Peer-learning in Young Learners English Speaking Tasks: An Ecological Analysis

Santi Farmasari
English Education Department, University of Mataram, Lombok, Indonesia
Email: santifarmasari@unram.ac.id

Abstract
The study examined English teachers’ agentive actions in a speaking assessment when utilizing students’ talks as model of responses to promote peer-learning. This instrumental case study views teacher agency on assessment from an ecological perspective, emphasizing the quality of teachers’ engagement in their environment. The study involved four primary English teachers teaching Year 5 and Year 6 who were selected purposively. The data were collected through classroom observations, audio-stimulated verbal recall interviews, and field notes. Thematic analysis was employed for the data analysis assisted by nVivo12Pro software, where the themes were identified through the repetition of keywords. Co-coding, back-translation, and participant validation were employed to achieve the trustworthiness and reliability of the data. The study revealed that peer-learning was facilitated following the teachers’ understanding of their ecological contexts, i.e., the emerging problems during the assessment and the students’ assessment needs. The four teachers exercised their agentive actions by assigning the More-Proficient Students (MPS) to perform a speaking talk, from which the Less-Proficient Students (LPS) could learn, and utilized the MPS’ talks accordingly. The study findings strengthened the importance of teachers’ engagement with their ecological contexts when determining agentive actions. In addition, the study shows an interplay between theories of classroom-based assessment, teacher agency, and English for young language learners to promote peer-learning. This study has implications for relevant stakeholders about providing better supports for teachers exercising their agentive roles in facilitating students’ learning.

Keywords: peer-learning, teacher agency, speaking assessment, ecological perspective

Introduction
The purpose of peer-learning as a form of an alternative learning has been to promote students’ autonomous learning during a collaborative process of obtaining new knowledge. In student-centred approach, this form of learning may greatly be facilitated as children spend a great deal of time with their friends playing during and outside school time. The opportunities for obtaining new knowledge through social interactions (Vygotsky, 1978) as well as motivating and influencing each other (Mlawski, 2021) make learning possible. This highlights that “children’s learning processes are situated not only within a developmental model, but also a social-cultural model” (Teo, 2018 p. 319). However, literature shows that studies on peer-learning has been
focusing on its implementation in teaching and learning with scarcity on its utilization on assessment processes, especially in a classroom-based assessment where teachers apply Assessment as Learning (AaL) principles which is “learner-centric” (Lakhtakia, Otaki, Alsuwaidi, & Zary, 2022). In a classroom-based assessment, utilizing students’ task response to assist other students’ performance may be acceptable as long as the teachers as assessors perceive it beneficial to assist students’ completion of the assessment tasks (Rea-Dickins, 2007). Peer-learning is mainly acknowledged as a strategy in teaching and learning, but efforts to its implementation on assessment has been scarcely researched.

The extent to which students can tutor their peers directly or indirectly in the middle of an assessment process is still scarcely researched. Investigation is required to examine the possibility of teachers’ classroom assessment to be turned into a learning facilitation promoting peer-learning. Also, study on the presentation and analysis of teachers exercise their agency in adjusting an assessment procedure for a peer-learning purpose is required to measure the feasibility of peer-learning processes during classroom assessment. While other studies have been focusing on the peer-learning as a learning culture (see for example Silverman, Martin-Beltrán, Peercy, & Taylor, 2021), its application and effect on children learning (Alrajhi & Aldhafri, 2015; Chen et al., 2020; Greenwood, Arreaga-Mayer, Utley, Gavin, & Terry, 2001).

This study seeks for the implementation of peer-learning from a speaking assessment in English for young learner classes by presenting and analysing the field practices of how teachers utilized the students’ task responses as model of responses in the middle of an assessment process for peer-learning purposes while maintaining the students’ emotional well-being. The study specifically focuses on how teachers scaffolded the more-proficient students’ (MPS) talks to assist the less-proficient students (LPS). By combining theories of peer-learning, classroom assessment, teacher agency and English for young learners, this study proposes a framework for observing and examining the practice of peer-learning in a classroom-based assessment for children learning English as a foreign language in Indonesian context. The ecological aspect of teacher agency frames the teachers’ peer-learning processes by examining the teachers’ past, present and future orientation (Priestley, et al., 2016) of the English-speaking assessment for young learners. Further, this study fills up a gap and a scarcity of research on classroom assessment of English for young learners in Indonesia as a result of English education policy in elementary schools in Indonesia (Zein et al., 2020).

**Literature review**

**Peer-learning**

Literature shows that the terms peer tutoring, cooperative learning, and peer assessment have been widely associated with peer-learning. Peer-learning is also closely adhered to assessment for learning (AfL) as it is oriented to enhance students’ learning from peers’ feedback (Charteris, 2015). Feedback can be embedded in the students’ everyday interactions in classrooms (Gu, 2015). Peer-learning has been recognized as a promising method to promote students’ independent acquisition of knowledge and skills. Students can support and assist their peers in a pre-determined classroom arrangement (Topping, 2005). In its implementation, peer-learning combines peer-tutoring and cooperative learning approach (Davidson & Major, 2014; Hogan & Tudge, 2009) where students are mainly assigned to work in small groups or pairs where one roleed out as a tutor for another. Considering children spend a lot of times together, they may influence each other during their interactions, either inside or outside the classroom (Mlawski, 2021). As children interact, peer-learning will be greatly successful because of the natural process of giving
influence amongst them. Remembering children spend a great amount of time interacting in the classroom, the natural processes of influencing each other may affect children motivation and promote abilities to work with others (Topping & Ehly, 2001).

In Indonesian context, in the last decade, studies about peer-learning are dominant in the field of medical students with no studies found specifically about the application of peer-learning in English for young learner classes. Instead, some studies that were found were dominantly focusing on peer-assisted learning (PAL) to students’ learning outcomes and improvement in secondary and tertiary education level, e.g. Prystiananta (2018), Huriyah et al. (1995) and Mahmud and Halim (2022) who revealed the effectiveness of PAL in improving students’ English language skills. In relation to the gap, this study seeks for evidence of the solid link between peer-learning implementation in classroom with the ecological aspects of the young language learners (YLL). As part of teacher agency model, the ecological aspects involve require teachers’ ability in interpreting and analyzing the cultural, structural, and material contexts (Biesta et al., 2017) of the assessment tasks and the performance of oneself and of others to be included in the feedback they provide to peers. In peer-learning, learners can agentively take up opportunities to be learner driven learners.

Ecological perspective

The teachers’ utilization of the students’ task responses to promote peer-learning in this study is viewed from an ecological perspective of teacher agency in which teachers’ agentive actions are highly influenced by their interpretations and engagement with particular conditions (Priestley et al., 2015) during the assessment, such as the students’ characteristics, needs and problems when completing the assessment task. Teachers’ agentive actions are associated with perceived efficacy within individuals (Lestari, 2019), impacted by aspirations, opportunities, and commitment to achieve their goals (Bandura, 2000). Agentive teachers are able to examine the availability of resources, both human and non-human, and use the resources to support the achievement of the pre-determined objectives (Priestley et al., 2016). Teacher agency should be seen as a phenomenon, rather than a possession, which is informed by the teachers past habitual experiences (iterational), oriented towards the future (projective) and engagement with the present (practical-evaluative). This ecological approach to teacher agency viewed that teachers’ agentive action is more than just an individual action, but it is significantly informed and reinforced by the emerging situational contexts within the teachers’ temporal contexts. Teacher agency is also about teachers’ choices of strategy, shaped by efficacy beliefs; interpretations about the emerging situations in their environment; and supports they receive to exercise their agentive capacities (Biesta & Tedder, 2007; Goddard et al., 2007; Priestley et al., 2013; Weng et al., 2019). Lastly, teacher agency is viewed as something that teachers do spontaneously and autonomously (Bender & Raupach, 2010; Dierking & Fox, 2013; Williams, 2018), yet purposefully for a positive influence (Burridge & Chodkiewicz, 2010; Frost & Durrant, 2002) in their immediate repertoire.

Concerning assessment, literature records that studies about ecological process on teacher agency and assessment in Indonesia started to receive attention in the last three years, yet very limited studies conducted to identify and examine the manifestations of teacher agency in assessment of English for Young Language Learners (EYLL). Studies mainly focused on teacher agency on curriculum, teaching, policy, and school leaders' agency in high school and tertiary level, focusing more on the processes of teachers' development of assessment tasks (Astawa et al., 2017) and the assessment methods selected to meet the requirement of the national assessment.
framework (Al-Issa, 2015). Therefore, this study would contribute novel findings on studies about teacher agency in English language assessment of EYLL, particularly in Indonesia.

Problematising teachers' exercises of agency in the context of peer-learning in an EYLL class, this present paper presents agentive actions of primary English teachers in Indonesia during the implementation of a speaking assessment to promote peer-learning. This study involves an analysis of the interplay of the teachers' *iterational*, *projective*, and *practical evaluative* dimensions (Priestley et al., 2013; Priestley & Biesta, 2014) when teachers' agentively utilized the task responses of the more proficient students (MPS) to assist the less proficient students' (LPS) task completion. In addition, this paper also presents the reciprocation of theories about classroom-based assessment, teacher agency and EYLL when the teachers engaged and took strategic solutions to solve the emerging problems during the assessment.

**Research method**

This study employed an instrumental case study research design with qualitative data collection methods. The school, located in the south-eastern part of Indonesia, with the four English teachers who were involved in this study were selected purposively after the researcher conducted pre-interview to twenty-five primary schools in the city regarding the teaching and assessment of English. They were selected purposively due to the unique case of English education in the school. While other primary schools in the town place English as a local content or an extra-curricular subject and the teaching and learning are mainly textbook-based (Zein et al., 2020), this school places English as one of the core subjects in its curriculum. The teachers created the learning materials by adapting them from various resources and most of the time, the teachers created the materials independently. Alternative forms of assessment are enacted by the English teachers, namely portfolio and performance-based assessment making this school stands out. The school value also highlights children-friendly teaching, learning and assessment which put forward the children characteristics in the development and implementation. The four teachers involved were teaching Year 5 and 6. Their classes with 104 students in total were in the middle of a speaking assessment. Performance-based assessment using an oral presentation rubric was enacted where each student had to conduct an individual presentation in front of their peers. The students were presenting how they created an artwork using a procedural text genre was the assessment target.

As this research aimed to explore an issue based on a lived experience in a “bounded system” (Topping, 2005 p.331) of the participating teachers, it drew on a qualitative interpretative paradigm which emphasized the exploration and analysis of specific issues within a system and highlighted the interpretive viewpoint. Data were collected through classroom observations (Obs.) of a speaking assessment (guided by classroom-observation checklists), audio-stimulated verbal recall interviews (St.In.) conducted after the classroom observations and field notes. The audio recordings from the classroom observations were used as stimuli in the audio-stimulated verbal recall interviews. The researcher paused certain important parts of the recordings to elicit clarification or explanation of the reasons and purposes of the teachers’ actions identified as agentive action in assisting peer-learning. Thematic analysis was used as an approach to data analysis. Data were analyzed deductively. NVivo12 Pro was employed to organize and build codes and seek for potential themes. To achieve and maintain authenticity and trustworthiness, this study employed triangulation, co-coding (82% agreement rate), back-translation (90% agreement rate) and participant validation (92% agreement rate) as in table 1.
Table 1. Data collection and analysis

<table>
<thead>
<tr>
<th>Teachers</th>
<th>Year level</th>
<th>Data collected &amp; forms of data</th>
<th>Data analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Classroom Observations (Obs.), audio recordings</td>
<td>Audio-stimulated verbal recall interviews (St.In.), audio-recordings</td>
</tr>
<tr>
<td>Pripa</td>
<td>6a</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Gesi</td>
<td>6b</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Miki</td>
<td>5a</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Daru</td>
<td>5b</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

The research data were analyzed using a thematic analysis approach by adopting six stages of thematic analysis from Braun and Clarke (2012) as shown in the following table.

Table 2. Data analysis stages and activities

<table>
<thead>
<tr>
<th>Phases</th>
<th>Activities</th>
</tr>
</thead>
</table>
| 1 Familiarization with the data collected | • Developing understanding of the meaning of each data  
• Discovering how each data related to the corresponding research questions |
| 2 Developing codes across the data sets | • Creating codes inductively from observation sheets and audio-stimulated interviews  
• Reducing and revising through a refinement process of the data |
| 3 Searching for themes | • A careful line-by-line reading of the codes  
• Looking for repetition of words and Key-Words-In-Context (KWIC) in the codes |
| 4 Reviewing for themes | Developing codes in NVIVO12PRO with lists of the themes, codes and their relationship to ensure the integrity and consistency of the data and the representativeness of all the data |
| 5 Defining and naming themes | • Defining, naming and finalizing each theme  
• Writing their descriptions and illustrating themes in a matrix |
| 6 Reporting | Reporting the findings |

Results and discussion

Results

The MPS models of responses as means to support peer learning

Teachers' agentive actions are heavily shaped by the teachers’ past assessment experience, teachers’ interpretation of their (immediate) assessment context and their analysis of the available materials (Goddard et al., 2007) to support their students’ completion of an assessment task. Productive skills, speaking and writing, were the most challenging skill to develop with children and to assess them due to their complex components (Chen et al., 2020) and models to promote task completion. This was confirmed during the interview, the four teachers reflected on their past speaking test experiences where the majority of the students experienced difficulties due to insufficient models to produce their oral texts. The lack of the right models also influenced the students’ readiness and confidence to deliver their talks (Soto-Hinman, 2011). The teachers believed that the right models of the expected responses would support the students' ability to
select the appropriate and acceptable oral language (Syarifudin, 2019) as stated by one of the teachers, Pripa, as here:

*Speaking as a productive skill required sufficient models for production, and the more proficient students could present the models to other (less proficient) students (Pripa in the St.In.)*.

In a teaching situation, teachers would provide necessary scaffoldings to support the students’ oral production. As the students were in an assessment situation, the teachers were required to maintain the mandatory nature of the assessment. The four teachers also took into account their young language learners’ problems and needs to accomplish the test. The teachers were aware that the students would easily give up when situated in or prompted difficult tasks (Goddard et al., 2007; Mckay, 2006), thus the MPS’ talks were utilized as models for the LPS.

As observed, the four English teachers prompted the MPS to present their talks prior to the LPS. The teachers believed that the MPS’ talks were the available supportive materials required by the LPS to complete the assessment task. This belief encouraged the teachers to exercise their (Biesta & Tedder, 2007; Priestley et al., 2013) by practicing an opposite assessment procedure and contradicted their original plan. The students were supposed to perform the tasks independently per the students’ test number, yet the teachers flexibly called the students and appointed the MPS to present their talks before the LPS, as shown in the following quotes.

*Miki: “Who is ready? R please... you start first”!
Gesi: “Who wants to have the first go? M, will you”?

When confirmed about the reason for assigning the MPS rather than going by the predetermined list, the teachers affirmed that they needed the MPS to provide models of responses for other students, especially those who were less proficient, as Miki stated below:

*I called R first as he was a good (proficient) speaker. I asked other students to watch him and observe how R delivered his talk (Miki in the St.In.).

In line with Miki’s rationale, Pripa explained that:

*“...even though the models that students needed to complete the assessment task were varied [according to the students’ experience, confidence and proficiency level], the models from the MPS were very beneficial for the LPS so that they were more prepared...”*. 

The teachers decided to use their pedagogical judgement despite the standard procedure “for the students’ benefit” [25, p 263]. Further, the teachers mentioned that the MPS indirectly acted as peer tutors from whom the LPS observed and learnt. The MPS indirectly tutored the LPS while watching and listening to their task responses so that the LPS could analyse and filter the models to meet their needs; helping the LPS to know how to do things (Garbati & Mady, 2015; Gibbons, 2007) as Gesi remarked here:

*The models [from their peers, the MPS] were more practical than the models from us [the teachers] as the models were given in the immediate and appropriate time (Gesi in the St.In.).

*The application of ecological perspectives to promote peer-learning.*
While the four participating teachers provided the same support for the class in the speaking test, the reasons for using MPS to model the responses were varied. Gesi, for instance, stated that prompting the MPS to conduct the speaking presentation prior to the LPS was a strategic way of reducing students’ reliance on teachers’ models and providing more opportunities for students to learn from their peers (Finch, 2012). When the MPS delivered their talks, Gesi remained silent and allowed other students to learn from their talks, as she stated here.

The first consideration was that I tried to avoid giving an example directly, using myself as a model, so the students I selected [as the first presenters] were the more proficient students to provide models for the class. The class would see the examples of how to do the presentations: the steps and the content. (Gesi in the St.In.)

Likewise, Miki, Daru and Pripa asserted that they asked MPS to deliver their presentation first to provide more time for the LPS to be more mentally prepared. They ensured that the LPS would better enact the individual talks when they felt prepared and secured; thus they could deliver their messages more comfortably, as Miki stated below.

I wanted my students to learn from their friends, not from me...so that they would be ready for the talk. I wanted them to present the talk comfortably; not felt forced or pressured (Miki in the St.In.).

Further, concerning the models of responses provided by the MPS, data show that the four teachers used the MPS’ models differently in each class according to the students’ needs and problems. Gesi, in Year 6b, for instance, emphasized ways to commence the talk by referring to how the more proficient students started their presentations. In the previous speaking assessment, she did this because the majority of her students began the talks in a disfluent way, as known from the following excerpt.

Gesi to the class: “so just like B, at first, you have to say Good Morning class, I want to tell you about how to get from A to B. From A I walk to B then to C, ...”

Meanwhile, Pripa, in Year 6a, focused on the organization of the spoken text by referring to how the MPS sequenced their talks. Here, Pripa outlined what students had to deliver in sequence. He also emphasized the types of information that the students had to cover in the talks: the departure point, the destination, the travel time, and the names of the streets or buildings that the students passed to get into the destination, as extracted here.

Pripa to the class: “Okay, class, that was a good example. S started by saying good morning and he said where she wanted to go, the time she spent to get to that place, the names of the streets or buildings she passed, that’s it”.

In year 5a, Miki claimed that her students were familiar with an individual speaking task and the majority of her students were more proficient than the other students in other classes. Nevertheless, some students experienced confidence issues which reinforced her to motivate them. Miki emphasized that they could perform well as they have performed similar tasks previously.

Miki to LPSa: “...come on T, you can do it, just like R”
Miki to LPSb: “You did the same thing before, so you can do it now S”
Daru, the Year 5b teacher, encountered another challenging issue with his students’ English proficiency level. To assist students’ learning from the MPS, he repeated the essential parts of the MPS’ talks, such as how to open the presentation and how to introduce the content to the class to make things clearer to the audience, as extracted below:

*Daru to the class:* “...so please start by greeting your friends and tell your friends what you want to describe, okay? Then mention what you make, the tools, and how you make it, just like your friend, R”

To sum up, the following table shows how the four teachers utilized the MPS’ talks as models of responses to promote peer-learning. The teachers’ utilizations of the MPS’ talks were aimed at accommodating the different needs and problems of the LPS in their respective classes.

Table 3. The utilization of the MPS’ talks as models of responses to promote peer-learning in the four classes.

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Grade</th>
<th>Utilization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pripa</td>
<td>6a</td>
<td>Providing input about the expected sequences of the talks and the contents of each sequence</td>
</tr>
<tr>
<td>Gesi</td>
<td>6b</td>
<td>Providing input to the class about how to start the talk</td>
</tr>
<tr>
<td>Miki</td>
<td>5a</td>
<td>Motivating the less confident students</td>
</tr>
<tr>
<td>Daru</td>
<td>5b</td>
<td>Emphasizing the important parts of the talks and their expected content</td>
</tr>
</tbody>
</table>

Apart from the diverse utilization technique, the MPS' talks as a source of learning for the LPS were possible through teachers’ scaffoldings: restating and emphasizing key responses for the task as shown in the following extracts.

![Figure 1. Teachers’ scaffoldings to assist peer-learning.](image-url)
In the figure, Miki’s scaffolding exemplified the teachers’ anticipation and understanding of the limited capability of young language learners in receiving new information and that their cognitive ability was still developing and required support (Mckay, 2006). The teachers’ scaffolding bridged the MPS’ talks as models, which were then processed as learning materials by the LPS. The LPS transferred the learning materials from the MPS strategically to fit their talks and met the expected outcomes of the assessment. Here, the MPS indirectly acted as peer tutors, scaffolded by the teachers, making the peer-learning possible. The process can be visualized as follow:

![Figure 2. The peer-learning occurred through the teacher's scaffolds](image)

**Discussion**

One of the manifestations of teacher agency in assessment can be seen from how teachers' endeavor actions to achieve their assessment goals (Goddard et al., 2007) by reflecting to their past experience, considering the present contexts, and orient their actions for future improvement (Priestley et al., 2016). This study shows that the types of difficulties that young learners encountered in producing oral presentation in the past, the present assessment context and the students’ present oral production inhibition informed the teachers’ future agentive action to assist the students’ task completion. This professional type of agency enables the teachers to exercise their capacities to act reflectively and in accordance with achievement targets according to their field (Rubin & Land, 2017). The teachers had anticipated the potential problems that may occur on the oral presentation and decided to assign the MPS to model the oral presentation to the LPS although this was not aligned with the assessment procedure where students’ orders are alphabetically. This autonomy confirms that teachers have the power to act purposively in their respective classroom (Dierking & Fox, 2013); using their autonomy in determining what to act and how to act it (Pease-Alvarez & Samway, 2008). Additionally, the teachers were also aware of how their young learners reacted to a public oral presentation, to their students’ proficiency gap and the benefit of learning from peers to help the students achieve the assessment goals. At the same time, the teachers exercised her agentive role in her ecological environment, where she exercised autonomy and make use of the available materials (Priestley et al., 2016), in this case their peers, to achieve the assessment goals. These findings confirm that young learners' language development was heavily influenced by people in their environments, such as their friends (Smagorinsky et al., 2011). Friendships were central not only for students' cognitive development, but also for their social and emotional development (Gifford-Smith & Brownell, 2003).

Despite the peer-learning, the study also reveals the promotion of self-regulated learning through the message that the teachers signal. The teachers were spreading out a message that teachers are not the main and only resources for learning, but people within the children’s environment are also valuable learning resources (Finch, 2012; Soto-Hinman, 2011). The teachers were making a seemingly conscious decision to take a more passive role (Horii, 2012) in the class
by allowing students to learn from their peers, rather than from themselves only. Moreover, teachers’ awareness of young learners’ learning preferences was evident when the teachers assigned the students only when they felt linguistically prepared and mentally secured (McKay, 2006) as each individual student possessed different needs and problems in the completion of the assessment task.

The teachers’ agentive actions of utilizing the MPS’ talks as models of responses to promote peer-learning was not only influenced by the teachers’ intention. However, it was more informed by the emerging situations and the teachers’ interpretations and analysis of the practical-evaluative factors within their ecological environment (Biesta et al., 2017). In addition, considerations of the mandatory nature of the assessment and the available material contexts to support the students’ performance reinforced the decisions. This process was ecological as it interplayed the teachers’ iterational background (assessment experiences), projective (assessment goals) and the practical-evaluative factors (teachers’ interpretations and analysis of the context and the available materials) as visualized in Figure 3 below.

The MPS’ talks as models of responses to promote peer-learning were primarily utilized to assist students in improving their assessment performance and accommodating students' characteristics as young language learners. The teachers acted using their social and material context, and the actions taken were temporal as the agency is located in the contingencies of the present (Priestley & Biesta, 2014).

**Conclusion**

Examining teachers’ actions in promoting peer-learning through an ecological perspective of teacher agency made it possible to measure how teachers’ iterational (past), projective (future), and practical evaluative (present) interplayed. The teachers’ different utilization of the students’ talks showed that their environment shaped the teachers’ actions. The different ways of utilizing
the MPS’ models of responses to promote peer-learning were evidently aimed at ensuring that students’ felt prepared, confident, comfortable to perform the assessment task to the best of their ability.

This study provides field examples of the manifestations of teacher agency during a classroom-based assessment of English for young language learners, which has been under-conceptualized and under-researched. The study portrays agency that teachers locally enacted in their immediate classroom assessment context. As such, this study contributes to the literature on teacher agency, classroom-based assessment, and assessment of English for young language learners by showing the reciprocation of the three theories. For professional practice, the key implication of this study is related to supporting teacher agency in classroom assessment practice, that teachers needed to be given autonomy and trust to adjust the assessment procedures to accommodate their specific assessment contexts.

Declaration of conflicting interest
The authors declares no potential conflicts of interest in this work.

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References


Reciprocal Peer Learning with a Social Robot on Children’s Learning and Emotive Engagement. 1–22.


http://conservancy.umn.edu/bitstream/handle/11299/144134/Horii_umn_0130E_13328.pdf


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