

**The relations between teachers' means of scaffolding perceived by secondary education
students and the changes of their engagement in English class in China**

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Abstract

The purpose of this study was to explore the relations between students' perceptions of scaffolding means employed by the teachers and the changes in Chinese secondary education students' engagement in English lessons. Following a qualitative method design and content analysis, this study analyzed 12 secondary Chinese students' diaries about five English lessons. It revealed that students' engagement suffers changes during an English lesson. Students reported minor changes in their behavioral engagement in an English class but a significant shift in their emotional engagement. The findings also suggest that teachers' employment of all six scaffolding means (*hints, feeding back, instructing, explaining, modeling, and questioning*) relates to student engagement in a variety of ways. This includes promoting teacher-student interaction, a balance of challenge and support, and fostering students' sense of competence. Implications for pedagogical practices and limitations of the current study were also elaborated.

Key words: student engagement, scaffolding, second language learning, Chinese secondary students

The relations between teachers' means of scaffolding perceived by secondary education students and the changes in their engagement in English classes in China

Comprehension of student engagement in the class has become one of the most significant aspects of educational research since it is an inherent feature of the learning process and the key to understanding and improving students' learning (Boekaerts, 2016; Carini et al., 2006; Ryu & Lombardi, 2015; Sinatra et al., 2015). The level of engagement matters, as engaged students tend to feel better about themselves, have a stronger sense of belonging, and realize better academic achievement (Corso et al., 2013; Han, 2021; Van de Pol et al., 2010). On the other hand, disengaged students would have more difficulty dealing with school challenges, resulting in a devaluation of their academic accomplishments and eventual school attrition (Wang et al., 2018). According to Fredricks et al. (2016), engagement is responsive to the changes of teachers' practices. In other words, engagement is not always stable and can change substantially (Boekaerts, 2016; Ryu & Lombardi, 2015). This suggests that disengaged students can become engaged with correct teaching strategies in the classroom (Han, 2021; Zepke & Leach, 2010). In second-language learning, teachers' effective teaching practices are vital in class as the lessons are primarily delivered in the target language (Kayaoğlu, 2012). When students can not understand what the teacher is saying in such classrooms, they are more likely to feel distracted and frustrated (Afzal, 2013), increasing the likelihood of students disengaging in class. As a result, good teaching practices are vitally important in ensuring student engagement in second language learning classes (Gonulal & Loewen, 2018). Scaffolding, a notion established by Vygotsky in his socio-cultural theory, is a crucial teaching approach for increasing student engagement in the class, mainly due to the academic and emotional guidance and support it provides (Van de Pol et al., 2010; Van Der Stuyf, 2002). However, it is unknown in what way scaffolding relates to the changes in student engagement in learning.

This study attempted to better understand the relations between six scaffolding means (*hints, feeding back, instructing, explaining, modeling, and questioning*) and student engagement changes in second-language (English) secondary education classrooms in China. This was done utilizing a qualitative research design, which studied students' perspectives. Students' perspectives are essential as students are expected to be one of the main factors in learning outcomes, which means how they perceive their engagement and how much effort they put into it define their academic success in class (Sinatra et al., 2015). Also, Trowler (2010) and Van de Pol et al. (2010) explicitly highlighted that students' descriptions of their experiences in the classroom are a clear indication of the efficacy of scaffolding and engagement in future studies. More specifically, the current study adopted a qualitative design with a diary approach and content analysis to explore the associations between the six means of scaffolding used by teachers and student engagement changes in English class. Following a semi-structured format, each student wrote five diaries about their experiences in five English lessons that covered various topics (e.g., saving the earth) from the English textbook. And in the diaries, each student described their perceptions of the teacher's words and actions, as well as their own actions and feelings during the lesson. This was in accordance with Salmela-Aro et al. (2021), who, after conducting a meta-analysis of studies on student engagement from 2010 to 2020, identified the need for more studies to analyze the short-term (e.g., across lessons) trajectory of engagement. The findings will offer teachers crucial information on the relations between the six scaffolding means and the changes in student engagement in English learning, as well as the process through which student engagement changes.

Definition of student engagement

The definition of engagement is not unanimous in the literature. According to Rajabalee et al. (2020), student engagement is the effort made by the learner to maintain his or her psychological commitment to staying engaged in the learning process to gain

knowledge. Law et al. (2017) and Wang et al. (2018) posed that engagement is not just effort but also the willingness and asset to put forth effort in one's task and persevere when faced with difficulty in learning. Sinatra et al. (2015) agreed with this by demonstrating that student engagement in learning relates to both observable (e.g., gaze) and unobservable (e.g., self-regulation) characteristics that they exhibit during interactions with learning activities. In short, engagement entails more than just involvement or participation; it also necessitates sentiments and sense-making in addition to action (Trowler, 2010).

Despite the lack of consensus among scholars on the definition of engagement, there is agreement that engagement is multifaceted (Fredricks & McColskey, 2012; Fredricks et al., 2016). Thus, student engagement is a multi-dimensional concept that encompasses what each student does, feels, and thinks while learning in the classroom (Groccia, 2018). The absence of complete agreement among scholars on the concept of engagement is because there are diverse conceptualizations of understanding it. Some academics propose that engagement has two dimensions (behavior and emotion) (e.g., Marks, 2000; Skinner et al., 2008), while others consider engagement as a three-dimensional notion with behavioral, emotional, and cognitive components (e.g., Fredricks et al., 2004; Zyngier, 2008). More recently, a four-dimensional engagement model that encompasses emotional, behavioral, cognitive, and agentic engagement has emerged (Reeve & Tseng, 2011). Diverse conceptualizations might be generated due to the researcher's theoretical approach and the context's grain size (i.e., the level at which engagement is conceptualized) (Sinatra et al., 2015).

This study uses the three-dimensional framework of student engagement that includes behavioral, emotional, and cognitive subcomponents, as it has the most empirical and theoretical support (Fredricks et al., 2004; Fredricks & McColskey, 2012). According to Sinatra et al. (2015), behavioral engagement refers to participation in learning activities as well as the demonstration of attention and perseverance. Students' specific contributions

toward achieving learning goals in related practices (activities in the classroom) are used to demonstrate their engagement in learning (Ryu & Lombardi, 2015). Therefore, activities like actively discussing and answering questions and showing concentration like gazing can indicate students' high level of behavioral engagement. Behaviors like losing concentration, talking with classmates, and sleeping in class indicate students' low level of behavioral engagement. This dimension is the most easily observable one, compared to emotional and cognitive engagement (Fredricks & McColskey, 2012). Students' emotional reactions (both positive and negative) to the learning subject are referred to as emotional engagement (Rajabalee et al., 2020; Sinatra et al., 2015). Positive emotions (e.g., enjoyment, satisfaction, and interest) have been proven to outperform negative emotions (e.g., boredom and unhappiness) in terms of boosting engagement (Law et al., 2017; Sinatra et al., 2015). As a result, when students show positive emotions while learning, it indicates their positive emotional engagement. When students show negative emotions while learning, it indicates their negative emotional engagement or emotional disengagement. The third type, cognitive engagement, has traits that overlap with the first two dimensions of engagement. Cognitive engagement emphasizes self-regulation (Sinatra et al., 2015). When students employ strategies to plan, control their behavior, and resist distractions, it indicates their high level of cognitive engagement. Moreover, students' lack of monitoring and regulation of their learning indicates their low level of cognitive engagement (Law et al., 2017). As a result, cognitive engagement is more of a mental activity that emphasizes the thoughtfulness and desire to put in the work required to understand complicated ideas and master challenging abilities (Fredricks et al., 2004; Groccia, 2018). However, it is critical to analyze all the three dimensions to get a full view of student engagement, as students can engage positively in this dimension of engagement while disengaging in another dimension of engagement (Trowler, 2010; Sinatra et al., 2015).

Ways of measuring student engagement

There are generally five ways to measure student engagement. In their comparative analysis of student engagement, Fredricks and McColskey (2012) specified the strengths and limitations of the five different methods (i.e., self-report measures, experience sampling techniques, teacher ratings, interviews, and observations) for assessing student engagement. For example, experience sampling techniques, in which people wear electronic pagers or alarm watches for a specific amount of time, allow researchers to collect extensive data about engagement at the moment. However, this technique has a limited ability to capture all components of engagement (Fredricks & McColskey, 2012). Among the five measurement methods, Fredricks and her colleague extensively explored the self-report measurement method, as it is an excellent way to learn about students' subjective perceptions and has much potential for gauging emotional and cognitive engagement. And in his meta-analysis of student engagement, Trowler (2010) claimed that the students' voice is markedly lacking. This demands student-centered research to acquire a better grasp of student engagement and how it evolves through time (Fredricks et al., 2004).

Factors contributing to student engagement

Engagement itself is the product of the interaction of people and the environment around them (Sinatra et al., 2015). As a result, a well-structured environment (family, school, and classroom) can enhance student engagement (Ali & Hassan, 2018). Among the three types of environments, focusing research on classrooms is the most fruitful strategy for completely grasping the variability of student engagement, as many characteristics of student engagement are context-specific (Corso et al., 2013; Fredricks et al., 2004; Sinatra et al., 2015; Wang et al., 2018). Various academic programs and subject areas are delivered in different classes, suggesting that student engagement can be divided into different classroom experiences (Corso et al., 2013). More specifically, three notable classroom factors that

primarily relate to student engagement are the student within him or herself, the student's interactions with others (the teacher and peers), and the student's interaction with the learning content (Corso et al., 2013). In this regard, teachers' instructions are crucial to student engagement. It can influence how the student interacts with the teacher and peers (e.g., group work) in class and how the student interacts with the learning content (Zepke & Leach, 2010; Quin, 2017). Teachers' instruction is manipulatable and controllable (Turner et al., 2014). Namely, a high-quality instructional technique can be achieved and lead to increased engagement (Sinatra et al., 2015). Due to the affordance of intellectual and emotional advice and support, scaffolding can be a beneficial instructional strategy for getting students to engage in the classroom (Van de Pol et al., 2010).

Scaffolding in teaching

Scaffolding in teaching refers to teachers' assistance of pupils with solving difficulties that they encounter in accomplishing tasks in the classroom (Van de Pol et al., 2010). This notion has its roots in Vygotsky's sociocultural theory of learning and the concept of the zone of proximal development (ZPD). ZPD refers to "the distance between the actual developmental level as determined by independent problem solving and the level of potential development determined through problem-solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978, p. 86). Therefore, scaffolding occurs within the ZPD and is characterized as the teachers' necessary support. Namely, scaffolding is a type of timely and targeted support that pushes students to work at a higher level (Gonulal & Loewen, 2018). However, in some research, scaffolding is mistakenly equated with support, leading to misinterpretation of scaffolding (Puntambekar & Hiibschler, 2005). According to Van de Pol et al. (2010), the process of scaffolding is dynamic. It involves three key elements: contingency (adapting support to the learner's current level), fading of support, and transfer of responsibility (students' taking more control of learning), through which students are able to

accomplish the new level of the task. This indicates that scaffolding entails more than support.

Van de Pol and his colleagues (2010) stated that scaffolding is regraded as a dynamic process that provides interpersonal interaction and can be provided in various manners. Therefore, in order to specify and better understand how scaffolding is provided, the authors developed a framework where the six means of scaffolding (*hints, feeding back, instructing, explaining, modeling, and questioning*) were clearly defined. In other words, the term scaffolding refers to the approach teachers use in the classroom, the six means are the ways in which teachers can use the approach. *Hints* are cues or suggestions given to pupils to assist them in progressing their learning. Information on a student's performance is referred to as *feeding back*. The guide or explanation of what to do and why is referred to as *instructing*. *Explaining* is a term that refers to more in-depth information about instruction. *Modeling* refers to the patterns for students to imitate. *Questioning* refers to posing questions to pupils that require active linguistic and cognitive responses (Van de Pol et al., 2010). In addition, Van de Pol and his colleagues suggested that research on scaffolding from students' perspectives is needed as scaffolding entails interaction and actual practice (i.e., the means of scaffolding employed). Students' responses determine whether an interaction can be categorized as scaffolding or not.

The connection between scaffolding and student engagement

The connection between scaffolding and student engagement has been researched, and it works via various mechanisms. For example, Van Der Stuyf (2002) stressed that scaffolding could engage pupils in learning, particularly by inspiring them and reducing their negative emotions (e.g., frustration and irritation). This is in line with the findings of Corso et al. (2013) and Fredricks et al. (2004). They claimed that the teacher could have a significant impact on students' emotional engagement by attracting students' interest in relevant class materials or encouraging them when they face difficulty in learning. Similarly, Tirado-

Morueta et al. (2021) stated that teachers' scaffolding can increase students' engagement, especially their emotional and cognitive engagement, by strengthened students' self-efficacy. In addition, Lutz et al. (2006) employed a multi-dimensional coding scheme of teacher scaffolding (e.g., strategy instruction, interest texts, and autonomy support) to study student engagement in reading lessons, combining qualitative and quantitative methods. The authors claimed that student engagement is significantly increased when the teacher directs his/her individual attention to the student by using scaffolding.

In brief, scaffolding can enhance student engagement by providing emotional support, eliciting students' interests, strengthening students' self-efficacy, and directing teachers' attention to the students. However, Lutz et al. (2006) also mentioned that it is unknown how students would react in terms of engagement if their teacher supplied insufficient or unsuitable scaffolding. This shows that more research into the association of the specific manner in which scaffolding is provided with individual student engagement is needed.

Second language learning

In second language learning, learners must practice and utilize the language over a long period in order to improve their language skills. And more importantly, before they can use the targeted language, these learners need to understand the correspondence between graphemes and phonemes, as well as the structure of grammar and words. All of these concepts can be difficult to grasp for people studying a second language due to the few linguistic resources attainable for them in the language of instruction (Mahan, 2022). According to Ahmadi Safa and Rozati (2017), students who learn English as second language progress from requiring the support of their teachers to a more self-driven ability to recognize and fix errors, and finally, to mastering the task of learning independently. As a result, Ahmadi Safa and Rozati (2017) suggested that teachers who teach English as a second language need to interact more and offer more scaffolded assistance to their learners. After all, the goal of

scaffolding is to give students autonomy and competence in using a second language (Van de Pol et al., 2010).

In his meta-analysis of the literature that explicitly researched the use of scaffolding in the classroom where English is learned as a second language, Mahan (2022) identified five themes. These are (1): drawing on prior knowledge, (2): using supporting material (e.g., video clips and animation), (3): supporting academic language development (e.g., bilingual translations), (4): using discourse as a supportive tool (e.g., encouraging students to justify or lengthen their answers), and (5): learning to learn (e.g., modeling). Mahan (2022) also found that most of these studies used video observation, suggesting that research about students' views on the use of scaffolding in the classroom is scarce. In addition, most of the research on the relationship between student engagement and scaffolding was about the subjects of math and science reading (Franke et al., 2015; Lutz et al., 2006). However, student engagement is context-specific (Corso et al., 2013), which suggests that conducting research in language teaching can supplement the findings of previous studies on the same issue.

Research on Chinese students learning English as a second language can be meaningful. China has had the world's largest English-learning population since English became a compulsory subject in 1978, due to the drive for modernization and internationalization (Pan & Block, 2011). Under the belief that the target language should be used predominantly in second language learning to create an environment where students can practice their English as much as possible (Kayaoğlu, 2012), most English classes in secondary schools in China are taught in English as well. However, studies show that lessons only taught in English can lead to easily distracted and frustrated students in class as they struggle to understand what the teacher is saying (Afzal, 2013). This makes the teacher's scaffolding of significant importance in student engagement in the English class (Gonulal & Loewen, 2018).

Moreover, Peng (2014) stated in his study that, 200 university students in China (English majors and non-English majors) all rated English reading, speaking, listening, and writing as difficult after tremendous time had been invested. The author further indicated that the underlying reason might be that students lack the motivation to learn English and chances to use English during or after class, as a result of the exam-oriented learning process. Therefore, it is important to understand how Chinese secondary education students engage in English lessons and how teachers' teaching practices can improve it.

The present study

The present study's main aim is to research the students' perspectives on teachers' employment of scaffolding means and their change of engagement in the second language (English) learning in the setting of China. This aim is mainly based on the need to better understand Chinese students' engagement in English lessons, as discussed above. Moreover, there are two additional reasons for conducting this study. The first one is the limited research available on the relations of six means of scaffolding on engagement. Most studies have concentrated on one or two means (*feeding back* and *instructing*) among the six means of scaffolding (Connor et al., 2014; Havik & Westergård, 2020). The second reason is that, as Stone (1998) stressed, the crucial aspect of identifying the use of scaffolding is that both teachers and students participate actively in creating interpersonal communication. This suggests that students would change their level of engagement accordingly, leading to positive engagement in the class (Van Der Stuyf, 2002). Therefore, it is assumed that scaffolding relates to the change in student engagement.

In conclusion, it is worthwhile to investigate secondary English teachers' use of scaffolding means and how these scaffolding means relate to student engagement change from the perspectives of students. Comprehending the process in which student engagement levels vary is beneficial for delivering more effective scaffolding strategies and other more general

instructional practices. This led to the following questions:

- 1) What scaffolding means (*hints, feeding back, instructing, explaining, modeling, and questioning*) are employed by teachers in English lessons according to their students' perspectives?
- 2) How do students describe their level of engagement and the changes thereof during English lessons?
- 3) How do the scaffolding means as perceived by students relate to the students' reported engagement in English lessons?

Methods

Research design

The current study employed a qualitative method under the framework of interpretivism research philosophy. The qualitative method is well suited to the study of an in-depth comprehension of phenomena by analyzing data expressed in words (Bengtsson, 2016). Interpretivism, as a paradigm, assumes that reality is subjective and that it varies depending on the individual (Goldkuhl, 2012). Therefore, by gaining a thorough understanding of qualitative data, the interpretive paradigm allows researchers to explore various aspects that influence a person's development, and to use the participants' experiences as valuable aspects and contributions to a scientific study (Alharahsheh & Pius, 2020).

A diary method with a semi-structured format was used for participants to follow and record their experiences in English class. The diary method in research is a data collection method in which participants are asked to record their experiences of certain events for research purposes (Bartlett & Milligan, 2015). It is a valuable tool for studying how people change during major events in a natural setting (Bolger et al., 2003). Furthermore, it has been used in a wide range of studies to understand the participants' experiences (e.g., Diestel et al., 2015; Orben & Przybylski, 2019; Sliwinski et al., 2009; Swim et al., 2001). In this way, the

researcher in this study was able to better understand the changes in students' engagement and their perceived scaffolding means used by the teacher. This instrument also allows for content analysis by creating categories, enabling the grouping of related content units to provide meaningful interpretations (Gkonou, 2013; Sa, 2002).

The diary method was chosen to collect data for two reasons. Firstly, participants are given the freedom to record and reflect on their experiences at their own pace, resulting in a detailed and explicit narrative from the participants' perspectives. The details gained in this type of recording can often be lost in face-to-face methods such as interviews, where the participants forget the details due to the pressure to reply quickly to questions or others talking (Bartlett & Milligan, 2015). Secondly, by revealing within-person changes over time and a greater reporting of unobserved behaviors, this method enables the researcher to gain a more complete and accurate picture of how participants' experiences change over time (Bartlett & Milligan, 2015). As a result, the diary method is appropriate for this study.

Participants

The English classroom in China was the setting for this research, with the sample consisting of Chinese secondary education students studying English as a second language. The participants in this study were students at two junior high schools in Chengdu, Sichuan province (a city in southwest China). A convenience sample was recruited from the researcher's personal network. Even though convenience sampling is prone to considerable hidden selection biases, it remains popular due to its advantages of ease of access and cost-effectiveness, particularly in qualitative investigations where participants do not need to represent the population (Etikan et al., 2016). Three English teachers were approached initially, but only two agreed to notify their students about the research. The reason for obtaining the teacher's permission was that it was the teacher's decision on which lessons the participants would write about. Finally, after being informed of the study's goal and signing an

informed consent form to ensure and protect their anonymity, 28 students agreed to participate, 20 in one class and 8 in another. The substantial disparity in the number of participants could be attributed to the students from two schools having differing study loads. The final 12 participants were picked at random from those who volunteered to participate in the study (six in grade 8 and six in grade 9 in each school). Grade 8 students were on average 14 years old, whereas grade 9 students were 15 years old. The participants were made up of seven girls and five boys. Furthermore, all of them were assigned pseudonyms (e.g., Amy) to ensure their anonymity.

Data collection

The data collection for this study began at the end of February and lasted three weeks. The data was gathered using the diary approach. Each participant from the same grade wrote diaries (by paper and pencil) about the same five English lessons after class and submitted them. This diary data collection supported the trustworthiness of the present study. Because of the distance and the absence of interference from the researcher during the diary writing process, students might feel less 'judged' by their responses (Bartlett & Milligan, 2015) and were able to report on their genuine experiences in English classes. In grade 8, the five lessons were about being volunteers and talking about heroes. Three focused on reading and two on listening. In grade 9, the five lessons were about saving the earth and talking about memories and plans. Three were focused on reading, and the other two were on grammar and listening.

The students were given background information and the purpose of the study before being asked to sign an informed permission form, which guaranteed data confidentiality and confirmed their willingness to participate. Participants were invited to keep diaries in Chinese since doing so eased their effort and allowed them to express themselves more clearly. A semi-structured diary was used, which included both specific questions for research purposes

and the option of writing free text (Bartlett & Milligan, 2015). A pilot study was conducted to test the feasibility and adequacy of research instruments (i.e., the diary format in this study) (Thabane et al., 2010). The students in the pilot study came from a school in Sichuan Province, China, that ranked similarly to the two schools in the study in terms of average secondary education school rankings. The results from the pilot study indicated that the semi-structured diary format could yield enough data due to the generalities of the pilot study (Thabane et al., 2010), which contributed to the rigor and trustworthiness of this study.

After piloting, the diary format was fine-tuned and finalized to entail five parts, (1): a short description of the learning content, (2): a detailed description of what the teacher did and said in class, with emphasis on the teacher's words and actions towards the participant, (3): a detailed description of what the participant did and how he/she felt in the class, and (4): additional information that the participant might like to include in the diary. Participants were asked to write their diaries based on this format after class. This semi-structured diary ensures that the data collected in diaries is closely related to the research questions and aims and allows for the emergence of undefined themes (Bartlett & Milligan, 2015). However, it is worth mentioning that some parts of context may be missed when using the diary method, for example, due to an entire memory recall issue (Bartlett & Milligan, 2015).

Data analysis

Content analysis was used to analyze the students' diaries. According to Stemler (2000), content analysis is defined as "a systematic, replicable technique for compressing many words of text into fewer content categories based on explicit rules of coding" (p.1). This analysis method is appropriate for this research because it allows the researcher to assess changes and spot trends (Kondracki et al., 2002). Also, content analysis allows researchers to count the frequency of the themes by presenting what was said in the data (Crowe et al., 2015), which aided in determining which means of scaffolding were more frequently

perceived by students in the present study. According to Bengtsson (2016), content analysis is more of a method of deductive reasoning in which one often works "up-down" when analyzing data. This suggests that a coding scheme is needed to match data to the predetermined categories (Braun & Clarke, 2021; Crowe et al., 2015). The coding scheme for scaffolding was based on the conceptual definition in the work of Van de Pol et al. (2010), where the authors classified scaffolding into six means: *hints*, *feeding back*, *instructing*, *explaining*, *modeling*, and *questioning*, as discussed in the literature review. These six means were therefore used as the categories. The definitions and examples of the six means of scaffolding were summarized (see table1). Furthermore, this study employed Sinatra et al. (2015)'s definitions for classifying engagement: behavioral, emotional, and cognitive. And it was used as the coding scheme for student engagement. The definitions and examples of the three types of student engagement were summarized (see table 2).

Table 1

The definitions and examples of scaffolding

Scaffolding						
Codes	Hints	Feeding back	Instructing	Explaining	Modeling	Questioning
Definitions	cues to assist students in learning	information on student's performance	guide of what to do	more in-depth instruction.	pattern for students to imitate	posing questions that require pupils' active linguistic and cognitive responses
Examples	The teacher asks us to think about the part of speech of the words for the blank.	The teacher tells if the student's answer is correct.	The teacher asks the students to order the pictures in the textbook.	The teacher explains how to use the word "hard".	The teacher reads the new words and students follow.	The teacher asks what do you want to do in the future?

Table 2*The definitions and examples of student engagement*

Student engagement			
<u>Codes</u>	Behavioral engagement	Emotional engagement	Cognitive engagement
<u>Definitions</u>	Different degrees of participation, attention, and perseverance in learning activities.	Emotional reactions (both positive and negative) to the learning subject	Mental activity that emphasizes thoughtfulness and desire to put in the work
<u>Examples</u>	Actively answering questions; Losing concentration, talking with classmates, and sleeping in class.	Positive emotion (e.g., enjoyment); Negative emotions (e.g., boredom).	Control their behavior and resist distractions; Lack of monitoring and regulating their learning.

Four steps were involved in the process of content analysis. Namely (1): identifying meaning units from the data (i.e., identifying information related to scaffolding means and student engagement in students' diaries), (2): subtracting these meaning units (i.e., subtracting phrases in students' diaries with similar meanings to each code of the means of scaffolding and student engagement), (3): coding these units under the predetermined categories, and (4): relating the findings to prior knowledge (Crowe et al., 2015). Namely, data fitting into these definitions of predetermined categories was put together. After a verbatim translation from Chinese to English, the analysis was started manually (i.e., without using digital tools), followed by a deductive approach's four steps of content analysis.

Meanwhile, an inductive approach was also employed to analyze the data openly to identify the emerging patterns of the three research questions. According to Willig and Rogers (2017), this is an approach in which one works “bottom-up” from the data. It involves three phases: organizing, categorizing, and interpreting the qualitative data (Crowe et al., 2015).

The first phase was to establish familiarity with the data through multiple times of readings. This phase created a better understanding of the diary entries, which made it easier to categorize and interpret the data. Then, initial "codes" were generated by focusing on the research questions. Lastly, these codes were grouped into related concepts, which were then converted into themes (Crowe et al., 2015). In other words, categorizing and interpreting the data was mostly done by ascribing codes to specific pieces of data in students' dairies. The repeated revisiting of the diary data and the multiple times of checking the codes and the emerged themes in each of the five lessons enhanced the rigor and trustworthiness of this study (Crowe et al., 2015).

Results

Students' perceived scaffolding means

Students in the same grade had diverse perceptions of the means of scaffolding deployed by their English teacher over the five English lessons, although they all noted that the teachers kept scaffolding them using different means over one lesson. The total number of the reported means of scaffolding in the five lessons (e.g., 9 times by Amy and 12 times by Alice) and the quantity of each means of scaffolding differed (e.g., 2 times of *hints* by Tom and 1 times of *hints* by Gina) across the students in grades 8 and 9 (see table 3). However, both grade 8 and 9 students noted that in the five lessons, their teachers used *explaining* (72 times), *questioning* (53 times), and *instructing* (36 times) the most, while the other three scaffolding means—*hints* (21 times), *feeding back* (11 times), and *modeling* (11 times) were used less frequently (see table 3).

Table 3 shows the numbers (frequencies) of each means of scaffolding the students perceived during the whole five lessons. They were categorized by six means. The first six students with pseudonymous names were from grade 8, and the last six with pseudonymous names were from grade 9.

Table 3

The perceived means of scaffolding by grade 8 and 9 students in five English lessons

Grade8	Hints	Feeding back	Instructing	Explaining	Modelling	Questioning	Total
Amy	0	0	1	5	0	3	9
Alice	4	1	0	4	0	3	12
Diana	1	1	2	5	0	4	13
Bob	3	2	3	4	0	4	16
Cathy	0	0	2	5	0	4	11
Billy	1	0	2	5	0	5	13
Grade 9							
Harry	2	0	4	8	1	5	20
Fiona	2	3	8	8	3	3	27
Tom	2	3	5	7	2	5	24
Gina	1	0	3	5	2	5	16
David	3	1	5	11	2	7	29
Emily	2	0	1	5	1	5	14
Total	21	11	36	72	11	53	

Besides the different frequencies of each means of scaffolding, students' diaries also revealed that the way in which each means of scaffolding was used varied. Firstly, students' diaries revealed that the teachers' deployment of *hints* through audiovisual aids (e.g., pictures, video clips, or songs) helped students get a sense of the lesson's topic at the beginning of class. For example, David (lesson 2) mentioned that after hearing a song about saying

farewell, he began to suspect that this lesson was about parting with friends or recalling memories. Also, in Fiona's diary about lesson 2 (saving the earth), she stated that after the teacher showed some pictures of the phenomenon in daily life, she realized that this lesson was about the environment.

Secondly, students described the teacher's use of *feeding back* when they were practicing newly learned words and phrases orally with classmates or doing some written exercises. Moreover, teachers' feedback ranged from appraisals for good answers to corrective information. For example, in lesson 1's diary, Bob reported, "*The teacher said I answered correctly*". Another piece of *feeding back* was shown in Diana's diary of lesson 1, "*When we were doing written exercises, the teacher walked around in the classroom. And when she saw that the classmate did not write correctly, the teacher would tell her*".

Thirdly, students noted that they received instruction on what to do from teachers. Throughout the lesson, the teacher used instruction to guide students' classroom learning behavior (e.g., "now open the book to page 20"), control classroom discipline (e.g., "be quiet, please"), and organize learning activities (e.g., "paraphrase this sentence"). The teachers' use of *instructing* with these simple, easy-to-understand words gave clear directions for students to follow in the class.

Fourthly, the students perceived that the teachers primarily employed *explaining* when delivering new knowledge in teaching content. Meaning, that the use of *explaining* was mostly for assisting students in comprehending the new information in class. Diana (lesson 2) and Emily (lesson 5) expressed that the teachers' explanations of new words and phrases made understanding the sentences easier. Moreover, the means of *explaining* seemed to dominate the way the teachers provided their teaching, and this went at the expense of other instructional forms or even other scaffolding means, as reported by students. In three out of the five English lessons, eight students (e.g., Alice, lesson 2; Gina, lesson 3) explicitly stated

that the teacher was so busy explaining new knowledge to them that they did not have much opportunity to practice using these words and phrases orally.

Fifthly, the students noted that the teachers' scaffolding means of *modeling* were primarily employed for two purposes. The first was to assist them in accurately reading words, as the majority of students stated that they did follow and read exercises regularly in class. For example, Gina (lesson 1) wrote, "*Today, the teacher read the new words and phrases in the listening content first, and then she asked us to familiarize them by reading several times*". The second goal was to provide language patterns that students might follow and use to build their own sentences. This was shown in Harry's diary about lesson 3. He reported that the teacher asked them to use the sentence pattern "I have done..." to describe the pictures in the slides. As a result, the use of *modeling* by teachers aided students in achieving a higher level of accuracy in participating in these learning activities.

When it comes to *questioning*, students' diaries revealed that teachers employed plenty of questions in class and these questions were used for three purposes. Firstly, the teachers' questions activated their prior knowledge and drew their attention. For example, Fiona (lesson 2) noted that the teacher asked what they had learned from the last class. Secondly, the teachers' questions encouraged students to think about the new material and participate in class. One student made a statement, saying that when they were learning the passage about Helen, the teacher asked what made Helen a hero. He added that this question made him stay focused on learning the passage (Billy, lesson 3). Lastly, teachers' use of *questioning* (e.g., "What have we learned today?") helped students recap the important points of knowledge taught in the lesson.

On the other hand, one interesting finding of this research was that, despite both teachers' frequent use of *questioning*, half of the participants from the two grades reported their lack of chances to answer the questions. As put in Gina's diary about lesson 3 of

grammar, *"I did not have a chance to answer the teacher's questions. Some questions I did not know the answer to. And for the questions I was able to answer, I did raise my hand, but she did not see me"*. In his diaries about the same lesson, Harry also expressed that he did not get opportunities to answer the questions.

In addition to the various utilization of the six means of scaffolding in lessons, the student diary data revealed certain underlying connections among these means. The scaffolding means of *questioning* is not stand-alone, because the teacher's questions also incorporated guidance information and cues (i.e., *instructing* and *hints*) for finding answers to the questions. In lesson 2, when learning about saving the earth, Gina wrote, *"The teacher asked us what the major point of this paragraph is. This question implicitly told us that we should look for the answer in this paragraph rather than in another. Therefore, I focused on reading this paragraph and quickly figured out the answer"*.

It is worth noting that the *questioning* and *explaining* techniques were employed jointly as the students recognized that the teachers' questions were frequently followed by explanations, according to their diaries. Cathy from grade 8, in her lesson 4 diary, said, *"The teacher first asked us why Helen is a hero. The teacher then explained the paragraph one sentence at a time after hearing some of the students' responses"*. Emily from grade 9 also had a similar statement, *"The teacher asked us to look at the three sentences and find out the difference in the tense. After that, she told us the usage of the simple past tense and simple present tense"*. Namely, students knew that a new concept would be explained after the teacher's questions.

Students' self-reported engagement

The 12 students showed different degrees of engagement in the five English lessons, with the majority of them (7 students) reporting their engagement at a high level in general. Students reported their high level of behavioral engagement in the diaries by words: "actively

answering teachers' questions", "paying great attention to teachers' words", "finishing tasks", and "taking notes carefully". No indicators of a low level of behavioral engagement (e.g., talking with other students when they were not supposed to, falling asleep in class) were shown in students' diaries. Students reported both their positive and negative emotional engagement. Students expressed their positive emotional engagement with phrases like "feeling glad" and "content with what they learned". While "boredom", "anger", and "dissatisfaction" were the most commonly utilized words in the diaries to express their negative emotional engagement. There was a lack of reporting about students' cognitive engagement, although one student expressed that she tried to memorize the new words but was still distracted by classmates' chatting (Emily, lesson 2).

Even though most students did not report any changes in their engagement, some students' engagement did show fluctuation throughout one lesson. The overall trend showed that most of those students were more engaged at the beginning than in the middle and end of the class (because of tiredness). A small number of students were less engaged at the start of the class and became more engaged in the middle of the class.

One noteworthy finding was that most indicators of changes in student engagement identified in the diaries could be linked to their emotional engagement, as their emotions fluctuated over one lesson. Meaning, that they experienced different emotions (and with that engagement) during the lesson. For example, Tom (lesson 1) wrote as follows: "*First, I was interested in seeing what we would learn today. But soon I began to feel bored. After that, I battled and made it through the listening exercise. I was angry and helpless after hearing the teacher's assignment*". Another student's emotional engagement shifted dramatically as well. As he put it, "*I was very fatigued because the first article I learned was so dull. But then I was so excited since the learning content had been replaced by poetry*" (Harry, lesson 2).

In addition, the student diaries revealed two factors to be associated with the change in

their emotional engagement. The first was the introduction of a new topic. The intriguing topic was commonly cited as the primary motivator for those students to change from negative to positive emotional engagement. Most of these students reported that they showed interest and excitement when new content was introduced. For example, in lesson 2, Gina said she became interested in the class when the teacher talked about graduation. However, introducing a new topic could only make them stay engaged for a short time because soon they became weary and bored when the topic no longer fascinated them (Bob, lesson 1; Harry, lesson 1). The second factor was the inclusion of audio-visual tools (e.g., pictures and video clips). Four students (e.g., David, lesson 1) explicitly stated that seeing photos sparked their interest and prompted them to take action, particularly when shown a video.

All students engaged behaviorally even though some were experiencing a change in emotional engagement (e.g., from positive emotional engagement to negative emotional engagement). This was mainly reflected by these students' statements that they nevertheless took notes and completed the activities assigned by the teachers, even though they did not find the class fascinating. Namely, while some students' emotional engagement did change dramatically in a single lesson, their change in behavioral engagement was not so obvious.

On the other hand, there was consistency between their behavioral and positive emotional engagement for students who did not report any change in their engagement. Students who reported that they were fully absorbed in class also voiced their joy and happiness.

The relations between student engagement change and teachers' scaffolding means

Following the analysis of the 12 students' diaries, three themes emerged in relation to student engagement change, and the teacher's scaffolding means. The first theme was *students' direct interaction with teachers*. Ten students reported that they were more engaged in the class when they were given a chance to interact with the teacher. Students sensed more

teacher-student interaction when their English teachers deployed two means of scaffolding: *questioning* and *feeding back*. In other words, students' engagement increased when they were interacting with the teacher, primarily when the teacher used *questioning* and *feeding back*. Eight participants (out of 12) explicitly claimed that when they were asked to answer questions, they became fully engaged in the lesson by concentrating and exerting effort to think about the answers (e.g., Emily, lesson 4). Teacher-student interaction through *questioning* generated a general positive class climate, and the individual's engagement was positively influenced indirectly. One student stated, "*When there was interaction with the teacher, I did not feel dull anymore*" (Amy, lesson 5). One student mentioned that when he was selected to answer the question, he became extremely excited because he could discuss the question with the teacher (David, lesson 5). In addition, when teachers gave comments on students' performances (i.e., *feeding back*), students felt their teacher was paying attention to them, which boosted their engagement. In particular, when the *feeding back* was positive (e.g., students were praised for their responses to the questions), students' engagement increased dramatically. One student wrote, "*When the teacher asked questions, I became really concentrated. After the teacher complimented me for my answer, I kept engrossed in the lesson*" (Bob, lesson 1).

The second theme was a *balance between challenge and support*. This was mainly achieved by the teachers' use of *explaining* and *questioning*. More specifically, using visual aids (e.g., well-structured graphics, appealing photos) to convey new concepts or breaking down long and difficult information into manageable chunks helped students stay engaged in the learning content. As stated by some students, this increased their positive emotional and behavioral engagement (e.g., Diana, lesson 1). Moreover, when teachers were not limited to the textbook and explained extra knowledge like the background of the reading passage, it arose students' interest and made the learning content more manageable. Whereas they

became distracted and irritated when the information was too challenging (Amy, lesson 1; Harry, lesson 1). Furthermore, questions that were within students' ability and relevant to their lives kept them interested and engaged in the lesson as well. For example, in her diary about lesson 4, Gina expressed, "*I was so attentive and interested in the class because the teacher asked us what we wanted to do in the future*".

The last theme was *fostering students' sense of competence*. This study identified that students felt more competent when the teacher scaffolded them with *explaining, hints, and modeling*. Nine students' diaries showed that when the teacher explained things clearly, gave them patterns to follow, or provided hints to accomplish assignments, they were more committed in class since they no longer thought English was difficult and felt they can succeed in English learning. On the other hand, five students reported that they grew disengaged and even hated learning English when they could not understand the learning content. For instance, Tom stated in lesson 3, "*I became inattentive in the class because I did not comprehend grammar points of each tense*".

Discussion

Findings and interpretations

This study aimed to explore the relations between students' perceptions of scaffolding means employed by the teachers and student engagement changes, based on Chinese secondary education students' diaries about English lessons. More specifically, this study investigated three questions that focused on six scaffolding means (*hints, feeding back, instructing, explaining, modeling, and questioning*), three facets of student engagement (behavioral, emotional, and cognitive), and how scaffolding means relate to student engagement changes. All the three research questions' findings are discussed below.

The first research question was associated with the students' descriptions of teachers' deployment of the six scaffolding means in English lessons. This study revealed that students

noticed that teachers kept scaffolding them throughout a lesson to help them comprehend the learning content by a range of scaffolding means. This contrasts with Lutz et al. (2006), who discovered that teachers in reading lessons about the science used scaffolding to a high degree at the beginning of the class, followed by a considerable reduction in scaffolding to a level near zero at the end of the lesson. The inconsistent finding of the frequency of scaffolding use could be due to the two research's focus on different subjects. That is, the internal subject differences between science teaching and second language acquisition may cause the different frequency of scaffolding used in lessons. This suggests that research on various subjects is meaningful and necessary for full comprehension of the use of scaffolding in the classroom.

Meanwhile, the constant scaffolding from teachers also indicates that in English lessons in China, students were given less autonomy and therefore adopted a more passive role in the class (Wei et al., 2020). The students' diaries support this indication with the statement that the teacher ended class after explaining the new content, leaving them with minimal time to discuss and immediately apply what they had learned to oral or written exercises. Therefore, the way scaffolding is employed in class is essential, as students may react negatively if the teachers provide insufficient or improper scaffolding (Lutz et al., 2006).

This study found that the way in which each means of scaffolding was used varied. For example, students perceived that *hints* helped them get a sense of the lesson's topic. *Explaining* assisted them in comprehending the new information in class. *Instructing* offered clear direction for students to follow up in the class. *Modeling* gave students patterns to follow for word reading and sentence making. These findings are consistent with the study of Mahan (2022), who categorized the usage of these four means into two types of scaffolding (comprehension of material and completion of tasks) in his meta-analysis of studies on second-language learning. In particular, Mahan noted that *hints* by audiovisual aids (graphics and sound) and *explaining* of academic language (e.g., new English words) helped students

comprehend the material. Also, teachers' *instructing and modeling* can be valuable for developing students' metacognition and assisting them in becoming independent learners by completing tasks (Mahan, 2022).

In addition, this study revealed that teachers' *feeding back* ranged from appraisals for good answers to corrective information. This is in line with the study of Gamlem and Smith (2013), who stated that students viewed teachers' feedback as positive (approval of their performance) and negative (students were told that they could do better and information to improve). What happens after teachers' feedback is more essential in improving students' learning than the feedback itself. In other words, students should be given chances and time to actually work with the feedback in the learning processes to truly understand how to study more effectively in the future (Gamlem & Smith, 2013).

The study also revealed that students perceived that teachers used the scaffolding means of *questioning* most frequently and that it was used from the start to the end of class. The same piece of finding was reported by Salem (2017), who found that in his study, a majority of English teachers frequently employed questions to help students comprehend the learning content. The frequent use of *questioning* can contribute to students' active participation in class as it invites students' constant linguistic and cognitive responses (Van de Pol et al., 2010). However, it is worth noting that the manner in which questions are asked is important. Mohr and Mohr (2007) explicitly stated that while using questions, teachers should evaluate students' response efforts and put forth efforts to scaffold students to elaborate more. This indicates that in English teaching, teachers are suggested to keep in mind that the use of *questioning* itself is not the end goal but rather a starting point for maximizing student engagement. This can be done by providing feedback on their responses and emotional support (e.g., patiently waiting for students to respond), thus closing the gap between what they already know and what they are expected to grasp.

On the other hand, half of the students reported their lack of chances to answer these questions even though plenty of questions were raised by the teacher. This made students have no clue whether or not they have grasped the topic correctly. This indicates that allowing a diverse group of students to respond to teachers' questions is critical in class. Answers from different students not only demonstrate the varying degree of their grasp of the material but also inform teachers as to whether or not this question is appropriate for testing the material (Farrell & Mom, 2015).

The second research question related to students' descriptions of their level of engagement and the changes over time in English lessons. The results denote that most students' engagement is relatively stable, which aligns well with the study of Salmela-Aro et al. (2021). This indicates that a general trajectory of student engagement is identified during a period of time. For those students who did not record engagement change, there was a consistency between their level of behavioral engagement and their level of emotional engagement. In other words, when students take notes or especially actively discuss questions, they often report experiencing positive emotions (e.g., joyousness). This finding confirms the view of Sinatra et al. (2015) that when students are highly engaged behaviorally, they are more likely to be positively engaged emotionally and/or cognitively.

On the other hand, some students' engagement fluctuated over a single lesson. This finding supports the claim that engagement might shift for some students over short periods of time (Boekaerts, 2016; Ryu & Lombardi, 2015). Most students who changed their level of engagement were more engaged at the beginning of the lesson than at the middle and end of the lesson. This finding is in line with Salmela-Aro et al. (2021), who found that while most students' engagement is relatively stable, the engagement of a small group of students might decrease gradually over a period of time.

More specifically, this present study further differentiated students' emotional and

behavioral engagement changes. Students reported minor changes in their behavioral engagement in English class but significant changes in their emotional engagement. This means that some students nevertheless engaged behaviorally (e.g., taking notes or completing activities) despite they were experiencing negative emotional engagement (e.g., boredom). It aligns well with the claim of Skinner et al. (2008) that negative emotions can lead to behavioral losses in engagement but may not lead to more pronounced behavioral disengagement. This finding is also consistent with the views of Trowler (2010), which stated that students could engage positively in one dimension of engagement while negatively engaging in another dimension. Therefore, this finding suggests that although students' emotional engagement is less apparent and observable than behavioral engagement (McKellar et al., 2020), teachers should still pay attention to students' emotional investment and devote more effort to invoking students' positive emotional responses. This is because positive emotional engagement enhances cognitive and behavioral engagement (Sinatra et al., 2015) and also because student emotional engagement modulates their overall well-being in school (Pietarinen et al., 2014).

This study lacks information from students' diaries about their cognitive engagement. Students' less reported cognitive engagement could be for three reasons. The first one is that the cognitive activities were not on top of their minds while reporting what they did and how they felt. The second one is that the diary method for data collection might not have triggered students to think metacognitively when reporting the diaries. The third might be their lack of intrinsic motivation or clear goals in English learning. As found by Chong et al. (2018), students who have high self-motivational and regulating capacities and explicit academic goals are more likely to engage cognitively. This indicates that building motivation and goals is beneficial for Chinese English learners to engage cognitively. After all, cognitive engagement is vital for students to genuinely understand a topic and keep learning over time

(Rotgans & Schmidt, 2011).

The third research question was an attempt to better understand the relations between student engagement changes and teachers' scaffolding means from students' perspectives. Three underlying mechanisms of the relations between teachers' scaffolding means and student engagement changes were found, including promoting teacher-student interaction, a balance between challenge and support, as well as fostering students' sense of competence.

Similar to some scholars' findings (e.g., Yang, 2011; Corso et al., 2013; Pöysä et al., 2019; Skinner et al., 2008), this study found that students reported a higher level of engagement when they perceived more interaction with teachers. More specifically, in this study, teachers' use of *questioning* and *feeding back* allowed students to interact more with teachers in the class. The sequence of teachers' questions, students' responses, and teacher follow-up generates the conditions for them to interact more (Walqui, 2006). Teachers' feedback gives students the impression that they are being given extra attention, which encourages them to interactively discuss further (Lutz et al., 2006). In addition, this study found that teachers' feedback is vital to student engagement, especially their emotional engagement. The finding confirms the claim of McKellar et al. (2020), who discovered that teachers' feedback strongly predicts student engagement changes.

On the other hand, Han (2021) argued that the relation between feedback and students' engagement is not statistically significant. The different perspectives that the two studies focused on might be attributed to the inconsistent findings. In other words, Han (2021) derived his conclusion after researching teachers' opinions, whereas the current study focused on students' diaries. This indicates that students' viewpoints are also critical and can provide meaningful information to research that focuses on how to increase student engagement. After all, how students perceive their engagement and how much effort they put into it define their academic success in class (Sinatra et al., 2015).

In addition, this study found that changes in student engagement are related to the balance between challenge and support by their teachers' use of both *explaining* and *questioning*. That is, whether the balance between the challenge from learning content and the support from teachers' explanations and questions was struck related to student engagement. When students found the learning content too challenging and lacked teachers' explanations or questions that elicited thought and effort to help them understand, their engagement decreased. Also, when the content was too easy for them, the pedagogical support through teachers' explanations and questions was regarded as unnecessary, and their engagement dropped. This indicates that only when the right balance of challenge and support is reached does student engagement increase. This finding confirms Shernoff et al. (2016), which indicates that the coexistence of an optimal balance between environmental challenges and support boosts student engagement. It is worth noting that students' perceptions of what constitutes a learning challenge may differ depending on their level of knowledge. Therefore, before applying teaching practice, teachers should have a good awareness of their students' knowledge levels so that they can plan lessons that are appropriate for the majority of students. In this way, most students feel less challenged by the learning content. In addition, Shernoff et al. (2016) stated that student engagement was more closely tied to teachers' support than challenges from learning. This suggests that providing students support is more likely to enhance student engagement than presenting challenging learning content. Teachers can give students support, for example, by using visual aids to help their explanation of a new concept or raise questions within students' abilities. In this way, teachers' support helps ease the difficulty of the lesson and most students' interests and motivation can be aroused, which drives their engagement (Sinatra et al., 2015; Skinner et al., 2008).

Lastly, this study shows that when teachers mainly scaffolded students with the use of *explaining*, *hints*, and *modeling*, their engagement changed positively as a result of their

increased sense of competence. Sense of competence refers to students' perceptions of their abilities to learn and master the study material (Olivier et al., 2020). Teachers' explanations, hints, and patterns to follow (*modeling*) make the study material more understandable and sensible, boosting students' confidence in successful learning. The more confident students are in their learning, the more likely they will experience a change in their engagement from negative to positive. This finding is consistent with Skinner et al. (2008), which indicated that the degree of students' sense of mastery is related to their engagement and is a strong predictor of their effort and emotional response to learning. Moreover, Corso et al. (2013) identified the cyclic relation between a sense of competence and student engagement: Feeling competent in a subject leads to students' increased confidence and engagement, which in turn fosters a sense of competence via the achievement realized. This highlights the significance of creating chances for students to grow their perception of their competence in learning. More importantly, when students have a higher sense of competence, they are more likely to develop positive attitudes and beliefs about their learning. Once developed, these attitudes and beliefs tend to remain stable, suggesting a long-lasting influence on students' academic trajectories (Christenson et al., 2012). Teachers' practices such as scaffolding with clear explanation, provision of hints with a strong connection to the desired goals in learning, and examples or patterns for students to follow, can all play a role in helping students to feel more competent in English learning.

In short, while many of the findings of this study are consistent with previous research, it adds to the understanding of how student engagement changes and how the change process relates to teachers' scaffolding in English classrooms from students' perspectives. Thus, this study can help researchers better understand how to increase student engagement in the second language (English) acquisition.

Limitations and future research

Several limitations should be noted for further research. The first limitation is the participants' age. Even though the semi-structured diary method is an appropriate way to explore students' self-reported engagement, this study still lacks data on students' cognitive engagement. This might be caused by these participants' young age. Students may not be cognitively engaged in learning until they have developed the ability to self-regulate, actively employ their cognition, and become thoughtful learners (Fredricks & McColskey, 2012). Also, the less reported cognitive engagement might be owing to this research instrument's failure to capture it. Hence, future studies can recruit older secondary students and employ other instruments (e.g., interviews), so that all the three facets of engagement can be captured. Secondly, this study only addressed the relations between scaffolding means and general student engagement changes, rather than distinguishing how changes in each dimension of engagement are related to students' perceived scaffolding means. This insufficiency might be due to the internal correlations among the three dimensions of engagement (Sinatra et al., 2015). Since each facet of engagement contributes differently to students' learning, future studies are hoped to provide a more thorough understanding of this issue. In addition, the small sample size (12 participants from two classes) also limits the transferability of the relations between student engagement changes and teachers' scaffolding means. Therefore, additional studies should be conducted with participants from several classes so that data in different contexts can be gathered and various patterns in the relations between student engagement changes and scaffolding means can be revealed.

Implications for practice

Based on the findings of this study, several implications can be derived for pedagogic instruction. Firstly and most importantly, teachers pay close attention to students' engagement, especially their emotional and cognitive engagement, even though it might be difficult due to the invisibility of emotions and cognition. Teachers, for example, can conduct regular

conversations with students about what they feel and think while learning in class. Secondly, in English lessons, it is recommended that secondary English educators generate more conditions for interaction with students. To make this happen, teachers can, for example, give students explicit feedback on their learning (e.g., pronunciation or sentences they made) and pose meaningful (e.g., relevant to their experiences) questions. Thirdly, it is important that teachers design lessons based on students' knowledge levels and strike the right balance between the level of difficulty of the learning content and support (e.g., clearly explaining material). The last recommendation is to help students develop their confidence in English learning. For instance, audiovisual aids and rich learning activities can be useful in this regard. Also, teachers' encouraging words to students who are afraid to talk in English, specific and sincere compliments, and chances for them to experience the language points in real life should all be taken into account to enhance student engagement in English teaching.

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