



Analysing student engagement in breakout rooms in an online language course

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ABSTRACT

As the popularity of online courses in higher education keeps increasing, the importance of student engagement gets highlighted. In an online learning environment, peer interaction gets emphasised when students work in small groups in breakout rooms. In this case study, qualitative content analysis and discourse analysis were used to analyse breakout room recordings (458 min in total) of two small groups in a 14-week synchronous online language course. The study focused on how engagement at small group level seems to emerge from the group's interaction, which is a primordial site for language learning, and what kind of collaborative engagement practices seem to support it. The findings suggest that affective, behavioural, and cognitive engagement often co-occur and that they may either support or hinder each other. Also, the group members may be engaged in diverse ways at the same time. Three collaborative engagement practices were identified: participation in group discussions, making and negotiating proposals, and collaborative writing. Participation in group discussions highlighted the importance of both verbal and nonverbal communication and the importance of equity in participation. When making proposals, the role of tentativeness was emphasised as that seemed to open space for interaction in the small group. Finally, collaborative writing was found to engage students specifically from the language learning perspective. The findings suggest that small group interaction and collaboration play a key role in group level engagement. It is suggested that small group level should be taken into consideration when operationalising the concept of engagement in online learning environments.

1. Introduction

Ever since the COVID-19 pandemic, higher education has witnessed a dramatic increase in the popularity of online courses (O'Dea & Stern, 2022). Experiences from the recent period of forced online learning have changed the mindset about online learning, and it is nowadays considered to have a lot more potential than before (Salama & Hinton, 2023). As in any learning environment, student engagement has been considered to be a prerequisite of effective learning (Boulton et al., 2019; Fredricks et al., 2016) in online learning environments and specifically in language learning where active engagement in language use and interaction have been found to be crucial for the development of language skills (Hiver et al., 2024).

Engagement has further been found to be dynamic in nature meaning that it is malleable and varies over time, both during a course and even during one task or exercise (Hiver et al., 2024; Alzahrani, 2023; Wang, 2024). Engagement has also been found to be context-dependent (Hiver et al., 2024) making engagement and context reciprocal (Li et al., 2021). Previous studies have indicated

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that engagement tends to be more difficult to achieve in an online learning environment (Bergdahl, 2023; Hu & Li, 2017) than in an in-person learning environment and that the level of engagement tends to decrease over time (Gillett-Swan, 2017). Therefore, it is important for both researchers and teachers to understand how student engagement can be promoted in an online learning environment. In most studies focusing on engagement in online learning environments, the focus has been on individual engagement whereas studies focusing on engagement at small group level have been scarce (Reeve et al., 2025). In this study, the focus is on engagement at small group level to investigate whether engagement could be supported by small group interaction.

Online learning environments typically represent one of the three modalities: asynchronous, synchronous, or bichronous. Asynchronous courses are characterised by learners being able to choose where and when they want to study, in synchronous courses, the instructor and the students meet in real-time classes online, and bisynchronous courses combine elements of both asynchronous and synchronous courses (Greenhow et al., 2022). In this study, the focus is on small group interaction in breakout rooms during synchronous classes. Breakout rooms is a technological feature in many video conferencing platforms that enable small groups to work in their own online space separate from the main meeting (Hartono et al., 2023; Hayer, 2024). Previous research on breakout rooms has mainly focused on studying how these spaces can be used to activate students during synchronous online classes (e.g. Kohnke & Moorhouse, 2022). This study contributes to the field by focusing on how engagement at small group level may emerge and develop through student interaction in breakout rooms.

When working in small groups, students typically either cooperate or collaborate. When cooperating, each group member works on their own part of the task and the parts are then put together as a joint output, whereas in collaboration the group members discuss, negotiate, and produce their task output together (Ellerton et al., 2025). In an online learning environment, collaboration and interaction with peers have been found to strengthen student engagement (Han et al., 2021; Mihai et al., 2022). Especially when mediated by social presence, online interaction has been found to have a positive effect on engagement (Miao & Ma, 2022). From language learning point of view, engagement can be enhanced by meaningful peer interaction (Mercer, 2019) as well as by initiation of interaction and by positive responses to interaction (Svalberg, 2009).

Previous studies on student engagement in the online learning environment have mainly relied on self-reports such as questionnaires and surveys (Akpen et al., 2024). The present case study aims to contribute to the research by examining how student engagement develops or breaks down in breakout room interaction by examining video recordings of online language lessons. The purpose of the study is to examine:

1. How do affective, behavioural, and cognitive engagement emerge and interplay during small group interaction in a breakout room?
2. What kinds of collaborative engagement practices emerge during small group interaction in a breakout room?

In this study, *collaborative engagement practices* refers to observable ways in which students demonstrate affective, behavioural, and cognitive stance towards group tasks and peer interaction while working as a small group in a breakout room. Group interaction is analysed using discourse analysis which focuses on how language is used in real life (Jones, 2024). In addition to language itself, other crucial features shaping interaction are for instance word choice and tone (Suoninen, 2016).

2. Theoretical background

2.1. Student engagement and the online learning environment

Student engagement has been conceptualised in various ways but one of the most widely used conceptualisations is the one by Fredricks et al. (2004). The authors suggest student engagement consisting of three subdimensions, namely behavioural engagement, cognitive engagement, and emotional engagement. These subdimensions are considered to be interconnected yet distinctive. According to Fredricks et al., behavioural engagement considers involvement and participation in tasks and activities, cognitive engagement includes psychological investment in learning, and emotional engagement consists of affective reactions.

Three similar subdimensions have been identified also in the specific context of online learning. For instance, Martin and Borup (2022), in the framework that will be used in this study, propose the three subdimensions of affective, behavioural, and cognitive engagement. According to them, these have been the three most frequently used subdimensions in engagement studies in educational technology and educational psychology. In their framework, Martin & Borup link these three subdimensions and the specific opportunities and constraints imposed by the online learning environment. Their definition of online engagement emphasises the importance of interaction, specifically with peers and content. Martin and Borup define student engagement in online learning environment as follows:

"Online learner engagement is the productive cognitive, affective, and behavioural energy that a learner exerts with others and learning materials and/or through learning activities and experiences in online learning environments." (p. 164)

The importance of interaction in online learning environments has been emphasised also in previous research. For instance, Moore's (1989) model for interaction has been one of the central models in theorising student engagement in the online learning environment. According to Moore, three types of interaction are crucial, namely interaction between learner and content, learner and instructor, and learner and learner. While all three forms of interaction have been found to be important, Bolliger and Martin (2021) found peer engagement (learner-learner interaction) being the strongest engagement factor in an online learning environment. Moreover, peer interaction has been found to be a key factor also in language learning as it enables language practice (Philp & Duchesne, 2016).

Martin and Borup (2022) further suggest that there are three levels impacting student engagement, namely individual level, course community level (people associated with the course), and personal community level (people outside of the school context who know the student well). In this study, the focus is on small groups which operate at the course community level. Getting support from and collaborating with peers can strengthen both cognitive, behavioural, and affective engagement in online courses (Borup et al., 2014; Martin & Borup, 2022).

In addition to affective, behavioural, and cognitive engagement, some researchers have proposed social engagement as a fourth subdimension (e.g., Bond & Bergdahl, 2023; Dao et al., 2021). Social engagement has been suggested as a separate subdimension also in studies focusing on small group collaboration (e.g. Järvelä et al., 2016) as well as on language learning (e.g., Philp & Duchesne, 2016; Svalberg, 2009). In their framework, Martin and Borup (2022) propose the social aspect being part of affective engagement because social interaction affects emotions and therefore impacts the level of affective engagement. Specifically in the context of language learning, the social dimension has been proposed to be included in the affective, behavioural, and cognitive subdimensions by for instance Mercer (2019) and Sulis (2024).

In engagement research, the closely related concepts of engagement and participation have been used both as synonyms (Hu & Li, 2017), separate concepts (e.g., Al Okla et al., 2023), and as part of behavioural engagement (Hiver et al., 2024). In this study, participation is understood as a form of behavioural engagement that refers to students actively taking part in small group tasks and activities. Engagement, on the other hand, is understood as a multidimensional construct that encompasses behavioural, cognitive, and affective dimensions.

2.2. Video-mediated interaction and online learning environment

A synchronous online learning environment enables real-time communication between students and the teacher. However, synchronous online communication technologies reshape the construction of interactional spaces (Jakonen et al., 2023) and introduce specific constraints (Due & Licoppe, 2021), which consequently limit the forms of interaction available in online learning environments compared to those in an in-person learning environment (Berry, 2019). For instance, students have a possibility to decide how and when they are visible or participate in the interaction (Peltola & Intke-Hernandez, 2025). Further, the use of nonverbal communication is limited because the participants are usually only partly visible even when the webcams are switched on (Haddington & Oittinen, 2022). Also, the use of pointing and depicting, which are typical especially for lower-level language learning, are not possible the same way as in an in-person learning environment (Due & Licoppe, 2021; Hjulstad, 2016). Moreover, direct eye contact is not possible which means that changes in gaze direction are difficult to detect (Haddington & Oittinen, 2022) and if there are multiple participants, the faces of the participants are arranged differently on the screens of the participants. Consequently, a participant gazing at a certain point on the screen does not make it clear who the gaze is aimed at (Due & Licoppe, 2021; Hjulstad, 2016). On the other hand, not having to have direct eye contact can make online classes more comfortable for some students, for instance students with special needs (Peltola & Intke-Hernandez, 2025).

Despite the various challenges of video-mediated interaction, it still enables non-verbal communication which promotes social presence and, consequently, improves learning and engagement (Jia et al., 2021). Students being able to see each other and the teacher has been found to increase ways of interaction, student motivation, and sense of belonging (Sedereviciūtė-Pačiauskienė et al., 2022) which are crucial in online learning environment since the level of engagement might suffer if students feel less connected to the course and peers (Wang et al., 2022). Being able to see each other during an online class makes students visible which may strengthen group coherence and sense of connectedness (Jia et al., 2021). However, while engagement and group coherence may benefit from students having their webcams open, the number of nonverbal cues makes the situation cognitively more exhausting and harder to engage with (Fauville et al., 2023). Therefore, some students may find it comforting and safe having the possibility to close their webcam and “disappear” for a while during an online class (Intke-Hernandez, 2023). Some studies have also found that merely having one's webcam open does not directly indicate engagement just as having one's camera closed does not equal with disengagement (Alzahrani, 2023; Mosher et al., 2021).

2.3. Use of breakout rooms in online language learning

Breakout rooms enable peer interaction in synchronous online learning. If this interaction is purposeful the use of breakout rooms supports effective learning (Wilkins et al., 2023). Collaborative activities in breakout rooms can support both social and academic interactions among peers, both of which are important for creating a sense of community which, in turn, has been found to strengthen engagement (Berry, 2019). Interaction and collaboration with peers in an online learning environment have been found to strengthen engagement, enhance a sense of belonging, and consequently, improve group cohesion and a sense of community (González-Lloret, 2020; Korkealehto et al., 2021; Maimaiti et al., 2021). Positive emotional interactions improve group atmosphere and cohesiveness which have been found to be key factors especially for affective engagement in small groups (Huang & Lajoie, 2023). Further, affective engagement has been found to impact the degree of collaboration positively (Dao & Sato, 2021) and make collaboration more enjoyable (Huang & Lajoie, 2023). When students feel comfortable working together in their small group, they will participate more in the group work which in turn may improve both behavioural and cognitive engagement (Järvelä et al., 2016). On the other hand, the benefits of group work in breakout rooms may suffer if the students choose not to contribute but stay passive and do not switch on their webcams (Almendingen et al., 2023) or if they do not manage to think cohesively but focus on different ideas (Liesveld et al., 2023). Further, while working in breakout rooms, interaction between small groups is difficult and the teacher can only help or interact with only one small group at a time (Hartono et al., 2023).

Another important factor regarding successful collaboration in breakout rooms is task design. For instance, [Douglas \(2023\)](#) reported that clear tasks and tutor visits in breakout rooms were the factors students found most important for breakout room sessions to work effectively. However, as the results of Douglas' study demonstrated, tutors and students may have different ideas of what a clear task means. In addition to being clear, tasks that are authentic, collaborative, and meaningful for the students have been found to support both engagement and interaction in an online learning environment ([Korkealehto et al., 2021](#)). Further, according to [Svalberg \(2018\)](#), perceiving the task as purposeful and useful may enhance students' willingness to engage with it. The meaningfulness does not have to be in the content of the task but can also emerge from students enjoying working together on it.

3. Method

3.1. Participants and ethical considerations

The data was collected during spring term 2023 in a language course in Swedish at a Finnish university. In addition to the university's own students, the course was open to anyone via open university. Seven students out of the 19 enrolled to the course decided to participate in the study. These seven students were from two different universities, and one was taking the course via open university. They represented six different nationalities and were aged between 22 and 45. Five were studying at master's level and two at doctoral level. At the beginning of the course, the participants were divided into two small groups. In both groups, all the members represented different nationalities. *Group 1* had three members: Caroline, Emma, and William. *Group 2* had four members: Alice, John, Lucas, and Tina. The names used here are pseudonyms to protect the identity of the participants.

Ethical guidelines of the university and The Finnish National Board on Research Integrity were followed carefully. A research permit had been obtained from the university before all enrolled students were offered the opportunity to participate in the study. Before the course start, the students were provided information about the study, the privacy notice, and an informed written consent form. The privacy notice contained information about, for instance, how the participants' personal data would be managed, how the collected video data would be stored, and how all direct identifiers would be replaced by random pseudonyms. At the beginning of the course, the first researcher gave a short oral presentation summarising the information the students had been provided earlier. Only students who returned the signed consent form participated in the study. The students were also informed that they could withdraw from the study at any time.

3.2. Context

The course lasted 14 weeks, from January to May, and it was given online with two synchronous 90-min classes per week held in Microsoft Teams. The target group of the course was business students, but students majoring in other subjects could participate in the course as it was offered through open university as well. The course focused on working life Swedish, and its goal level was CEFR¹ B1. At the beginning of the course, the students were divided into small groups by the teacher. The small groups remained constant throughout the course. The first author was also the instructor of the course.

Throughout the course, the small groups worked on various group tasks in breakout rooms. While working in breakout rooms, the students had their webcams and microphones open all the time. Group work in breakout rooms was designed based on task-based teaching method (e.g. [Bryfonski & McKay, 2019](#); [Chong & Reinders, 2020](#)). Task design is a crucial element in nurturing meaningful peer interaction (see [Berggren et al., 2023](#)) so the tasks were designed to encourage collaboration and interaction in small groups, as illustrated in the example in [Fig. 1](#). The tasks were guided by prompts, but the students were free to choose the manner in which they completed each task. The small groups presented the results of each task to the other groups, and the presentations were discussed together. The group tasks were mainly worked on in breakout rooms during synchronous classes to enable proper collaboration in small groups instead of merely cooperation. Each small group had their own channel in the course space in Teams where they could share materials, save their joint documents, and communicate through posts or calls also outside of class hours. At the beginning of the course, each small group created its own fictitious company or organisation through which the target language was practiced in various group tasks throughout the course. The topics for small group tasks are presented in [Appendix A](#).

At the beginning of the course, the instructor asked whether the students preferred her visiting breakout rooms occasionally or not. The students found instructor visits disturbing as those usually break the flow in the group. Therefore, it was agreed that the instructor would visit breakout rooms only when asked to do so by the students. In other words, the breakout room sessions were totally student-led. However, the instructor was always available in the main meeting room during breakout room sessions so the students could reach her by sending a message or visiting the main room. Before going to breakout rooms, the groups always got detailed instructions in the main meeting room and had a chance to ask questions. All the tasks were provided in writing and the instructor explained them in both the target language and the support language of the course before the groups went to breakout rooms and started working on them. The groups also had the task files available the whole time when working in breakout rooms. After each breakout room session, the tasks were discussed in the main meeting room with the whole group.

¹ CEFR – Common European Framework of Reference for Languages.

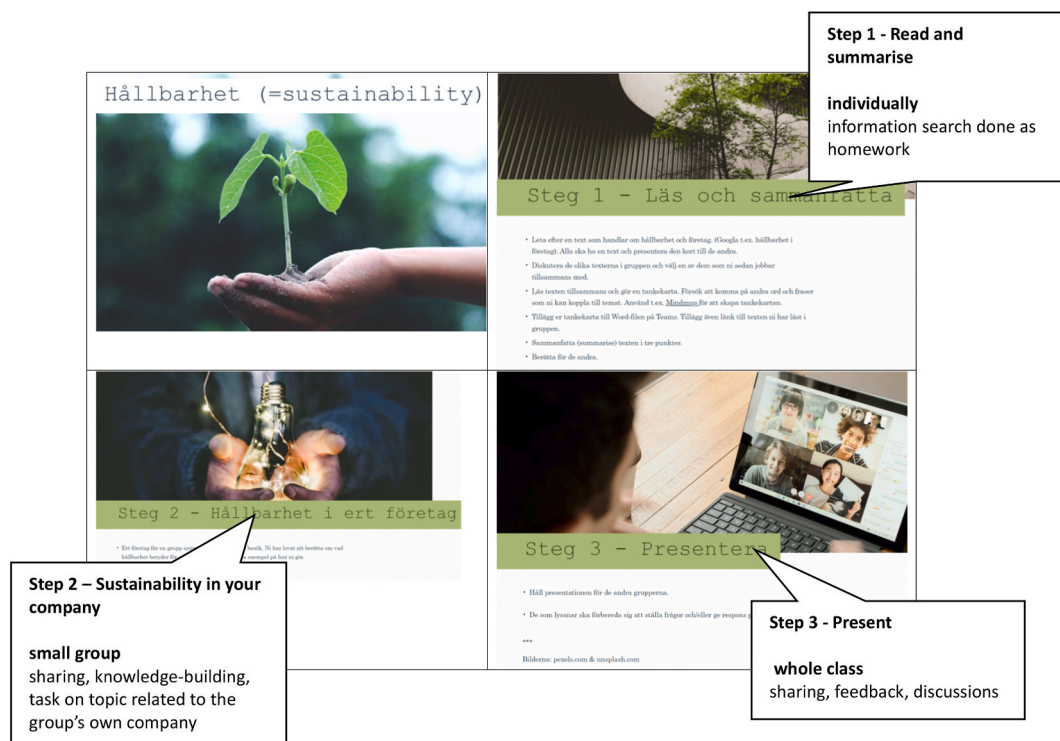


Fig. 1. Example of a small group task.

3.3. Collection of the data

The first author collected video recordings from breakout rooms where students worked in small groups. The set of data consists of 26 video recordings which the two groups recorded during breakout room sessions, approximately one session per week. Four videos (two from each group) were omitted because the tasks were of different type than on the rest of the videos. In the included videos, the tasks were open problem-solving tasks while in the omitted videos they were grammar drilling exercises. Consequently, the task types were not comparable and would have required different methods of analysis. In each recorded session, the groups were working on one group task, either a new one or one they had started working on in previous class. In total, the amount of data recorded in breakout rooms consisted of 3662 verbal utterances (458 min in total). The recordings were made using Microsoft Teams, and they were downloaded to the university's server right after each session. Although the video recordings were collected throughout the course, the analysis of the data was initiated once data collection had been completed.

3.4. Data analysis

First, the video data was transcribed verbatim. The first version of the transcript was done as an automatic transcript using Microsoft Word. It was then reviewed, and any errors were corrected manually by the first author. Next, the video data was annotated using Elan. After that, the transcripts and annotations were combined in one file in order to get a more holistic view on online student engagement in the context of group work in breakout rooms. Finally, the data was coded using NVivo. The coding and analyses were conducted by the first author. In this study, the evaluation of qualitative analysis quality relies on careful and transparent documentation of the coding process, including precise definitions for all codes. The approach is grounded in the quality criteria of trustworthiness, credibility, and transparency (e.g., [Elo et al., 2014](#)). To answer research question 1, the first phase of analysis was based on theory-driven content analysis and used provisional coding (e.g., [Saldanã, 2021](#)). The starting point for creating the coding scheme was the definition of online student engagement by [Martin and Borup \(2022\)](#) (see section 2.1). The three subdimensions of online student engagement: affective engagement, behavioural engagement, and cognitive engagement were chosen as the main categories. Then, different coding schemes focusing on group interaction and collaboration were examined (e.g. [Brauner, 2018](#);

Table 1
Coding scheme for the video data.

Category	Code	Example
Affective engagement	<i>responsive humour</i>	* group members react to humour by smiling or laughing
	<i>supporting, motivating, and encouraging one another</i>	* expressing positive beliefs about the group's or a group member's strengths or skills
Behavioural engagement	<i>positive or negative feelings</i>	* expressing positive or negative feelings related to the task or the collaboration in the group
	<i>potential listening</i>	* e.g. nodding or back-channelling turns
		* gazing at the screen while a group member is speaking
	<i>encouraging participation</i>	* asking others for their opinions
Cognitive engagement		* activating others to discussion, e.g. by using someone's name
	<i>active participation in group task</i>	* writing something into a joint file, taking notes
		* paraphrasing something that has been said
		* asking and receiving help related to the target language
	<i>discussion related to the task</i>	* discussing and solving a task together
		* discussing instructions, dividing work
		* planning how to begin/proceed
		* making proposals related to the task
	<i>active listening</i>	* reacting to others' contributions, e.g. by back-channelling turns accompanied with a change in pitch, a gesture, or a facial expression
		* commenting or repeating something that has just been said
		* responding to proposals made by others (e.g. acceptance, weak acceptance, rejection)
	<i>use of cognitive/metacognitive strategies</i>	* checking for understanding
		* asking relevant questions

Kauffeld et al., 2018; Schoor, 2018) as well as previous studies focusing on student engagement in online learning environment (e.g. Halverson & Graham, 2019) or small group collaboration (e.g. Hu et al., 2021; Järvelä et al., 2016). These coding schemes focused on small group interaction, the online learning environment, and small group collaboration. These were chosen based on the aim and the research questions of this study. The codes and their explanations used in the mentioned coding schemes were studied from the perspective of the chosen definition of online engagement to identify the ones that best could describe each subdimension of engagement. A draft of the coding scheme with provisional codes was made by the first author. This was then discussed between all the three authors and justifications were made according to joint decisions.

The coding was done at unit level, one unit being either a verbal utterance or a nonverbal gesture or expression. During coding, one unit could be coded under more than one subdimension of student engagement. This was based on the understanding that the subdimensions of student engagement are interrelated and partly overlapping (e.g., Dao et al., 2025; Fredricks et al., 2004; Sinatra et al., 2015) and therefore can co-occur simultaneously with one another. Also, as a verbal utterance may be multi-faceted, the different constituents could reflect different subdimensions of engagement.

For the second research question, discourse analysis was used as a method of analysis. When working in a small group, the manner in which the group members interact with one another establishes the social situation and the development of interpersonal relationships (Bloome, 2015). Discourse analysis focuses on how language is used in real life (e.g., Gee, 2014) and how knowledge is created in interaction with others (Johnstone, 2018). In this study, discourse analysis was used to better understand the potential connection between the language the students use in their small group interaction and their engagement at small group level.

The coded data was analysed in longer sequences, each of which could contain different sub-dimensions of engagement. Table 2 illustrates an example of the analysis. In the analysis, no predefined categories were used for identifying interactional practices, but the data was analysed using a data-driven approach. The focus was on identifying recurring interactional practices where different forms of engagement seemed to occur. Three collaborative engagement practices that were prevalent in both groups (Group 1 and Group 2) were identified: *participation in group discussions*, *making and negotiating proposals*, and *collaborative writing*. These are presented and illustrated through extracts in subsections 4.2–4.4. The texts in the extracts presented in section 4 are translations from the originals. The first author edited the raw versions of the translations that had been created using Copilot. The original versions of Extracts 1–6 are available in Appendix B. In Extracts 7 and 8, the original version and the translation are presented together in the text.

4. Results

In this section, the findings of the analyses of the data are presented. In subsection 4.1 we present the findings regarding the first research question: *How do affective, behavioural, and cognitive engagement emerge and interplay during small-group interaction in a breakout room?* Regarding the second research question *What kinds of collaborative engagement practices emerge during small-group interaction in online learning environments?*, the results are presented in sections 4.2–4.4.

Table 2
Example on discourse analysis.

Discourse move	Verbal transcript	Translation of the transcript	Non-verbal/Paralinguistic cues	Engagement type
tentative proposal	00:05:44 Emma Kanske du kan säga om du har frågor frågor vi vi vill svara Lyckligt like happily we are happy to answer your questions	Maybe you can say if you have questions questions we want to answer happily like happily we are happy to answer your questions	(<i>W finishes with a big smile and laugh, C & E burst into laughter</i>) 00:05:43.040 - 00:05:45.400 57 E makes a proposal, laughing, W and C laugh too 00:05:47.910 - 00:05:49.080 58 C and E still laughing, W goes back to the text, lips moving quietly 00:05:53.520 - 00:05:53.530 59 E continues the proposal, smiling, W and C listen smiling	CE – discussion related to the task AE – pos. and neg. feelings BE – active participation
reaction to the proposal	00:06:05 William Vi vill svara din frågor nu?	Vi want to answer you questions now?	00:06:05.240 - 00:06:06.710 60 W suggestion, voice up at the end, curls the lower lip questioningly; C and E nodding, E immediate oral reaction	CE – discussion related to the task AE – pos. and neg. feelings BE – potential active listening CE – discussion related to the task CE – active listening AE – pos. and neg. feelings
confirmation confirmation	00:06:09 Emma Ja, ja 00:06:09 Caroline Ja.	Yes, yes Yes.	00:06:08.150 - 00:06:09.840 61 C smiles	

AE – affective engagement, BE – behavioural engagement, CE – cognitive engagement.

Table 3
Occurrence of the three subdimensions of engagement in Group 1 and Group 2.

	Group 1		Group 2		Total	
affective engagement	370	24%	279	20,5%	649	22,5%
behavioural engagement	533	35%	592	43,5%	1125	39%
cognitive engagement	619	41%	488	36%	1107	38,5%

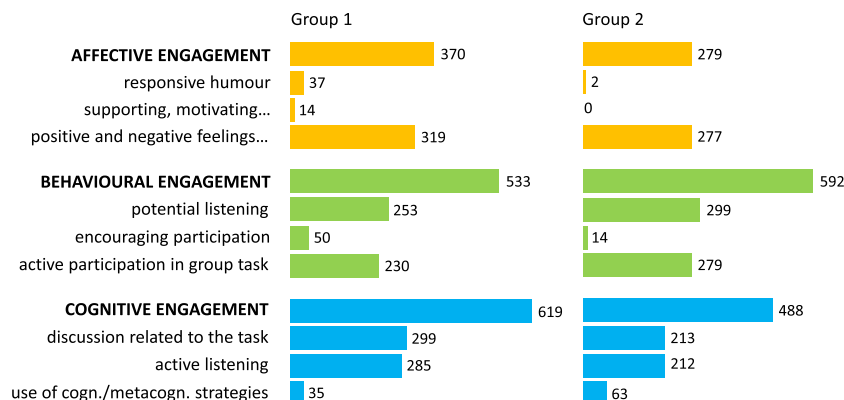


Fig. 2. Number of items per codes in Group 1 and Group 2.

4.1. The three subdimensions of engagement

All three subdimensions of engagement — affective, behavioural, and cognitive — were identified in both small groups (Table 3). Two or all three subdimensions of engagement often seemed to occur simultaneously in a small group, for instance one student was taking notes (behavioural engagement) while others were discussing the task (cognitive engagement). This kind of co-occurrence of the subdimensions may suggest that they can support or be triggered by one another. For instance, behavioural engagement may support cognitive engagement if writing notes takes the task-related discussion forward. Alternatively, cognitive engagement may trigger behavioural engagement when a task-related discussion leads to writing a text together.

Regarding affective engagement, the biggest differences between Group 1 and Group 2 were in responsive humour and in supporting, motivating, and encouraging one another (Fig. 2). Group 1 started using humour already in the first week of the course. They shared and responded to jokes, smiles and laughs. This seemed to relax the atmosphere and support group coherence. In Group 2, however, the use of humour was less common. Even though they also smiled and laughed relatively often, there were many times when these gestures were not responded to by any of the other group members. It is noteworthy that laughing or smiling alone does not seem to create affective engagement at small group level, but other participants must respond to the invitation to laugh by joining in. Further, in Group 1, the reciprocal smiling and laughing seemed to encourage the joint discussion to continue, indicating cognitive engagement at small group level. In Group 2, however, the discussion often had a pause or a change of topic following an unreciprocated smile or laugh. This difference suggests that affective engagement could function as a catalyst for sustained cognitive engagement at small group level, and a lack of affective engagement could predict weaker cognitive engagement.

In behavioural engagement, the most interesting difference between the two groups was in encouraging participation. Group 1 seemed to work more as a unit where the group members took each other into consideration when working on the different tasks whereas in Group 2, the group members seemed to work more as individuals. In Group 1, the group members asked more often for each other's opinions and drew the quieter member to the discussion. In Group 2, on the contrary, they asked less for each other's opinions and the quieter ones were many times silenced by the more talkative ones by not giving them space to speak. Though behavioural engagement at small group level had more coded references in Group 2, it seemed to be stronger in Group 1.

In Group 2, cognitive or metacognitive strategies were used more often than in Group 1. Most often these were questions to check whether something had been understood correctly. The questions seemed to be related partly to the level of language skills (problems in understanding caused by the skill level in the target language), partly to not making clear decisions together before going to the next step of the task. In turn, this problem with decision making might have been related in part to the group members asking for others' opinions less or to the fact that many times ideas were left in the air without proper discussion.

4.2. Participation in group discussions

The first type of collaborative engagement practices that was identified in the data was participation in group discussions. This was demonstrated as both verbal communication and nonverbal communication.

4.2.1. Verbal communication in group discussions

Verbal participation in group discussions was analysed as the number of verbal utterances each group member contributed to the discussion each week. Short back-channelling turns were also included in verbal utterances as they were identified as possible ways of demonstrating engagement in the coding scheme (see Table 1). As illustrated in Fig. 3, in Group 1, Caroline and Emma usually participated in discussions more actively than William, although the differences levelled out towards the end of the course. In Group 2, John and Lucas participated in group discussions actively, while Alice and Tina were more passive.

In Group 1, from Week 1 onwards, they worked as a unit and wanted to have everyone's opinions and thoughts when making decisions about how to proceed with tasks. Extract 1 illustrates how the group chose whether to create a fictitious company or organisation. Emma and Caroline were discussing and suggesting different ideas while William was not participating in the discussion orally. Emma drew him into the discussion by using his name as an address term and asking explicitly for his opinion (line 6). Caroline

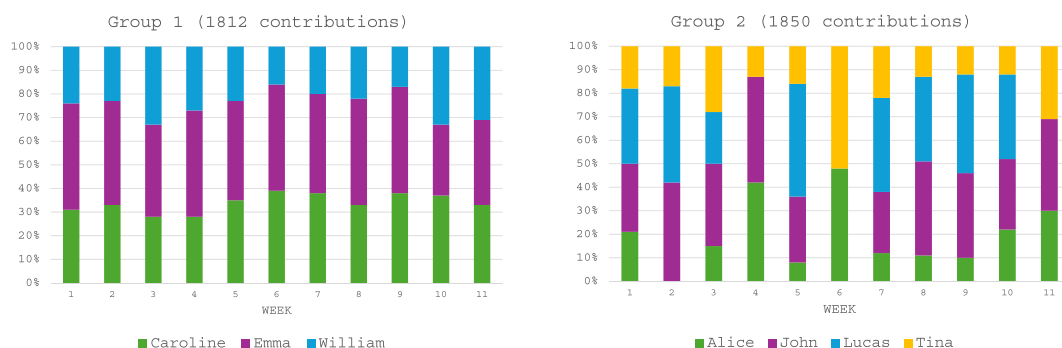


Fig. 3. Participation in group discussions in Group 1 and Group 2 throughout the course.

kept him involved in the discussion by not letting him take the easiest way out (lines 7 and 8). Encouraging everyone to participate in task-related discussions seemed to support both behavioural and cognitive engagement as small group level.

Extract 1. William, what do you think.?

- 1 **Caroline:** Yes, so maybe it could also be non-profit. Maybe. So
- 2 **Emma:** Yeah, yeah. Okay.
- 3 **Caroline:** maybe it's easier to do something with a real product? I don't know, but...
- 4 **Emma:** Yeah. Mmm.
- 5 **Caroline:** But you (*pl.*) like to do with humanitarian aid. That's good too.
- 6 **Emma:** Yeah. William, what do you think—business and products, or services and a humanitarian organisation?
- 7 **William:** Mmm, good.
- 8 **Caroline:** You (*sg.*) don't have a preference?
- 9 **William:** I like services, it can, it can. It can be product too. So...
- 10 **Caroline:** Yeah.
- 11 **William:** Many businesses have services and products, but I'm open to anything.
- 12 **Emma:** Maybe we can combine it.
- 13 **William:** Yeah.
- 14 **Caroline:** Mhm, mhm.
- 15 **Emma:** Product company and humanitarian side.
- 16 **William:** Yeah.
- 17 **Caroline:** Yes! That would be..
- 18 **Emma:** Yeah. Okay, I'll write because it's okay.

Extract 1 also illustrates how group cohesiveness started forming itself already in this first group task. The group members made many proposals, but they were rather tentative (e.g. using words like *maybe* and *could*) leaving space for joint discussion and negotiations. Further, the students started the task with questions about each other's backgrounds, interests, and strengths, in order to find a common ground. While engaging in these negotiations, they got to know more about each other which was important because they did not know each other from before. In **Extract 1**, Caroline uses the information she has learned of her group mates 'you like ...' (line 5) and later Emma suggests combining the two ideas (line 12) signalling that even Caroline's preference is important. Showing interest in one another in a small group may create positive feelings and support affective engagement.

In Group 2, in contrast, John and Lucas were leading the discussion while Alice was mainly just using back-channelling turns or checking that she had understood something correctly, as illustrated in **Extract 2**. Tina was more active first towards the second half of the discussion. In this group, they did not use the task for getting to know each other as in Group 1 but focused only on the task itself and completing all the prompts. In addition, the group members did not ask for each other's opinions or thoughts specifically, and they did not draw the quieter ones into the discussion the same way as in Group 1. This difference in the ways of working and discussing tasks in the two groups was clear throughout the course and may have been one factor for why group cohesiveness and affective engagement seemed to develop remarkably stronger in Group 1 than in Group 2.

Extract 2. Eyes on the prize.

- 1 **Lucas:** Yeah, if if we have an industry in mind, maybe then it's easier to build a name for our com company.
- 2 **Alice:** Mmm.
- 3 **John:** Mmm.
- 4 **Lucas:** Yeah, so. Because (mumbles something)
- 5 **John:** Um.
- 6 **Tina:** So just correct me if I'm wrong.
- 7 **John:** Yeah.
- 8 **Tina:** Maybe we think about industry or what kind of company we want to build first, then we can think about a name.
- 9 **John:** Mmm, mmm.
- 10 **Alice:** Yes.
- 11 **Lucas:** Mmm, yeah, yeah.
- 12 **Tina:** So—
- 13 **John:** So. When you started the com the organisation (reads part of the task aloud) The organisation founded ten years
- 14 ago, for example.
- 15 **Alice:** Yeah, that's good. Ten years ago.
- 16 **Lucas:** Yeah.
- 17 **Tina:** Mhm.
- 18 **Lucas:** Then we already have some history
- 19 **John:** Mmm.
- 20 **Lucas:** in that industrial
- 21 **John:** Um, okay, yeah.

Extract 2 further illustrates how the way students formulate themselves in group discussions may create boundaries for interaction. For instance, in line 1, Lucas used a construction 'if A then maybe B'. While the *maybe* opens space for discussion, that space is limited

by the *if*. The idea Lucas presented was therefore quite finished which may have been a reason Alice and John (lines 2 and 3) were only back-channelling. Strategies like the one Lucas was using set limitations to joint discussions. When all group members are not getting space to participate in discussions, cognitive engagement at group level may suffer as not all group members are actively involved in the discussions. This may also lower the level of both behavioural and affective engagement in the group as being left outside of active discussions may awaken negative feelings towards working together as a small group.

4.2.2. Nonverbal communication in group discussions

During the breakout room sessions, everyone had their webcams and microphones open, so the students were able to use also nonverbal communication. [Extract 3](#) illustrates how nonverbal communication can enhance the different subdimensions of engagement at small group level. In the extract, Group 1 was deciding upon the founder of their fictitious organisation.

Extract 3. I smile, you smile, we smile

- | | |
|---|----------------------|
| 1 William: So, so who was the founder? 😊 | Emma 😊 Caroline 😊 |
| 2 Emma: Ehm 😊 | William 😊 |
| 3 Caroline: You two can be founders. I'm just too young. 😊 | William 😊 |
| 4 Emma: Yes, yes, we, we. We started a pilot pilot project and | William & Caroline 😊 |
| 5 Well, I started because I 🙋 | |
| 6 Caroline: Yeah 😊 | |
| 7 Emma: am the. I am the oldest. | |
| 8 Caroline: Yeah | |
| 9 William: Okay. I can I can be an angel investor. 😊 | Caroline & Emma 😊 |
| 10 Emma: Thanks, thanks, thanks!! 🙌🙌🙌 | William 😊 |
| 11 Yes, I am the founder of the stiftung the foundation and the humanitarian | |
| 12 sides. Then, yes, the the partnership with William. William invested and we and | |
| 13 Caroline: Mhm | |
| 14 Emma: then Caroline she is our star. Our star, star, yes 😊 | Caroline 😊 |
| 15 William: But I, I have to check, what is the word for angel investor in Swedish. | |
| 16 I don't know. 😊 | |
| 17 Emma: I don't know either, but, but it sounds really good to me. 😊 | William & Caroline 😊 |
| 18 Caroline: Yes. 😊 | |

The emojis illustrate facial expressions and gestures of the group members during the discussion, based on the analysis of the video data. The emoji(s) right after the text illustrates the facial expression and/or gesture of the speaker, the other emojis in the same row those of the other group members.

All three group members participated in the discussion both verbally and nonverbally. Active listening was reflected in quick reactions to other members' contributions. These reactions were conveyed through back-channelling accompanied by a gesture or a facial expression, as well as through longer verbal expressions. In other words, all three group members seemed to be both behaviourally and cognitively engaged in the discussion. Although not looking directly at the camera while speaking, the group members kept gazing at the screen which created an illusion of eye contact. Positive facial expressions, reciprocal smiles and laughing, and energetic gestures illustrated by emojis in [Extract 3](#) enlivened the oral discussion which seemed to enhance behavioural engagement in the group. This also seemed to impact the group atmosphere positively which potentially had a strengthening impact on affective engagement.

[Extract 4](#) illustrates how just having webcams open in breakout rooms is not enough enhance engagement at small group level.

Extract 4. Sorry, I don't see you

- 1 **Lucas:** Yeah. So then maybe a company that needs new talent 🤔
- 2 so then they don't have to hyra, it means hire, hire only Swedish people.
- 3 Then they can also hire people from other countries maybe if we offer
- 4 this course so then even if English can be the company's language.
- 5 **John:** Mmm 😊↕
- 6 **Lucas:** So corporate language can be English but then when we offer this lecture package or online courses then
- 7 they can also have people from other countries 😊
- 8 **John:** Yes. 😊↕
- 9 **Lucas:** and then when they go to have a coffee break with each other then there is like no akward silence because
- 10 they offer these courses to their workers 😊
- 11 **John:** Yes. 😊↕
- 12 **Lucas:** new workers. So that can also be an alternative.
- 13 **John:** Mhm.
- 14 **Lucas:** Maybe then we can also in include new people better
- 15 **John:** Mhm
- 16 **Lucas:** so maybe it is it has a really good social perspective too.
- 17 **John:** Mhm. You can sell products, I think. 😊
- 18 **Lucas:** Yeah.

John 🤔↕

John 🤔 Tina 😊

John 😊 Tina 😊

Tina 😊

John 🤔↕

Tina 🤔

Lucas 😊 Tina 🤔

The emojis illustrate facial expressions and gestures of the group members during the discussion, based on the analysis of the video data. The emoji(s) right after the text illustrates the expression of the speaker, the other emojis in the same row those of the other group members.

Of the three group members in the breakout room session, only two participated in the discussion in [Extract 4](#). However, Lucas was dominating the discussion while John had some back-channelling turns, and Tina was not participating orally at all. John and Tina were mainly gazing at the screen while Lucas looked mostly at the ceiling or to the side and did not really look at the screen at all while speaking. Partly because not gazing at the screen, partly because not encouraging the others to join the discussion, there was no illusion created that Lucas would have been talking with John and Tina. This might have partly affected the feelings Tina and John were showing through their facial expressions and other gestures. At the beginning of the extract, Tina looked a bit bored and serious. After Lucas had been talking for a while, she put a hand on the cheek and looked bored (line 10), towards the end of the extract she rolled her eyes quickly (line 17). It seemed clear that she was not enjoying the situation and was not engaging in the group task at that moment. John was showing some engagement by nodding or using back-channelling accompanied with nodding. There was not really space for longer contributions. This might have been because the word so Lucas used at the beginning of many of his turns seemed to refer backwards making his contributions sound more as conclusions rather than proposals for future action. Another possible explanation could be that his contributions sounded too finished to be developed further and therefore left space only for back-channelling. Towards the end of the extract John looked a bit thoughtful. He ended Lucas' talk with a funny remark which both John and Lucas laughed at. Tina did not join the laughing but instead rolled her eyes quickly. Although Lucas and John showed signs of being engaged, engagement at small group level seemed to be lacking. Interestingly, a bit later in the discussion, Tina summarised the main points of the discussion and gave her own thoughts on the topic, demonstrating that she had been cognitively engaged in the task, just like Lucas and John, even though all the visible signs had suggested the opposite.

4.3. Making and negotiating proposals

The second type of collaborative engagement practices that was identified in the data was making and negotiating proposals.

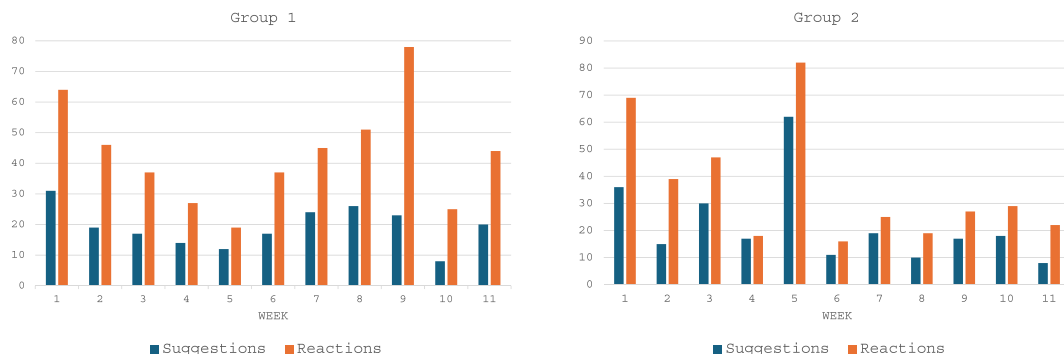


Fig. 4. Proposals and oral reactions to them in Group 1 and Group 2.

Since the group tasks were open-ended tasks, there were many diverse kinds of proposals made in the small groups during discussions. Most proposals led to follow-up proposals, questions, or alternative proposals. As such, they seemed to be engaging the students in group discussions both cognitively and behaviourally. Fig. 4 illustrates the amount of proposals and reactions in Group 1 and Group 2. In the coding and analysis phase, proposals were understood as a way of implementing action in small group interaction (Couper-Kuhlen, 2014). Following Couper-Kuhlen, proposals were defined as initiating actions involving future joint action between the speaker and the recipients, in which both parties are expected to participate and from which both are expected to benefit.

In both groups, there were more reactions than proposals every week which may indicate that proposals sparked discussions and were engaging the group members in active collaboration and interaction with each other.

Three major types of proposals were identified in the video data, as illustrated in Extracts 5–7. The first type, illustrated in Extract 5, consisted of tentative proposals. These proposals often contained a word or a phrase like *kanske* ‘maybe’ or *jag vet inte* ‘I don’t know’ and they often ended with the speaker smiling.

Extract 5. Tentative proposals

Emma: [...] if we want we can also **maybe** think of a program. A program the employees can do so that it becomes more sustainable, **maybe, I don’t know**.

In the second type of proposals, the speaker finished the proposal by asking the other members’ opinions, as illustrated in Extract 6. In addition, these proposals often also contained a word or a phrase expressing tentativeness. Usually, a tag like *vad tycker du* ‘what do you think’ was added right after the proposal with no pause in between and therefore seemed to be used as encouragement for the other group members to participate in the discussion. An interesting feature in these proposals was that all students were using the singular pronoun *du* ‘you-sg.’ instead of the plural *ni* ‘you-pl.’ even when they were clearly not talking to one specific group member but to everyone. A likely reason for this was transfer from English in which *you* works for both singular and plural and which was used as support language in the course.

The third type of proposals did not signal tentativeness or encourage participation like the two previous ones. In most cases, these proposals were expressed in the form of a statement which typically signals a conclusion rather than a joint future action. While statements may function as proposals, using a form that is not aligned with the intended speech act may lead to misalignments (Couper-Kuhlen, 2014). In other words, a statement intended as a proposal may not be understood as a proposal by the recipients which, in turn, may affect their reactions. Especially in Group 2, many of this type of proposals were not followed by a discussion but were rather either left in the air or decided upon without discussion. For instance, in Extract 6, John and Alice replied to the question about the name of their company but no one reacted on the matters Lucas suggested before that question.

Extract 6. Proposals expressed as statements.

Lucas: At least we need to show where you can participate or take our courses. So we need at least have, who are we and what is it with the site www.edu and what where what was the name of our company?

John: EduSpråk.

Alice: EduSpråk.

Lucas: EduSpråk! I am sorry, I have forgotten the most important thing. Yes so it says like Eduspråk, um, if you want to learn anything. Click here.

In Group 1, there were more proposals of the first and second type (70% in total versus 53% in Group 2) meaning that in Group 1 they were often asking for each other’s opinions and thoughts and presented their own ideas rather smoothly. In Group 2, there were more proposals of the last type than in Group 1 (47% in total versus 30% in Group 1). These proposals were often presented more directly which led to more critical comments and alternative proposals. In Group 2, many proposals did not lead to any decisions or proper discussion because someone in the group changed the subject before the discussion around a proposal was finished, as for instance in Extract 2 (line 13) where John changed the topic before Tina’s proposal was discussed further. This type of proposals seemed to be less engaging than the other two.

4.4. Collaborative writing

The third type of collaborative engagement practices identified in the data was collaborative writing. As part of every group task, the groups wrote something together, for instance presentation slides or a work-life related text. Collaborative writing seemed to engage the students both cognitively (e.g. through task-related discussions and active listening) and behaviourally (e.g. through active participation in group task). Some tasks seemed to affect also affective engagement (e.g. through students expressing positive feelings and having fun together while doing the writing task). However, while engagement seemed to be more at group level in Group 1, it seemed to be more at individual level in Group 2.

In week 8, the groups finished writing a complaint e-mail they had started drafting during previous class. In Group 2, only Tina and Alice had been present in previous class and started drafting the email. In the session in Week 8, all four group members were present. Tina started sharing her screen and telling John and Lucas about the draft. However, the plan was quickly changed as John and Lucas took over the discussion. Though throwing ideas, the group was not working as one unit, rather everyone was focusing on their own thing.

Extract 7. I do my part, you do yours. Group 2 – group members cooperating

The screenshot shows a Swedish text editor with a draft of a complaint email. The text is as follows:

Hej,

För ett vecka sedan firade jag min födelsedag och hyrade dina tjänster. Under den här tiden har det varit tre stora problem. För det första var mat leverans sen. Vi bokade det så att mat skulle komma klockan 6, men det var en timme för sent. För det andra var en del av det lite kallt och några trodde där var inte tillräcklig mat. Dessutom, bokade vi ett band och de hade inte högtalare så vi kunde inte höra musiken.

Vi hoppas att använda deras tjänst nästa år men vi förväntar att få rabatt!

Annotations:

- Tina is gazing downwards, not participating in writing
- John is correcting grammar.
- Alice is working on a sentence about a problem.
- Lucas is writing the closing part of the email.

Translation of the text:

Hello,

a week ago I celebrated my birthday and rented your services. During this time there have been three big problems. First, the food delivery was late. Vi booked it so that food would come at six but it was an hour too late. Second, part of the food was a bit cold and some believed there was not enough food. In addition, we booked a band and they had no loudspeakers so we could not hear the music.

We hope to use their service next year but we expect to have a discount

As illustrated in [Extract 7](#), three students were writing but they were all focusing on their own idea. Everyone in the group seemed to be doing something but instead of properly collaborating, they were rather cooperating, meaning that everyone was working on their own part of the final text. When discussing language related questions, John and Lucas were mostly speaking, while Tina added a short comment here and there, and Alice seemed to be listening. Although the group members appeared to be engaged with the task individually, there seemed to be a lack of affective, behavioural, and cognitive engagement at small-group level.

In Group 1, in contrast, they had come up with an idea for the content of the email and decided that each of them would draft one part of the text at home so that they could then put the parts together in class and make it a coherent text together as well as check the language. In other words, they started the writing in cooperation (i.e. everyone did their assigned part at home) which was followed by collaboration (i.e. they discussed and negotiated together as a group).

Extract 8. United we stand. Group 1 – group members collaborating

The whole group works together on the text. Emma is making corrections discussed together.

Hej!

Jag bokade en av era festpaket för mitt barns födelsedag och allting var bra med kommunikationen och organisationen i förväg. Men när ert förberedelsesteam kom till födelsedagen och började förbereda kalaset blev jag mycket besviken och upprörd eftersom det inte alls var vad jag hade väntat mig. Inte jag och definitivt inte mitt barn!

I

Vi hade kommit överens om ... Marvels tema med alla grundande medlemmar av Avengers som inkluderade Captain America (Kapten amerika), Ironman (Järnmannen), Thor, Hulk, Myramannen (Antman) och Wasp (Getingen), men ... det fanns Superman också. Der är en katastrof! Stålmannen eller

Translation of the text:

Hello,

I booked one of your party packages for my child's birthday and everything was good with communication and pre-organisation. But when your planning team came to the birthday and started preparing the party I was very disappointed and upset because it wasn't at all what I had expected. Not me and definitely not my child!

We had agreed on ... a Marvel theme with all founding members of the Avengers which included Captain America, Ironman, Thor, Hulk, Antman and Wasp, but ... there was Superman also. That is a catastrophe! Superman or...

In [Extract 8](#), Emma was sharing the screen which everyone was gazing at. Emma was reading the text aloud while Caroline and William seemed to be listening. At times, Emma added a praising comment, like 'fantastic' or 'perfect' with a big smile or a laugh. Caroline and William were back-channelling and responding with smiles and laughs. When checking the language, they found problems and solutions together and made changes according to joint discussions. During the session, the group members were gazing at the screen and often leaning forward. There was a lot of smiling and laughing, and the group members also used different gestures when speaking. In other words, the group seemed to be engaged both affectively, behaviourally, and cognitively.

5. Discussion

The goal of this study was to investigate (1) how the three subdimensions of student engagement emerge and interplay in small group interaction in a breakout room and (2) what kinds of collaborative engagement practices are being used in breakout room interaction. Three collaborative engagement practices were identified in the video data, namely: participation in group discussions, making and negotiating proposals, and collaborative writing. Participation in group discussions was further divided into verbal communication and nonverbal communication.

5.1. How the three subdimensions of student engagement manifested and interacted in breakout room interaction

The findings suggest that all three subdimensions of engagement – affective, behavioural, and cognitive – are present and interact dynamically during small group interaction in breakout rooms. Affective engagement, for instance in the form of emotional reciprocity, may foster both behavioural and cognitive engagement. Similarly, behavioural engagement, for instance as encouraging peer participation in joint discussions, may support the development of both affective and cognitive engagement. Further, if one subdimension of engagement seems to be lacking at small group level, this may reflect as lower level of other subdimensions as well. For instance, problems with equal possibilities for participation in a small group could potentially weaken the level of both affective and cognitive engagement at small group level. These findings highlight both the complexity of student engagement and the interdependent nature of the three subdimensions at small group level in an online learning environment. The findings support [Fredricks et al.'s \(2004\)](#) notion of the importance of investigating student engagement as a whole, not as separate subdimensions.

5.2. Collaborative engagement practices

5.2.1. Participation in group discussions

All group members having space to contribute in a small group has been found to enhance equity between the group members and to have a positive impact on group cohesiveness ([Moffat et al., 2025](#)) and potentially to small group level engagement. According to

our results, ways to ensure that everyone is getting space are for instance directing questions to a certain person or by asking others' opinions. On the other hand, one or some students controlling or dominating group discussions has been found to lead to asymmetry and imbalance in collaboration (Koutsombogera & Vogel, 2019). This could happen for instance by using linguistic structures which do not invite others to participate, such as proposals presented as statements. This imbalance is likely to impact group level engagement as the dominating group members may be strongly engaged both cognitively and behaviourally while those not getting space to participate may become less engaged. It may also make the development of affective engagement harder in the group.

Development of positive social bonds in a small group has been found to support successful collaboration (Kwon et al., 2014). Our findings suggested that these kinds of bonds could be developed through expressing positive feelings which are then reciprocated by the others or using tentative proposals which leave space for the group to discuss and engage in tasks together as a group. This kind of social-emotional interaction is important as it has been found to impact group atmosphere and expression of feelings, in other words affective engagement, which in turn has been found to impact cognitive interactions (Zhu et al., 2020) and, consequently, cognitive engagement when all group members feel safe to participate in group discussions and activities. On the other hand, in a group where positive emotions are not expressed or they are often left unreciprocated, group cohesiveness and group level affective engagement may remain weaker. For engagement at small group level to develop, affective engagement seems to play a key role as it seems to potentially have a positive impact on both behavioural (Gherghel et al., 2023; Yuyun, 2023) and cognitive engagement.

Having webcams open while working in a breakout room may enhance the development of engagement at small group level but does not guarantee that to happen. Our results suggested that the use of gestures and reciprocal expressions of positive feelings through smiles and laughter may relax the group interaction and atmosphere which, in turn, may strengthen both group cohesiveness and group level affective engagement over the period of the course. This finding is in line with previous studies (e.g. Dao et al., 2021; Gherghel et al., 2023; Halverson & Graham, 2019) which have argued for the importance of affective engagement for other sub-dimensions of engagement to develop. Further, the existence of the different forms of engagement at small group level seemed to result in an engaging group practice where one participant initiating something seemed to invite others to engage as well. In contrast, group members missing or ignoring one another's nonverbal communication puts them in unequal positions where the speaker restricts the others' possibilities to participate in the discussion. The situation illustrates how group members cannot choose their positions in group interaction themselves and how all positions are not always equally open to everyone (Evnitskaya & Berger, 2017). This may weaken engagement at group level.

On the other hand, the level of engagement is not always visible to others and is not always displayed in the mode of participation. This may make observing and assessing specifically cognitive engagement challenging. For instance, despite looking and acting as bored or disengaged in a task, a student may demonstrate their engagement later on, for instance by asking relevant questions. In other words, they may be cognitively engaged all along despite many external signs suggesting otherwise. This finding illustrates that for instance signs of boredom, which Halverson and Graham (2019) categorise as negative emotional engagement and manifestation of disengagement, do not necessarily mean that the student is disengaged. However, while negative emotions leading to engagement if the student has clear goals (Li et al., 2021) may be the case for an individual student, the effects may be different on engagement at small group level as negative emotions expressed by one group member may affect the energy level of the small group, potentially leading to weaker affective engagement. When analysing engagement at small group level, it is therefore important to note that students may have diverse ways of being engaged in the same situation. For instance, one group member being less verbal in discussions does not necessarily mean that group level engagement would be lower. However, if other group members perceive the quieter member to not be engaged in the discussion, this might impact the level of group engagement. Making students aware of various ways of engaging could therefore help them to understand differences between group members.

Further, group members having diverse cultural backgrounds and different first languages may affect how they behave and express themselves in breakout room sessions. For instance, nonverbal communication varies between cultures and languages. While in some cultures the use of hand gestures and facial expressions is an important part of communication, in some other cultures it might be more appropriate to not show feelings through facial expressions or to not use many gestures. Both the first language and the level of second language have been found to have an impact on second language acquisition especially in lower levels where students may use gestures typical for their first language also when practicing a second language (Gullberg, 2014). Cultural differences may play a role in how a group member uses nonverbal communication or participates in group discussions. This may also reflect on how their engagement is perceived by the others.

5.2.2. Making and negotiating proposals

The findings highlighted the importance of task design for instance in the role of proposals in engaging students in small group discussions. Open-ended, work-life related tasks with supporting prompts that left space for creativity, seemed to support engagement at small group level. Authentic tasks that encourage active student participation have been found to enhance engagement, especially when done in collaboration (Korkealehto et al., 2021), for instance in a small group. Tasks giving students space to make their own choices increase the ownership of their learning (Chong & Reinders, 2020) leading to stronger engagement (Mercer, 2019). This type of tasks seemed to engage the groups in discussions where they shared a lot of ideas related to the task. Tentative proposals appeared most engaging at small group level as they seemed to work as encouragement for others to join the discussion and that way to strengthen both behavioural and cognitive engagement at small group level. According to Brookes et al. (2021), tentativeness is also a way of group members positioning themselves in relation to each other and can therefore lead to increased equity in the group which, in turn, may enhance engagement at small group level if the group members feel as equals and therefore feel comfortable participating in group tasks.

Further, tentative proposals seemed to signal that the speaker could withdraw the proposal in case others did not like it.

Tentativeness also seemed to work as a way of giving space for the others to disagree or develop the proposal further. This finding is in line with [Dixon and Martin \(2019\)](#) who found that tentativeness could be used for making or limiting space for new ideas and also for establishing positions in a small group. By using a tentative proposal, the speaker is both expressing an idea and making space for discussion ([Brookes et al., 2021](#)). That way, tentative proposals seem to create space for equity in small group discussions which, in turn, could enhance affective engagement by making the group members feel that everyone's opinions are important. In contrast, proposals expressed as statements may also encourage others to react, but the reactions may be more critical, may not lead to proper discussion, or may be more easily left without reactions. In other words, they do not appear to engage other group members in discussion the same way as tentative proposals. Expressing proposals as statements puts the speaker in a higher position in the group compared to the others ([Brookes et al., 2021](#)) which may hinder group level engagement if all group members do not feel as equals in the situation. One potential reason for using this kind of proposals may be the students' skill level in the target language. At lower skill levels, students might use structures they find easiest in the situation. Another possible explanation could be as [Dixon and Martin \(2019\)](#) suggest that the use of statements could be more typical for those who are considered as leaders of the group while other group members are more likely to use tentative proposals. This would indicate the importance of group dynamics for engagement at small group level.

5.2.3. Collaborative writing

In our findings, engagement with the target language was most clear when the groups were writing something together or discussing problems or questions related to the target language. In collaborative writing, group level engagement seemed to be stronger when the group members were collaborating rather than cooperating. While collaborating, all group members were engaged in the discussion, and they were together trying to solve problems related to the target language. This appeared to strengthen engagement at small group level. In contrast, when cooperating, the group members focused on their own sentences instead of actually making choices and decisions together. These diverse ways of action may be impacted by the level of affective engagement in the group. For instance, if the students seem to enjoy working together and have fun while doing it, they seem to be more likely to collaborate. Alternatively, collaborating in a task may make students enjoy working together and have more fun. In either case, this seems to impact affective engagement at small group level positively. Also in previous studies, enjoyment in collaboration has been found to have a positive impact on engagement ([Svalberg, 2018](#)). Therefore, from the perspective of engagement at small group level, collaboration and small group level engagement seem to support each other while in cooperation engagement seems to remain more at individual level.

Our findings further suggested that the level of engagement can be influenced by the different strengths of the group members. For instance, in purely language-related discussions a student with strong grammar skills may be allowed more space compared to other task-related discussions. [Svalberg \(2009\)](#) has suggested that for some students for instance the level of language proficiency may enhance engagement while for other students it may impede it. Therefore, for engagement to develop at small group level, it seems crucial that all group members get to use their strengths. In order to learn each other's strengths, it is important that the group members do not focus only on the tasks but also create positive social bonds while working in breakout rooms. When they learn to know each other, they can use their strengths to benefit the whole group. At the same time, the level of affective engagement is predicted to increase which may have a positive impact on cognitive and behavioural engagement in the small group.

6. Implications

When working in small groups and using the target language, interaction may be challenging simply because the students do not necessarily have proper linguistic models that would support collaboration.

Therefore, it would be important to model *collaborative engagement practices*, for instance how to propose ideas in a group in a way that opens space for discussion, or how to take all group members into consideration in small group discussions. These could be taken into consideration in task design by including examples and suggestions on how to work together as a group. Especially if student-led breakout room sessions are used, it would be important to also discuss and practice these issues in the main meeting room with the instructor and the whole course group before having small groups work on their own.

Further, task design seems to be a powerful tool for the instructor to help students collaborate and get engaged as a small group. For instance, designing tasks that invite and inspire small groups to discuss and work together may help students to interact more while working in breakout rooms. Finally, especially from language learning perspective, collaborative writing seems to function well in engaging students discussing language-related questions together. The importance of task design gets highlighted in student-led breakout room sessions, like the ones in this study, where the instructor is not constantly there to help and guide the small groups.

The results suggest that the three dimensions of engagement are in constant interaction at the small group level and that they can co-exist and may either support or hinder each other. In addition, the level of engagement varies and for instance affective engagement seems to take time to develop. Therefore, longitudinal rather than cross-sectional studies in engagement, especially those focusing on small group level, could offer a more detailed perspective on engagement at small group level.

The results of the study have also revealed that students may express their engagement in diverse ways all of which may not be visible to the others. When studying engagement at small group level, these kinds of factors should be taken into consideration. In addition, a question could be raised whether small group level engagement should be added in online engagement theories alongside with individual level engagement as operationalisations of the different subdimensions could be partly different.

7. Conclusion, limitations and further research

The present study has examined how engagement emerges through small-group interaction in breakout rooms. Through the analysis of rarely used video recordings of breakout-room sessions, the study provides a distinctive micro-level perspective on the interactional processes through which engagement appears to develop in small groups. Consequently, it offers a shift in focus within research on online engagement. Rather than relying on indicators such as self-reported engagement or frequency of log-ins to course materials, this study focuses on the interactional processes through which engagement is jointly constructed. Specifically, it demonstrates how verbal and non-verbal interaction among small-group members working in breakout rooms may support the engagement of all group members. From this perspective, small-group interaction is conceptualised as a resource that can both initiate and sustain engagement at the small-group level.

Examining engagement at the small-group level, the findings reveal a clear distinction between collaboration and cooperation. Whereas collaboration appears to foster engagement within the group, cooperation seems to constrain it. This distinction highlights that not all forms of group work are equally supportive of engagement. Moreover, the findings underscore the heightened importance of collaborative interaction, peer engagement and purposeful task design in online learning environments, where instructors do not have direct access to students while they work in breakout rooms. At the same time, the study indicates that collaboration cannot be taken for granted because even university students may find collaborative engagement challenging, as they may be more used to cooperative rather than genuinely collaborative forms of small-group work.

At small group level, it is not only about whether individual group members are or are not engaged but also about how the group members interpret the level of engagement of each other. For instance, students may express engagement in diverse ways, all of which do not need to be visible, so it may sometimes be difficult for others to know whether someone is engaged in a joint discussion or not. In addition, in multicultural small groups, the diverse backgrounds and ways of behaving may cause confusion among the group members if they are not familiar with each other's ways of behaving and may therefore misinterpret whether someone is engaged or not. All this may have an impact on all the three forms of engagement at small group level.

The findings of this study also identified three *collaborative engagement practices* which seem to support engagement at small group level in breakout rooms. The importance of not only verbal but also nonverbal communication in group discussions was highlighted in the findings. Having webcams open during breakout rooms enables nonverbal communication and helps also more shy students or those with lower language skills to easier participate in group discussions. This potentially helps developing engagement at small-group level.

This case study has offered findings that give important knowledge about how student engagement may emerge in small group interaction in breakout rooms in an online university language course. However, the small study sample sets limitations to the generalizability of the results. Still, since the purpose of a case study is to gain deeper understanding on a specific topic (Kumar, 2019), the results may be useful for future studies in the same topic or for instructors of university online language courses. Another limitation of the study is its explorative nature which makes the findings rather specific to the context of the study than broadly generalizable. However, the aim of an explorative study is to explore a topic less studied (Kumar, 2019), in this case small group interaction and small group level engagement in the context of synchronous group work in a breakout room. Therefore, in future studies, the suggested connection between group interaction and small-group level engagement could be studied with a bigger number of participants and also in other than language courses. Also, combining for instance eye-tracking and webcam recordings in the data collection phase could give a more comprehensive picture of how and what students engage with by showing also what they do on their screens during breakout room sessions. Furthermore, factors such as gender, cultural background, or personality traits and their potential connection to engagement at small group level could be interesting aspects for future research.

CRedit authorship contribution statement

Katja Peltola: Conceptualization, Data curation, Formal analysis, Methodology, Visualization, Writing – original draft, Writing – review & editing. **Marjaana Veermans:** Conceptualization, Methodology, Supervision, Writing – review & editing. **Sara Routarinne:** Conceptualization, Methodology, Supervision, Writing – review & editing.

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Declaration of competing interest

None.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.compedu.2026.105704>.

Data availability

The authors do not have permission to share data.

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