learning makes students have the initiative to be involved in the learning process; they take turns correcting and giving feedback on their respective assignments.

In this research, scaffolding was designed to be contextual, which is in accordance with the context of
the inclusive class, for instance, related to the number of students with special needs in class, the type of specificity, the number of regular students, the presence/absence of accompanying teachers in the classroom, and the infrastructure availability. Another concept that is also an important key for inclusive classroom learning is collaborative learning between the components involved in the learning process, which in this research is a collaboration between regular classroom teachers/teachers and special mentoring teachers, as well as regular students in the class. This research is important to conduct, considering that currently the handling of students with special needs in the inclusive class still seems to be the responsibility of the inclusive class teacher so that the implementation of learning becomes less optimal (Ni’matuzahroh & Nurhamida, 2013; 2014). Classroom teachers need collaboration from a special teacher to handle students with special needs in inclusive classes. Scaffolding techniques are used to help students with special needs in inclusive classes by giving roles to peer students to assist. Likewise, class teachers and Special Assistance Teachers need to find the right scaffolding techniques with the right pattern of collaboration between classroom teachers, GPK, and peers from students with special needs. Scaffolding is a support that can make students achieve goals or actions that are not possible without support (Guzdial in Sherin, Reisser & Edelson, 2013).

Scaffolding in inclusive class settings is defined as the ability to describe various assistance in the interaction of children and adults and in the learning process from other people’s regulations to self-regulation. In inclusive settings, there are two main keys of scaffolding, namely all students must be actively involved and form sustainable meaning and learning that should be guided in the process of interaction with people around (Makinen, 2011). According to Pol, et al (2011), there are three forms of scaffolding in teacher-student interaction, including 1) contingency, which refers to teaching strategies in which the teacher uses several tools such as diagnostic strategies and student behavioral interventions, 2) fading, which refers to the process which motivates students to reach goals, and then gradually change the support to allow the students to achieve outcomes independently, and 3) transfer responsibility, which refers to the change of responsibility from teacher to student. Scaffolding refers to the teacher’s perception of assistance and what they understand and experience from practicing it. Scaffolding is defined as a way to monitor students’ achievement as a whole. Teachers’ learning approaches are emphasized on building knowledge, learning goals, and students’ responses to teacher direction (Makinen & Makinen, 2011). According to the sociocultural approach, there are three forms of scaffolding in an inclusive class: 1) from direct learning to facilitating students’ learning processes, namely the change of students’ learning orientation towards personal responsibility; 2) community-based activities, which lead to collaborative scaffolding that allows the teacher to pay attention between the individual and the collective aspects of the learning process; and 3) awareness, reflection, and intention practiced when becoming a teacher. When the teacher helps students with intense, reflection and awareness will increase students’ intrinsic motivation. Teachers’ assistance in the form of motivating attitudes and creating a collaborative atmosphere of teacher-students could foster a sense of being a team that raises awareness of collaboration (Shindler, 2010).

Research Method

This research is a qualitative design to obtain comprehensive data related to the inclusive classroom learning process, specifically scaffolding and teacher collaboration conducted at the elementary school in Batu City Inclusive class. The data were collected by using an interview on inclusive teachers in elementary schools in Batu City. There are seven regular teachers and ten additional teachers in inclusive classes from 7 elementary schools: 1) SDN Tleking 1, 2) SD Muhammadiyah 4, 3) SDN Junrejo I, 4) SDN Punten I, 5) SDN Telung 2, 6) SDN Telungrejo 4, and 7) SDN Mojorejo 1.

Results

The results will be analyzed descriptively and quantitatively by doing data reduction, categorizing, and presenting some data in percentage to produce an evaluation of contextual collaborative scaffolding patterns that have been carried out by inclusive classroom teachers.

Classroom Management Models and Teaching Methods in Inclusive Classes

The following is an overview of the teaching methods and models of inclusive teachers in Batu. Inclusive class management model consists of 3 models: first, special class model (52.9%), where students with special learning needs have their own class; second, special class model and then mixed with regular students (41.1%), in which the teachers teach students with special needs first until they are ready to be sent to the regular class; third, a class model where students with special needs immediately learn together with regular students.

Most teachers who separate class (88.2%) state that they have not used individual learning programs. Students with special needs still use the same curriculum as regular students, but in accordance with their specific abilities and conditions, while 35.5% of teachers say they have implemented individual learning programs.

The scaffolding method that the teacher has given to students with special needs in inclusive class

To understand the scaffolding methods given by teachers to their students with special needs in
inclusive classes, the following is an overview of inclusive teacher assistance to students with special needs.

Table 1. Classroom management models and teaching methods in inclusive classes

<table>
<thead>
<tr>
<th>Class Management Model</th>
<th>N</th>
<th>%</th>
<th>Teaching method</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed with regular students</td>
<td>1</td>
<td>6</td>
<td>To develop an inclusive learning program</td>
<td>6</td>
<td>35.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Similar to regular students but with some adjustment for the students with special needs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Separate class with certain intervention, then it is mixed with regular ones</td>
<td>7</td>
<td>41.1</td>
<td>No special program</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

From the table, it can be seen that most teachers’ assistance is in the form of accompanying and guiding (82.4%), followed by monitoring student activities (70.2%), and helping students with special needs (47.1%).

Table 2. Teacher Support towards Students with Special Needs

<table>
<thead>
<tr>
<th>Teacher Support</th>
<th>Yes %</th>
<th>No %</th>
<th>∑ %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helping</td>
<td>47.1</td>
<td>9</td>
<td>56</td>
</tr>
<tr>
<td>Assisting and supervising</td>
<td>82.4</td>
<td>3</td>
<td>17.6</td>
</tr>
<tr>
<td>Monitoring all students activity</td>
<td>70.2</td>
<td>5</td>
<td>29.6</td>
</tr>
</tbody>
</table>

Table 3. Class model and scaffolding method (teaching method and strategies and support)

<table>
<thead>
<tr>
<th>Class Model</th>
<th>Teaching model</th>
<th>Scaffolding method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily Integration</td>
<td>In this model, inclusive students are mixed with regular students by applying the “special room” concept, where inclusive students and regular students work together in the same classroom. In this model, inclusive students are included in regular classes, but their special needs are addressed and expanded within the regular class environment. Teaching strategies and knowledge is used on the subject given to inclusive with special needs students but tailored based on the abilities of students.</td>
<td>To develop an inclusive learning program</td>
</tr>
<tr>
<td>General Model of Integration</td>
<td>Students with special needs are nested in special classes, the curriculum is the same as regular students, which are modified to suit the students with special needs. Teaching strategies and knowledge is used on the subject given to inclusive with special needs students but tailored based on the abilities of students.</td>
<td>Similar to regular students, but with some adjustments for the students with special needs</td>
</tr>
<tr>
<td>Separate Model of Integration</td>
<td>Students with special needs are nested in separate classes, only the curricula suit the needs of students with special needs. Teaching strategies and knowledge is used on the subject given to inclusive with special needs students but tailored based on the abilities of students.</td>
<td>Separated class with certain intervention, then it is mixed with regular ones</td>
</tr>
</tbody>
</table>

Classroom management models and teaching methods in inclusive classes.

An Overview of Cooperation and other forms of Inclusive Teacher Collaboration with other teachers

Teachers used different forms of cooperation and collaboration with other teachers in the school.

Table 4. The description of cooperation and forms of teacher cooperation

<table>
<thead>
<tr>
<th>Inclusive teacher with other teachers</th>
<th>∑ %</th>
<th>Types of cooperation</th>
<th>∑ %</th>
</tr>
</thead>
<tbody>
<tr>
<td>There are good cooperation and relationship</td>
<td>64.7</td>
<td>Share tasks in managing the inclusive classes</td>
<td>41.3</td>
</tr>
<tr>
<td>There are obstacles to collaborate with other teachers because of a lack of understanding in an inclusive program</td>
<td>35.3</td>
<td>Sharing learning methods</td>
<td>47</td>
</tr>
</tbody>
</table>

The table reveals that, in general, most teachers had good cooperation with other colleagues. Yet, six teachers (35.3%) admitted that there were some obstacles to collaborate because of the lack of understanding in the inclusive program. The forms of collaboration carried out mostly in the form of sharing of learning methods by 47%, while 41.3% by sharing tasks in handling inclusive classes.
Discussions

Learning environment of the inclusive class

An Inclusive Program is an educational program that seeks to provide an appropriate education for students with special needs. The availability of inclusive schools is increasing in quantity; therefore, the improvement in quality must be a top priority. Improving teachers’ competence in managing inclusive class is necessary to do, considering that teachers have high involvement in inclusive classroom learning. This research tries to find out how the scaffolding model is applied and how the teacher collaboration in the learning process in the inclusive class is conducted.

From the results, it is known that most schools have quite a number of students with special needs, with a diverse type of disorder, but with a limited number of inclusive teachers, as well as special mentoring teachers. Additionally, the facilities owned by the school are incomplete. A few schools were fortunate to have assessment tools and complete facilities; however, some of them have been damaged. This condition undoubtedly affects the inclusive classroom learning process that theoretically requires tools to assist the students with special needs. A large number of students with various types of interference will make it difficult for teachers to provide a quality learning atmosphere because they have limitations to be able to understand the material independently. It is in line with a research by Ballyhsa and Flagler (2015) which shows that most inclusive teachers lack adequate professional preparation to work with students with special needs; lack of administrative support such as reducing class size and teaching burden; lack of support from professionals and other special education teachers; and lack of supporting resources such as special equipment and modified didactic materials.

In addition to the completeness of facilities, the number of students and the teachers’ competence also greatly determine the success of learning. From this research, it is noticeable that only a few teachers have sufficient competence as inclusive teachers, both in terms of education and training.

Teacher Competencies in Teaching Inclusive Classes

There are two schools from 7 schools that have teachers with exceptional psychology and education graduate competencies and have participated in various inclusive teacher training. Others admitted that they did not understand how to handle students with special needs. This competence affects the ability of the teachers to manage inclusive classes and to apply learning methods. Teachers with adequate competencies appear to be able to manage the class well; they are also able to use learning methods that are appropriate to the students’ conditions. It can be seen from their ability to apply learning models adjusted to the conditions of students by implementing individual learning programs. Ideally, the teacher has four basic competencies, namely 1) the ability to assess the diversity of learning, 2) attitudes to support students to achieve goals, 3) can work with other teachers through collaboration and teamwork, and 4) doing professional development in learning and teaching in regular basis (Watkins, 2012).

Class Management in Inclusive Class

Based on the results of the analysis, inclusive schools in Batu applied four class management models, namely the full inclusive class model in which students with special needs are mixed in class with regular students. However, the handling of students with special needs is not optimal because students with special needs still follow the material of regular students.

The second management model, namely the general integration model, is by placing students with special needs in special classes, and students will be sent to regular classes if they are considered capable and ready. The learning process in this model is conducted through individual learning programs so that the students could learn to adapt to the conditions of each student. The third management model is an advanced integration model; namely, students with special needs are placed in special classes. They can join the regular students during gymnastics and ceremonies activities.

The fourth model is the advanced integration model in which it is the implementation of two models, namely the full inclusive class and special class. Schools that apply these two models use an initial assessment to categorize whether students will belong to special classes or mixed classes. The management strategy of the 4-class model is determined by the school’s experience in handling inclusive classes and the competence of its teachers. Schools that are inexperienced and do not have competent teachers, usually tend to apply direct models mixed with regular classes without special treatment. This condition may cause various negative effects on students with special needs; they tend to feel uncomfortable and allow the emergence of bullying behavior from regular students due to the absence of socialization towards regular students and teachers. Based on research by N'imatuszahroh and Nurhamida (2014), they found that socialization was extremely important in building the school community’s awareness of the presence of students with special needs.

The teaching strategies applied by teachers in each school vary and depend on the condition of the teacher’s readiness and the inclusive model applied by the school. Schools that have teachers with high inclusive teaching competencies tend to use individual learning programs, and the teaching methods are more structured and coherent. On the other hand, schools with teachers lacking inclusive teaching competencies appear less prepared in teaching and assisting students with special needs; they tend to use the full inclusive method. Likewise, with schools implementing two inclusive models, even though their assessments are good enough because they can sort out the student
types, yet it has not been accompanied by good handling in each model. Limited teacher's understanding of how to handle students with special needs is less systematic.

The Scaffolding and Teacher Collaboration in Inclusive Class

Scaffolding method or assistance provided by teachers to students with special needs was diverse and more towards accompanying and guiding, followed by monitoring students’ activities and helping the students. The teacher seemed to play a role as a parent with an effort to make students with special needs feel comfortable. The form of assistance to students was also dependent on the inclusive model applied by schools. Inclusive schools specifically would provide intense assistance to students, while schools that applied the inclusive full model and two models tended to be more towards the same repetition of material as regular students because they had not implemented individual learning programs. Some forms of scaffolding, as expressed by Pol, et al. (2011), in the form of contingency or teaching strategy, encourage students to reach their goals also appeared. The teachers had used varied teaching methods such as demonstrations, repetitions, extra hours for material enrichment, and individual learning programs. Scaffolding in the form of Transfer of Responsibility is a change in which a teacher moves his responsibilities to students.

Inclusive teacher collaboration was generally good, but some schools claimed barriers to collaboration due to lack of teacher understanding of the inclusive programs. The collaboration that had been running was in the form of sharing learning methods and sharing tasks in handling inclusive classes. Watkins (2013) explained that one of the competencies that inclusive teachers must possess is the ability to work with others through collaboration and teamwork with teachers, parents, other families, and education professionals.

The results of this study indicate that the division of teachers’ roles in inclusive classrooms seems diverse and is very dependent on the readiness of schools in implementing inclusive programs and the inclusive models applied. In schools that are prepared and modeled specifically, role distribution is clear, coordination between teachers is good, the teachers’ attitudes are supportive, the regular students’ attitude is more likely to accept the presence of inclusive students, including the attitudes of parents who support the existence of inclusive classes. On the contrary, among the less prepared schools, the division of roles between teachers is less clear, there is also lack of control from the principal, inclusive learning responsibilities are left entirely to the classroom teacher, coordination between teachers is not working well because ones feel that inclusive class is not their responsibility, regular student admission is not good because of the lack of socialization that affects the bad treatment of regular students to students with special needs. This kind of situation needs special attention and solutions to create a conducive school climate. According to Gray, Wilcox, and Nordstokke (2017), school climate is determined by the quality and character of the school’s life based on the patterns of experience of each individual. The school climate reflects norms, goals, values, interpersonal relationships, teaching and learning practices, and organizational structure. A school’s climate is also strongly influenced by the practice of school administrator leadership, especially principals, through policies of discipline and interaction with students and staff.

Schools, in this case, the policy determinants of the implementation of inclusive education, must constantly monitor and evaluate regularly the implementation of learning to be more optimal. Teachers’ competence improvement is the main priority of the school by sending teachers to attend workshops and inclusion class management training. It is because the main task of the teacher is to find out how to help students in the best way. The teacher is also the central figure that gives the most influence because of the interaction that is done every day with the students (Makinen & Makinen, 2011).

Conclusion

Based on the results of the research, it can be concluded that the management of the inclusive class is very dependent on the competence of the teacher, facilities, and the number and characteristics of students with special needs. The management of the inclusive classes in Batu applies several models, namely full integration model, general model integration, integration of advanced models, and advanced models. Teachers’ scaffolding has led to teaching strategies to encourage students to achieve goals in forms of demonstration, repetition, extra hours for material enrichment, and individual learning programs. Inclusive teacher collaborations were generally good, especially in the form of collaboration in sharing learning methods and tasks in handling inclusive classes. Suggestions for further researchers are to evaluate inclusion class management models that have been implemented and increase teachers’ scaffolding for students with collaborations tailored to the conditions of students and schools, using quantitative design and sample using a different level of school.

References


