Elementary School Students’ Spoken Activities and their Responses in Math Learning by Peer-Tutoring

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Students’ activities in the learning process are very important to indicate the quality of learning process. One of which is spoken activity. This study was intended to analyze the elementary school students’ spoken activities and their responses in joining Math learning process by peer-tutoring. Descriptive qualitative design was piloted by means of implementing the qualitative approach and case study. Further, the data were collected from observation, field note, interview, and questionnaire that were administered to 24 fifth-graders of First State Elementary School of Kunjang, Kediri, East Java Indonesia. The design was that four students were recruited as the tutors; while the rest was subdivided into four different groups. The data taken from the observation and questionnaire were analyzed descriptively which were later categorized into various categories starting from poor category to the excellent one. The data collected from the interview were analyzed through the interactive model, data reduction, data exposing, and summation. The findings exhibited that the tutors’ spoken activities covering: questioning, answering, explaining, discussing, and presenting, were improved during three meetings and sharply developed in general. In addition, the students’ spoken activities that engaged some groups were considered good. Besides, there was a linear and positive interconnectedness between tutors’ activity and their groups’ activities.

Key Words: math learning, peer-tutoring, students’ spoken activities, tutor’s activities, tutees activities, responses

INTRODUCTION

Learning essentially constitutes a set of structured activities and interactions engaging teachers, learners, and surrounding environment (as the learning resource) in search of reaching out the goals. To develop those supposedly aforementioned interactions, the role of teachers is necessary, for instance in selecting the best strategy, method, media, and resources that will be formulated during the learning activities. Isjoni (2010) states...
that all kinds of learning models can be considered as good provided that they are meeting these following criteria: 1) the less efforts and time allotments significantly affect students in learning; 2) the models are to meet the students’ way of learning; and 3) the teachers are to be able to implement the selected models properly. In addition, the students’ activeness signifies one out of major principles within the learning activities. Learning is to practice, which means that there is no learning without practicing any activities. Students’ experiences in learning can be established through implementing active interactions with their surroundings. In fact, knowledge, skills, and attitudes cannot be transferred unconditionally, but the students themselves who are to manage them initiatively. Teachers indeed facilitate and serve the learning resources, but it is the students themselves who are to manage and comprehend the resources based on their capabilities, passions, motivations, talents, and backgrounds. This infers that the students’ learning activities are allowed to be set as standardized indicators of quality learning. One of students’ learning activities is referred to spoken activity constituting the students’ activities in revealing the facts or principles, interconnecting the occurrences, directing the question, advising, expressing the idea, interviewing, discussing, and interrupting (Hanafiah & Suhana, 2010).

Spoken activities signify the combination of two crucial activities in the learning process through scientific approach by means of observing, questioning, experimenting, associating, and communicating. Moreover, directing questions in relation to the uncomprehendible occurrences that have been observed previously is aimed to gain additional information related to what has been and is being observed. Questioning is beneficial in search of establishing the students’ factual, conceptual, and procedural comprehensions so as to build the students’ meta-cognitive thinking which naturally can be reached through discussions, group-works, and class discussions. Meanwhile, to communicate is the way of expressing the conceptualized results in the spoken and written forms, figures or sketches, diagrams or even graphics after conducting presentation, composing report, and/or work modeling. In essence, spoken activities are initiated from an observation on particular objects, not based on contemplation, which are intentionally aimed to express ideas to others. Spoken activities are a set of activities that are always executed by the students during learning process in addition to seven other activities comprising visual, writing, listening, drawing, moving, mental, and emotional activities (Sardiman, 2011).

Alluding to the observation and the writer’s experience at schools; either elementary school, high school, or university levels, students’ competencies in questioning the blurred concepts during the learning process and in communicating the ideas in the discussion process need to be teachers’ serious concerns. In general, students are not willing to question teachers when the learning activity is running due to their fear and shyness. Therefore, teachers should be selective in choosing the most applicable learning method that develops students’ motivation and questioning skill. Consequently, peer-tutoring is the recommended one. By nature, peer-tutoring constitutes a group of students who have accomplished the learning resources and assist their friends who get problems in comprehending what to learn (Suherman, 2003). Peer-tutoring learning signifies the activities that enable students who have mastered all of materials to help
their peers in dealing with difficulties. This method has various advantages, namely: 1) the language formulated by the peers is more of modesty and comprehension than that of teachers’; 2) the learning activities are calm, not stressful; 3) for those who are afraid of their teachers, they can easily question their peer tutor (Rusman, 2011).

A number of researchers reviewing the method of peer-tutoring, for instance; Arjanggi and Suprihatin (2010), have observed students based on their self-regulation. Alwi (2009) states there are significant influences on the senior high school students’ motivation and achievement in learning Math after implementing peer-tutoring method. Hafizah (2012) and Soraya (2014) claim that the aforementioned method can develop the elementary school students’ achievement in learning. The similar thing was also researched by Nurmala, et.al. (2016) by revealing that peer-tutoring can improve the elementary school students’ achievement, attitude, and passion on the material about integrated arithmetic operation. Hayati (2015) analyzes peer-tutoring by emphasizing on the teachers, tutors, and students’ activities as well as the students’ achievement in learning. In general, peer-tutoring brings about positive behavioral and social impacts (Ginsburg-Block et.al, 2006; Dennis et.al, 2007; Miller et.al, 2010) as well as cognitive and academic impacts (Greenwood & Delquadri, 1995; Scruggs et.al, 2012; Kunsch et.al, 2007). The focus of this study relied more on the elementary school students’ spoken activities in the learning process by means of peer-tutoring covering tutoring activities and student members of group.

The learning concept of peer-tutoring is based on the socially constructivist point of view that concerns on achieving the success in learning in terms of sharpening students’ role through social interaction that engages teachers and students within their proximal zones (Vygotsky, 1978). Vygotsky postulates that learning can be initiated through social negotiation in the cultural context assisted by the language as the main tool. Students’ access is gained through tutors who are contributing to facilitate the teaching activity; while the purpose of learning activities is to realistically and practically overcome problems in authentic settings. For peer-tutoring, this setting refers to the realistic setting of humankind, so that students are to be involved in ‘on the job’ activity instead of following didactic explanations on abstract concepts. The argument is that students are able to approach unfamiliar problems and provide the exact solutions based on their particular culture. Peer-tutoring concept is in line with the aspects of social constructivist theory. It is developing social negotiation between tutors and their peers in which the knowledge construction is achieved through communication and dialogue in groups.

By nature, the fact is in line with Zaini’s point of view (2002) arguing that the most effective learning method is by teaching others. Learning resources can be retrieved from other people excluding teachers, namely: the higher graders, classmates, or the collegial families at home. Learning resources, not teachers, coming from others who are more competent are identically addressed as tutors. In fact, there are two kinds of tutors; they are peer-tutors and elder-tutors. Peer-tutors are those who are in the same age and whose competencies are higher; while elder-tutors signify those tutors whose
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grades are higher. Therefore, peer-tutoring model chosen by teachers as the learning strategy is helpful in search of facilitating students to teach materials to their peers.

Peer-tutoring activity is also expected to provide tutors with valuable experiences, by means of “learning by teaching” (Clarkson & Luca, 2002). Hartman (1990) argues that peer-tutoring increases students’ motivation in learning. This finding is also underpinned by Whitman (1982), Annis (1983) and Benware - Deci (1984) stating that peer-tutoring can be the most intellectual moment the students have along their careers and is able to lift up their confidence to perform better in term of high-scaled conceptual apprehension than those who only read the materials for study purpose. Goodlad (1999) denotes that the benefits of peer-tutors can be reflected from the students who are taught, the students who teach (the tutors), and the teachers, as follows: a) the taught students are facilitated to find out their interesting, understandable, and supportive learning processes; b) the student-tutors could train their capacities in communication, are encouraged to organize something advantageous to their knowledge, are able to identify others based on their distinguished backgrounds, should gain the new knowledge about how the students are seeing the learning materials, are able to develop their confidence, and are trained to strengthen their knowledge; c) teachers possibly find out the easiest way of teaching materials, create interesting learning activities, and are able to identify students’ readiness in learning deeply. Peer-tutoring in learning activities is expected to grow up teamwork and solidarity, increase the capability of tutors or either tutored-students, build up the tutors’ pride, create a good example for other students, and give an intensive advisory to the slow-learners individually.

Implementing peer-tutoring program is not that simple since there must be so many problems that continually emerge. Sani (2013) states that the procedures of peer-tutoring method in the learning activities should include:

a. Teachers are to divide students into some groups. Every single group consists of three to four students whose capabilities are heterogeneous. In addition, one group must have one student with the intelligent competence for being selected as the tutor;

b. Teachers are to explain the ways of solving some tasks through conducting group-learning assisted by peer-tutors, to clarify the duty of each group, and to explain the assessment of affective tasks;

c. Teachers are to explain the materials to all students and give them a chance to directly ask questions if they do not understand;

d. Teachers are to administer the tasks and pre-requisitely command the students to ask for help, in the form of advisory, from their selected peer-tutors.

e. Teachers are to observe students’ learning activities and assess them;

f. Teachers, tutors, and students are to evaluate the learning process to deeply follow up the coming activities in the next cycle.

Alluding to the aforementioned procedures, teachers are to initiatively identify some students who have the highly better competencies than others for being projected as
tutors, to prepare them by giving a view about tutoring, and to formulate their duties and clear purposes in effort to successfully reach out the purposes of learning activities.

Objective of the study

This study aimed to describe the elementary school students’ spoken activities and their responses within the learning process of Math through peer-tutoring method

METHOD

Design and Approach

To be able to arrive at the goals of the study, descriptive qualitative design with qualitative approach was accommodated (Lambert and Lambert, 2012; Starman, 2013). This current study was conducted to fifth-graders of First State Elementary School of Kunjang, Kediri, East Java, focusing on students’ spoken activities and responses. In other words, this study was also seen as a case study (Thomas, 2011; Starman, 2013). This is applicable for educational fields (Merriam, 1988).

Subjects

This study recruited 24 fifth-graders, comprising 13 female students and 11 male students, and also the fifth-grade teacher of First State Elementary School of Kunjang, Kediri, East Java, Indonesia. The recruited teacher had already implemented peer-tutoring in academic year 2015-2016. The students were divided into four major groups in which one group must have one student as the tutor recommended by the teacher. The selection of the tutor was based upon students’ achievement, which was shown to be better among peers within groups. The tutors, before conducting the instructional activities, were equipped with necessary explanations about their job descriptions.

Data Collection

The main data of this study were the students’ activities and their responses, mainly in the form of spoken activities during the learning process by peer-tutoring method involving both tutors and tutees. The data related to students’ spoken activities were collected through observation, field notes, and closed-questionnaires. The data related to students’ responses were collected through interview. Observation and field noting were conducted by two observers within three meetings that discussed the material under the theme “Using Prime Factor to Determine the Least Common Multiple (LCM), Greatest Common Divisor (GCD), and Arithmetically Operating the Mixed-Integer.” Closed-questionnaires were given at the end of each lesson. In addition, the interview was administered in every single end of meeting to all tutors and randomly to several members of each group.

Data Analysis

The data of students’ spoken activities were analyzed by coding the results of observation and field notes from two observers in each meeting. Data credibility has shown – the results of observation and field notes from the two observers were 95% similar (Baiduri, 2015). The next stage was method triangulation to reach the credible
data from observation/field notes and the credible questionnaire data (Sugiyono, 2007), which were then descriptively analyzed, by calculating the percentages of each student’s spoken activity in each meeting (Lambert & Lambert, 2012). The results were categorized from the poor criterion up to the excellent criterion (Department of National Education, 2002). Meanwhile, the data from the interview were taken from time and source triangulations, by noticing the consistency and similarity of answers/responses of students along different times (Sugiyono, 2007). Those data were then analyzed through interactive models covering data reduction, data exposing, and summation (Miles & Huberman, 1992; Sugiyono, 2007) cited by Baiduri (2014).

FINDINGS AND DISCUSSION

Tutors’ Spoken Activities and their Responses

The tutors’ spoken activities included questioning to the teachers, members of group, or other groups, answering the teacher’s and other students’ questions, group discussion, explaining the materials to the members of group (tutees), and communicating the result of the group discussion into the classroom. The tutors’ activities were analyzed based on their groups; and the activities executed by the students were tabulated into Table 1 and Figure 1.

Table 1

<table>
<thead>
<tr>
<th>Group(s)</th>
<th>Implementation</th>
<th>Average(s)</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>100%</td>
<td>100%</td>
<td>100.00%</td>
</tr>
<tr>
<td>II</td>
<td>100%</td>
<td>100%</td>
<td>100.00%</td>
</tr>
<tr>
<td>III</td>
<td>60%</td>
<td>80%</td>
<td>80.00%</td>
</tr>
<tr>
<td>IV</td>
<td>40%</td>
<td>80%</td>
<td>66.67%</td>
</tr>
</tbody>
</table>

Average(s) 75% 90% 95% 86.67% Excellent

Notes:
M1: Meeting 1
M2: Meeting 2
M3: Meeting 3

Shown in Table 1, there was a significant development of spoken activities conducted by each tutor when attentively focusing on every single meeting, particularly in group II and IV. The tutors’ activities in group III were fairly developed accounted for 60% (fair) in meeting 1, heading to 80% (good) in meeting 2, and finally reaching out 100% (excellent) in meeting 3. The tutors’ activities in group IV significantly increased from 40% (very poor) in meeting 1, reaching 80% (good) in meeting 2 and 3. Besides, the average of tutors’ activities in meeting 1 to 3 had been sharply upgraded going from good criterion in meeting 1 (accounted for 75%), reaching excellent criterion (accounted for 95%) in meeting 3. However, apart from those findings, the tutors’ activities in group IV were still considered as fair.
The analysis on every single activity of tutors is communicated on Figure 1.

Figure 1 Tutors’ Spoken Activities

The results communicated in Figure 1 exhibited the increase of questioning activity accumulating for 60% (fair) in meeting 1, reaching 80% (good) in meeting 2 and 3. The average of questioning activity taken from three meetings, accounted for 73.33%, was considered good. Further, the answering activity significantly developed from 40% (very poor) in meeting 1, heading to 80% (good) in meeting 2 and 3, by averagely showing 66.67%, meeting the fair category. Meanwhile, the explaining activity was upgraded from 60% (fair) in meeting 1, heading to 80% (good) in meeting 2, and achieving 100% (excellent) in meeting 3, by the total-average of 80% (good). In general, there was a significant increase in every single meeting going from 72% (good) in meeting 1, heading to 88% (excellent) in meeting 2, and reaching out 92% (excellent) in meeting 3.

Furthermore, in accordance with the results of the interviews administered to the tutors, it could be summed up that all tutors were proud of themselves for helping out the other students who got problems. This is in line with ZB’s statement as follow:

“I am feeling happy since my friends are allowed to freely ask for comprehension on the complicated concepts they have not understood.”

Meanwhile, RAF stated:

“I am pretty excited because I can share my knowledge, work together, and push myself to study more diligently.”

In addition, the tutors had performed their responsibilities, such as helping, directing, and explaining to those who were still feeling confused in understanding the materials. It is in line with following MC’s statement:

“Tutors’ main duty is to help others who still get confused and to explain the materials. Satisfactorily, I have done my job.”
Apart from their pride of being able to share their knowledge and to try hard doing their best, the tutors occasionally dealt with various obstacles, for instance: when they were explaining the materials to their tutees, the tutees tended to ignore the explanation and to be busy with their own worlds so that there were only few students who could understand the materials well. This phenomenon was excerpted in ZB’s comment:

“When I gave my friends help by explaining to my members, there were some students who failed to comprehend since they were busy with themselves.”

These difficulties encouraged the tutors to train their communicative skills, to require them for being able to identify others based on their social backgrounds, to acquire the other students’ perception on seeing the subject matter, and to upgrade their knowledge to help other students (Goodlad, 1999; Topping, 1996; Rohrbeck et al, 2003). This denotes that tutors have gained their learning through teaching (Clarkson & Luca, 2002). When tutors are providing other students with helps in comprehending particular concepts, they are to be able to strengthen their understandings on those concepts as well (Roscoe & Chi, 2007; Depaz & Moni, 2008; Scruggs et al, 2012).

Alluding to aforementioned elaboration on the tutors’ spoken activities, those selected as tutors did not only possess higher cognitive scores than those who were not, but they also possessed the unavoidable patience in guiding other students. However, by nature, learning activities assisted by peer-tutors would not deny the teacher’s role as the main facilitator. When the tutors were dealing with some difficulties in performing their responsibilities, the teacher performed the responsibility of helping the tutors upon or without request. In fact, the process of preparing the capable tutors by the teachers constituted the most crucial stage during the learning activities implementing peer-tutoring method.

Tutees’ Spoken Activities and their Responses

In accordance with the tutors’ spoken activities, the tutees’ activities constituting the main concern in this study included: directing some questions to the teacher, the tutors, and other members or other groups; joining group-discussion; and presenting the discussion results. The groups’ presentation activities were not analyzed deeply since those activities were executed by the groups’ representatives as the Table 2 communicates.

Table 2
Groups’ Spoken Activities

<table>
<thead>
<tr>
<th>Activities</th>
<th>Percentage of Implementation</th>
<th>AV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M1</td>
<td>M2</td>
</tr>
<tr>
<td>Questioning</td>
<td>40%</td>
<td>50%</td>
</tr>
<tr>
<td>Answering</td>
<td>70%</td>
<td>63%</td>
</tr>
<tr>
<td>Discussion</td>
<td>40%</td>
<td>75%</td>
</tr>
<tr>
<td>AV</td>
<td>55%</td>
<td>63%</td>
</tr>
</tbody>
</table>
Shown in Table 2, there was an increase of every single activity of each group. The questioning activity of group I developed from 40% (very poor) in meeting 1, heading to 60% (fair) in meeting 2, and reaching 80% (good) in meeting 3. Meanwhile, the questioning activity of group II increased significantly from 50% (poor) in meeting 1, reaching 100% (excellent) in meeting 2 and 3. Besides, the questioning activity of group III increased from 60% (fair) in meeting 1, reaching 80% (good) in meeting 2 and 3. At last, the questioning activity of group IV grew up from 50% (poor) in meeting 1 and 2 and heading to 67% (fair) in meeting 3. Therefore, the general average of students’ questioning activities was 67% showing fair category.

Furthermore, the answering activity of group I increased from 70% (good) in meeting 1, heading respectively to 80% (good) and 90% (excellent) in meeting 2 and 3. In addition, the answering activity of group II increased from 60% (fair) in meeting 1, heading to 88% (good) in meeting 2 and 3. Further, the answering activity of group III grew up from 50% (poor) in meeting 1 to 70% (good) in meeting 2 and 3. However, the questioning activity of group IV went down from 50% (poor) in meeting 1 to 42% (very poor) in meeting 2, and arising back to 75% (good) in meeting 3. Therefore, the cumulative average of students’ answering activities was 68% denoting fair category.

Moving to the discussion activity, group I exhibited the development going from 40% (very poor) in meeting 1, correspondingly heading to 80% (good) and 100% (excellent) in meeting 2 and 3. Whereas, the discussion activity of group II increased from 75% (good) in meeting 1 and 2, heading to 100% (excellent) in meeting 3. In addition, the discussion activity in group III developed starting from 60% (fair) in meeting 1, heading to 80% (good) in meeting 2, and reaching 100% (excellent) in meeting 3. Lastly, the discussion activity of group IV increased from 50% (poor) in meeting 1, heading to 67% (fair) in meeting 2 and 3. To sum up, the total average of students’ discussion activities was accounted for 73% and considered as good.

In general, all activities of group I increased from 55% (poor) in meeting 1, heading to 75% (good) in meeting 2, and reaching out 90% (excellent) in meeting 3. On the other hands, the activities of group II significantly increased from 63% (fair) in meeting 1, going to 88% (excellent) in meeting 2, and heading to 94% (excellent) in meeting 3. Meanwhile, the activities of group III developed from 55% (poor) in meeting 1, going to 75% (good) in meeting 2, and heading to 80% in meeting 3. At last, the activities of group IV went up starting from 50% (poor) in meeting 1 and 2, heading to 71% (good) in meeting 3.
These findings conveyed that there was a development in terms of students’ activeness during the learning process. These were in line with Topping (1996) who claims that the main pedagogical advantage of peer-tutoring method is to activate the students to more actively and interactively participate upon learning. Besides, peer-tutoring is also projected to motivate students in learning (Whitman, 1982; Annis, 1983; Benware & Deci, 1984; Hartman, 1990). In fact, if we guide ourselves to notice the tutors’ activities in assisting their peers, there must be a positive relationship established engaging both the tutors and the tutees.

The interviews conducted to tap the tutees’ responses exhibited some facts related to the conduct of peer-tutoring. One out of which was to accomplish the tasks assigned by the teacher assisted by tutors, as what was communicated through the following extracted interview with PAN:

“Certainly, it must be the responsibility and duty of the members of group.”

Besides, the learning activities through peer-tutoring encouraged the students (16 out of 20) to actively question their tutors, different from what they did when they were learning directly from their teacher. Factually, they were not willing to question their teacher due to their fear and shyness. This fact was proved by the following extracted interview with ABR:

“Yeah, I can bravely ask my tutor because I do not feel shy. But, I am not willing to ask my teacher because I am afraid and shy.”

This fact conveyed that the learning activities by peer-tutoring initiated the students’ responsibilities and bravery of expressing their ideas. In addition, this manifested a number of benefits for students to learn by means of implementing peer-tutoring method which were minimizing the students’ anxiety, arousing the students’ open-mindedness, and growing up the sense of belonging amongst the students during the learning activities (Topping, 1996; Clarkson & Luca, 2002; Rohrbeck et. al, 2003). Moreover, in search of fully comprehending the materials, the students enjoyed their learning without having serious anxiety. They also ensured themselves to keep being curious and to respect others through working in teams. This was in line with the questionnaire results of 16 students who admitted that they felt easier to apprehend the materials since they were not shy to ask their tutors. 17 other students expressed that they found it easier to understand the concepts of materials so that they were able to satisfactorily complete the tasks assigned by the teacher. This has indicated that not only does peer-tutoring guarantee effective and efficient communication and cooperation, but it helps develop team-work and social spirits as well (Fuchs et.al, 2000; Ginsburg-Block et.al, 2006).

CONCLUSION

Learning constitutes the conscious process that is navigated by people in search of developing their innate potentials. Learning with self-driven responsibility by having no pressure is pre-requisite to well comprehend what is being learnt. Therefore, peer-tutoring constitutes one of alternative methods that is to be accommodated by teachers for arousing students’ responsibility and teamwork skill as well as for decreasing the
learning anxiety among students (Topping, 1996). To support the effective implementation of peer-tutoring, teachers are to make a perfect preparation on some aspects comprising: to select and to train their tutors, to define their tutors’ responsibilities clearly, and to formulate the materials and tasks that will be assigned to their students (Clarkson & Luca, 2002).

Based on the results of data analysis, peer-tutoring has developed the students’ and their groups’ spoken activities which were manifested in their bravery to directly question and to actively participate in group discussion on “Using Prime Factor to Determine the Least Common Multiple (LCM), Greatest Common Divisor (GCD), and Arithmetically Operating the Mixed-Integer.” In addition, the spoken activities of the groups’ members were influenced by their tutors’ activities. In essence, this method was appropriate to develop students’ spoken activities, mainly in training their questioning skill. Factually, this study was limited to the elementary school students’ spoken activities and has not covered other learning activities. Therefore, further studies on the analysis of other elements related to the process and result of Math learning activities by peer-tutoring are widely open.

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Turkish Abstract
İlkokul Öğrencilerinin Öğretici Akranla Konuşma Etkinlikleri ve Matematik Öğrenmelerine Etkileri

French Abstract
Étudiants d’École primaire Activités Parlées et leurs Réponses dans Maths Apprenant par Tutorat de pair

Les activités des Étudiants dans le processus d'apprentissage sont très importantes d'indiquer la qualité de processus apprenant. On parle dont un l'activité. Cette étude a été destinée pour analyser les étudiants d'école primaire des activités parlées et leurs réponses dans la jonction de Maths apprenant le processus par le tutorat de pair. Le design qualitative et descriptif a été piloté au moyen de la mise en œuvre de l'approche qualitative et de l’étude de cas. Plus loin, les données ont été rassemblées de l'observation, la note et le questionnaire qui a été administré à 24 élèves de CM2 de Premiere École primaire D'état de Kunjang, Kediri, l'Est de Java l'Indonésie. Le design qualitative et descriptif était ces quatre étudiants ont été recruté comme les professeurs privés; tandis que le reste a été subdivisé dans quatre groupes différents. Les découvertes exposées que la couverture d'activités parlée des professeurs privés : l'interrogation, la réponse, l'explication, la discution et la présentation, ont été améliorées pendant trois réunions et développés brusquement en général. De plus, on a considéré les activités parlées des étudiants qui ont engagé quelques groupes bon.

Mots Clés: apprentissage de maths, tutorat de pair, les activités parlées d'étudiants, les activités de professeur privé, tutees activités, réponses

Arabic Abstract
أنشطة المنطوقة للطلاب المدارس الابتدائية 'والردود في الرياضيات التعلم عن طريق نهج الإرشاد

أنشطة الطلاب في عملية التعلم مهمة جدا للدلالة على جودة العملية التعليمية. واحدة من النشاط. وكان الغرض من هذه الدراسة لتحليل أنشطة المنطوقة لطلاب المدارس الابتدائية، والردود عليها في الابتدائية عملية التعلم الرياضيات التي كتبها نظرية الدروس الخصوصية. وقد تم تجربة التصميم النوعي عن طريق تنفيذ دراسة التعمق وحالة التوعية. وعلاوة على ذلك، تم جمع البيانات من المراقبة والملاحظة الميدانية، والمقابلات، والاستبيانات التي كُتبت دارت إلى 42 طالب الصف الخامس من مدرس فيرنست ستيل الإبتدائية من Kunjang, Kediri, اندونيسيا. كان التصميم الذي أربعة طالب تم تعينهم باسم الطلاب. في حين تم تقسيم الباقية إلى أربع مجموعة مختلفة أظهرت النتائج أن أنشطة المنطقة الإرشادية، التعليمي، استجاب، والإرشاد وشرح وناقش، ودبي، وتحسن خلال ثلاث جلسات وضعه بشكل جيد في الجودة، بالإضافة إلى ذلك، أثرت أثناء الطلاب المنطقة التي تعمل بعض الجماعات جيدة.

كلمات البحث: تعلم الرياضيات، نظرية الدروس الخصوصية، الأنشطة الطلابية المنطوقة، والاستجابات، tutees

German Abstract
Grundschulstudenten Gesprochene Aktivitäten und ihre Antworten in Mathe Lernen durch Peer-Tutoring

Elementary School Students’ Spoken Activities and their ...