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# Chronicling Indonesian EFL students' engagement in podcast-based speaking activities in online learning milieu: A self-determination theory perspective

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The abrupt shift of teaching and learning to the online mode due to the Covid-19 outbreak has inevitably called for technology integration to better engage students in online instruction. This call includes the possibility to enact podcast in an English as a foreign language (EFL) class, particularly in speaking. However, despite the increasing number of studies on the benefits of podcasting for language teaching and learning, little attention has been paid to EFL students' engagement in self-created podcast at the micro-level of instruction. Thus, this study aimed to fill this void by enquiring how students engage in podcast-based speaking activities and what drives their engagement. It involved 23 EFL students at a public university in West Nusa Tenggara, Indonesia. The data were gleaned from learning portfolios, oral reflections, and students' written narratives in sixteen sessions. The framework of engagement and self-determination theory were employed to carry out thematic analysis. The findings evince that, in general, the students disclosed positive behavioral, cognitive, and emotional engagement in a series of podcast based-speaking activities. More autonomy

and competence-supportive learning environment and unbalanced relatedness-supportive learning environment were found to be the contributing factors of students' engagement. In addition to teachers' and students' factors, parents, families, and students' friends beyond the classroom appeared to be other social factors which might affect students' engagement. This study suggests three recommendations for improving podcast-based speaking classrooms in EFL practices. Some possible research topics for extended investigation are also suggested.

**Keywords:** online speaking instruction, podcast-based speaking activities, podcast in language learning, self-determination theory, students' engagement,

## Introduction

The Covid-19 outbreak has influenced the dynamic of teaching and learning process, including the teaching and learning of EFL. Statistical data suggest that over one billion students, or more than 98% of the student population in the world of all levels of education, have been impacted by the school closure due to the pandemic (UNESCO, 2020). To help the students continue learning, many countries, including Indonesia, have transformed traditional face-to-face learning into online learning. Respectively, characterized by the absence of physical interaction, online learning reasonably called for technology integration as a learning mediating tool. However, this sudden alteration with the inevitable use of technology in online learning might bring technical and pedagogical challenges either for students or for the faculty members (Chiu, 2021a) to establish students' learning engagement.

Establishing students' engagement in online learning might be more challenging as online learning necessitates more approaches or strategies to shape the bond between students, contents, and teachers (O'Shea et al., 2015). In so doing, teachers have a central function to provide motivating learning experiences (Renandya, 2015) in online learning (Xiao, 2012), especially in the unprecedented online learning milieu (Khotimah et al., 2021). Based on Self-determination Theory (hereafter, SDT), to foster students' motivation during instruction, teachers should address students' three psychological basic needs: needs for autonomy, competence, and relatedness (Reeve, 2013). Empirically, learning environment addressing those three needs has been proven fostering students' engagement in their learning activities (Chiu, 2021a; Reeve, 2013).

A lot of literature has contributed to empirical evidence on what benefits might engagement offers and how to boost students' engagement in the online classroom (e.g., Alamri et al., 2020; Brown et al., 2020; Chiu, 2021b; Ferrer et al., 2020; Korkealehto et al., 2021; Muir et al., 2019; O' Shea et al., 2015). For instance, Korkealehto et al. (2021) emphasized the importance of course design in fostering students' engagement. Brown et al. (2020) postulate three key concepts to enhance student online learning and engagement: expectation management, engagement, and nudging. Principally, these preceding examples have shown

how the instructional design translating what have been suggested by the SDT into the classroom could foster students' learning engagement.

Concomitantly, in this online situated learning, educational technology has been confirmed to have its capacity in supporting students' engagement (Bedenlier et al., 2020). Chiu (2021a) uncovered that digital support strategies could address students' needs that ultimately endorse their level of engagement. Relevant to this study, Morgan (2015) postulated the use of podcast to potentially engage students in pedagogical instruction. However, the perusal on how to translate the concept of engagement in using podcast in speaking language learning is insufficiently documented, and then calls for related research (Chiu, 2021a; Ryan & Deci, 2020). Thus, exploring how students engage in podcast-based speaking activities would be beneficial to enrich the nested literature and to provide practical contributions for online EFL learning.

Likewise, podcast has gained growing attention in an educational context in a few decades. In particular, podcast has benefited students in English language learning (Bueno-Alastuey & Nemeth, 2020; Chan et al., 2011; Cross, 2014; Farangi et al., 2015; Fouz-González, 2019; Hamzaoğlu & Koçoğlu, 2016; Hur & Suh, 2012; Lowman, 2014; Oslawski-Lopez & Kordsmeier, 2021; Suzani, 2021; Yeh et al., 2021). In these studies, students were mainly positioned as the knowledge receivers (students as the active consumers) using podcast as the material sources for listening skills and vocabulary enhancement. Only a few of them have pictured how the students participated in the creation of podcast episodes (students as active producers) to facilitate their language learning, particularly in speaking (Yeh et al., 2021). The studies within the few exceptions have focused on the impacts of podcast on students' speaking achievement (Farangi et al., 2015; Hamzaoğlu & Koçoğlu, 2016; Yeh et al., 2021). The evidence of how students engage in podcast-based speaking activities warrants empirical investigation. Therefore, this study aims to fill the related empirical void by answering the following questions:

1. How do students engage in podcast-based speaking activities?
2. What are the potential contributing factors driving students' engagement based on self-determination theory (SDT)?

## Literature review

### *Students' engagement and self-determination theory in online learning*

Students' engagement and motivation are two interrelated fundamental terms in the teaching and learning process that are usually discussed in tandem. Ample empirical evidence has observed that engagement plays a consistent predictor of successful online learning (Brown et al., 2020) and satisfying course attainment (Reeve & Lee, 2014). To establish students' engagement, students need to have the motivation or be situated in a motivating learning environment. In other words, students who possess motivation or are motivated will likely engage in the learning process (Chiu, 2021a; Hsu et al., 2019; Reeve, 2013; Reeve & Lee, 2014).

Students' engagement is a multidimensional construct covering three interconnected yet distinct facets: behavioral, cognitive, and emotional engagement (Fredricks et al., 2004). Behavioral engagement focuses on the students' positive functions in academic conduct such as students' participation, endeavor, intensity, or tenacity (Fredricks et al., 2004). Operationally, it can be measured by seeing how long and how much students participate in tasks (Philp & Duchesne, 2016). Cognitive engagement is the dimension where students have the will to undertake the learning tasks by functioning learning strategies and self-regulation (Fredricks et al., 2004). The most common measurement of this engagement is the extent of students' efforts in understanding pedagogical tasks (e.g., Baralt et al., 2016; Storch, 2008; Svalberg, 2009). Emotional engagement refers to students' feelings of interest and enthusiasm towards teachers, classmates, learning activities, and other related experiences (Fredricks et al., 2004) and sense of purposefulness and autonomy (Baralt et al., 2016).

Motivation as the driving force for students' engagement in learning (Reeve, 2013) can be operationalized by SDT (Chiu, 2021a; Ryan & Deci, 2020). Deci and Ryan (1985), as the proponent of SDT, advocated three universal psychological basic needs of every individual: the needs for autonomy, relatedness, and competence. The needs for autonomy are the necessity for the feeling of self-governed and self-endorsed; sense of independence and freedom of choices towards one's actions or decision. These needs are supported by concerning to students' interests and values (Ryan & Deci, 2020). The needs for relatedness cover the demand to feel connected, loved, and interacted. These feelings can be endorsed by building sense of respect and caring atmosphere in the instruction (Ryan & Deci, 2020). In comparison, the needs for competence refer to the needs for feeling competent, effective, and challenged. The supports toward these needs were effectively fulfilled within well-structured classroom instructions providing optimal challenges, constructive feedback, and chances for growth and making progress (Ryan & Deci, 2020). The fulfillment of students three psychological basic needs is likely to drive students' motivational orientation from amotivation to external motivation, and finally in progress to internal motivation (Chiu, 2021a; Deci & Ryan, 1985; Ryan & Deci, 2020).

Classroom instructional designs that sufficiently address students' psychological needs tend to engage students better in the teaching-learning process (Hsu et al., 2019; Reeve, 2013). Similarly, Chiu (2021a) reasoned that SDT can be used to explain how psychological needs-based supports could affect students' engagement. Chiu found that classroom digital support strategies designed to provide autonomy, structure, and involvement supports could fulfill students' psychological basic needs for autonomy, competence, and relatedness. The autonomy supports were carried out by affording diverse learning resources, space for choices, and flexible learning hours. The structural supports were incorporated by employing well-designed digital materials, multimodal feedback, and supporting references for technical problems. At the same time, setting small supportive groups, conducting synchronous instructions, and using emotionally friendly approach in classroom communication were deployed to provide involvement supports. All of the three needs of perceived autonomy,

competence, and relatedness were revealed as the contributing factors to the level of students' behavioral, cognitive, and emotional engagement. In the context of online learning, the needs for relatedness were uncovered as the most prominent factor determining students' engagement (Chiu, 2021a).

### *Speaking and podcasting in language learning*

There are two important activities that teachers need to do in the teaching of speaking: 1) facilitating students' understanding of the speaking process and 2) scaffolding the students in developing their speaking competence (Goh, 2017). Accordingly, teachers should notice and acknowledge the students' needs to engage in the process of speaking activities. Further, Goh classifies scaffolding into three forms: pre-task planning (setting space for students to prepare what to say and how to say), task repetition (repeating the same or similar tasks or discourses with the same or different people), and metacognitive enhancement (exercising students' ability to think of their thinking and learning, especially their knowledge of person, task, and strategy in speaking).

Correspondingly, teachers could actualize three speaking instructional scaffoldings by using a particular technological tool, such as video conferencing, flipgrid, social media interaction, WhatsApp voice notes, or podcast as the focus of our study. Podcast is considered workable to engage students in English learning (Morgan, 2015) and supportive of learning practices (Lonn & Teasley, 2009), particularly in speaking (Yeh et al., 2021). It can be used in two ways: as learning resources supporting listening skills (receptive skill) and as a platform for the speaking production (productive skill). Chan et al. (2011) and Yeh et al. (2021) asserted that in teaching speaking, podcasting affords students with opportunity to engage in a series of metacognitive processes such as planning, monitoring, evaluating, and revising. This is in line with Goh (2017) who emphasized the metacognitive enhancement in teaching speaking.

Empirical studies have reported positive impacts of podcast in language learning such as on vocabulary acquisition and enhancement (Bueno-Alastuey & Nemeth, 2020; Hur & Suh, 2012; Lowman, 2014), listening comprehension (Cross, 2014; Oslawski-Lopez & Kordsmeier, 2021; Suzani, 2021;), pronunciation (Fouz-González, 2019), and speaking (Farangi et al., 2015; Hamzaoğlu & Koçoğlu, 2016; Yeh et al., 2021) which is related to the present study. Farangi et al. (2015) found that Iranian EFL learners with self-created podcast episodes outperformed their counterparts in the control group regarding their speaking skills. Hamzaoğlu and Koçoğlu (2016) reported that Turkish EFL learners felt confident when using podcast and they made some progress in terms of oral performances, pronunciation, and lexical resources. Involving Taiwanese EFL learners, Yeh et al. (2021) enunciated the positive impact of podcast on students' speaking fluency and accuracy. It was also discovered that the students had fewer pauses and mispronounced words in the speaking production. After all, despite the burgeoning studies on the impacts of podcast on speaking, students' engagement and the contributing factors driving their engagement

in podcast-based speaking activities have received inadequate attention. This empirical void makes the present study worth investigating.



## Method

### *Research design and context*

This study was classroom-based exploratory research attempting to understand or look for patterns, ideas, or particular conditions happening in the classroom (Allwright & Bailey, 1991). It focused on students' engagement and factors contributing to their engagement in one semester (16 meetings) of speaking experiences utilizing podcast. This study was done in a speaking course named Intermediate Oral Communication class (henceforth, IOC) at a public university in West Nusa Tenggara, Indonesia. IOC was a part of compulsory courses in English education department of the research site. It aims to develop students' ability to speak in English in intermediate level in the form of dialogues and monologues in various formal and informal settings. Commonly, this class was delivered fully in traditional face-to-face instruction. However, due to the Covid-19 outbreak, the class was thoroughly conducted in a virtual learning environment.

Amidst the instructions, podcast (<https://anchor.fm/>) was not positioned as a sole mediating tool for students' speaking production. It was supported with the adoption of Google Meet for the synchronous meetings and Google Sites for documenting the learning portfolio. This combination was also designed in the activity construction. Speaking as the productive skill of language learning was integrated with the other productive skill (writing) as well as receptive skills (listening and reading). The other learning platforms and language skills were treated as inseparable supporting variables to comprehensively see the students' engagement in the podcast-based activities. Figure 1 portrays the activities and platforms from the first to the sixteenth meetings (two teaching hours per meeting).

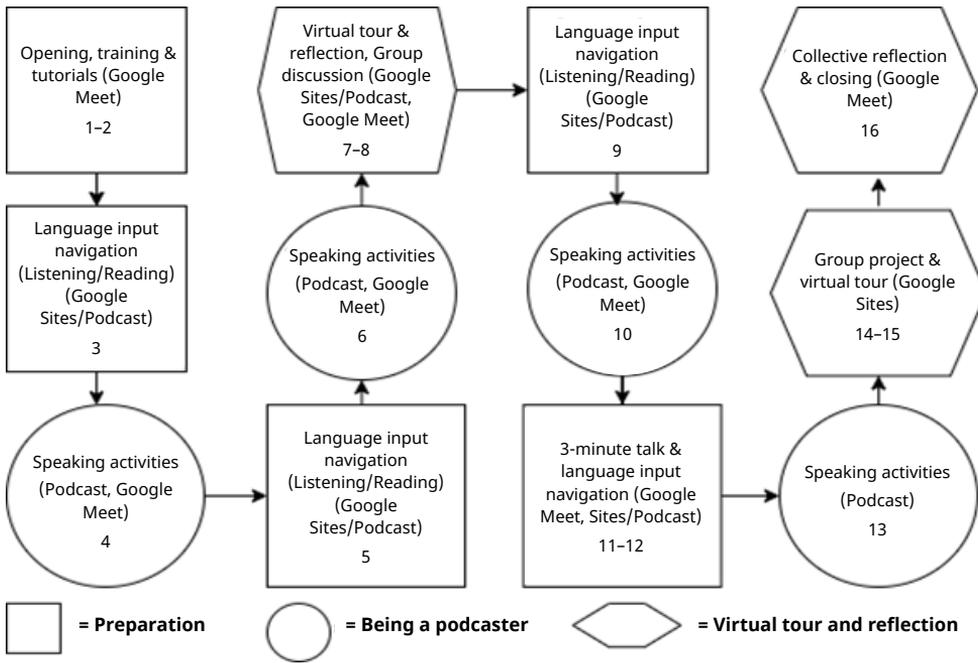


Figure 1. Learning activities

Figure 1 shows that the pedagogical activities could be categorized into three phases: (1) Preparation, (2) Being a Podcaster, and (3) Virtual Tour and Reflection as the center of investigation. In the Preparation, students engaged in several activities such as building their virtual learning home (VLH) using Google Sites for documenting their learning portfolios, navigating language resources, and reading or listening to language resources before creating podcast episodes. Being a Podcaster was the phase where students recorded their voices to create podcast episodes. Lastly, after engaging in series of preparations and recording their speaking products, the students engaged in virtual tour whereby they visited their peers' VLH and did peer- and self-assessment and reflection.

### Participants

Before the present study was conducted, we contacted some universities in different provinces in Indonesia, but it was very difficult to find English classrooms employing podcast to teach speaking amidst the emergency remote learning. Therefore, we employed convenience sampling, recruiting a cohort of first-year EFL students in IOC class. Convenience sampling (Ary et al., 2019) was used to consider this intact class as the research site since the first researcher played the role of the teacher delivering pedagogical instructions. This status allowed the researchers to negotiate and gain students' consent of participation. It also offered opportunity to build a greater intimate and open relationship that might result in thicker data garnering and a flexible yet comprehensive research process (Labaree, 2002). In this vein, to connect the gap between participants as the researched and the teacher-researcher, the teacher-researcher

positioned herself as a participating observer. The other researchers played a role as non-participating observers to the research milieu (Bruce et al., 2011). As the participating observer, the teacher-researcher positioned herself as a teacher, student advisor, and classroom member. Whereas, as non-participant observers, researchers investigated how the students engage in podcast-based speaking activities and the factors contributing to their engagement.

The students were informed of the research profile, participation protocols, potential personal and social benefits, participants' safety and confidentiality, and then were asked to give their written consent (the form was sent in the form of Google Form). Even though IOC was considered a compulsory course (part of the language curriculum) for the students, their participation in this study was entirely voluntary. The students deserved the right to partake in or withdraw from the study. As a result, 23 out of 31 students showed their keenness to partake and gave their consent of participation. They were 17 females and 6 males, 19 years old on average. They were from various socio-economic and language backgrounds. They had experienced formal English learning for over 10 years, with English ability ranging from elementary to intermediate level based on local institutional placement tests. From the preliminary study, it was manifested that 17 out of 23 students knew podcast. However, only 3 out of 17 had the experience to utilize it. Their use was limited to listening to some news or talk shows in English as their second language and Bahasa Indonesia as their national language. None of them had tried to use this platform to practice their speaking, even in their first language.

### *Data collection and analysis*

To address the two research questions (RQs), the empirical data were gleaned from learning portfolios, collective oral reflections, and students' written narratives. Through the learning portfolios, relevant data were carefully observed to see how students engaged in the speaking activities (RQ1) and to scrutinize the contributing factors to their engagement (RQ2). The students' portfolios documented in Google Sites covered weekly language texts that the students read and listened to before the speaking activities, their podcast's episodes (recorded speaking in the form of embedded Podcasts' links), their stories of their learning speaking process, and their reflections. Furthermore, monthly collective oral reflections and post-class written reflections were documented and analyzed to enrich and confirm what was unobservable in the portfolios. In the collective oral reflections, the students were invited to reflect their learning progress, share their learning problems, and collaboratively search for some solutions for the problems. Lastly, in the post-class written reflections, the students were asked to narrate their overall experiences of speaking activities including their feelings, perceived learning attainment, and podcast enactment.

After the data gathering process resulting in 23 learning portfolio entries, 3 oral reflection notes, and 23 students' post-class written narratives, some data reductions were employed to select and organize the relevant data reflecting the underlying unveiled condition (Yeh et al., 2021). In this phase, the relevant

data were tabulated, while the irrelevant ones were dropped from the data inventory. To answer the research questions, thematic analysis (Braun & Clarke, 2006) was carried out to examine the relevant data. Practically, we carefully and repeatedly went through some steps starting from familiarizing the data, generating initial codes, identifying emerging themes, reviewing the themes, naming and defining the themes, and reporting. The emerging themes were classified by considering their relevance to and the coverage of the prescribed research questions. In determining the themes, we adopted the parameters of engagement and SDT as explained in the literature review. The former was used to explore how students engaged in podcast-based speaking activities. Meanwhile, the latter was deployed to examine how the needs for autonomy, competence, and relatedness as the underlying factors contributing to students' engagement were addressed in the instructions. The example of how we analyzed the data is shown in Table 1.

**Table 1.** The sample of data analysis

Data	Codes	Sub-theme	Theme
<p>"... I recorded it five times till I got the perfect one to upload, and it took 3 hours. I thought it was hard to do the recording. However, after I read the course details, manuals, and learned from the lecturer's assistance, everything is manageable." (RA's excerpt)</p>	Considerable endeavor to create a good podcast	Behavioral engagement in Being a Podcaster	Behavioral engagement (RQ1)
	Teacher provided course details, manuals, and assistance	Sustained assistance	More competence-supportive learning environment (RQ2)
<p>"... The teacher gave us exciting material. She gave an exciting theme then let us select our topic based on our interests. She always brought new things during the learning process, such as 3-minute live talks and virtual group projects.</p> <p>She always motivated us ... She is open and knows how to make the class alive. I felt very motivated. The materials were very beneficial for my life ... So, we were not bored." (FDR's excerpt)</p>	Teacher provided exciting and meaningful materials	Relevant and interesting materials	More autonomy-supportive learning environment (RQ2)
	Teacher let the students select the topic	Space for choice	
	Teacher was open and encouraging	Sense of caring atmosphere	More relatedness-supportive learning environment (RQ2)
	Feeling of being motivated	Emotional engagement in the overall process	Emotional Engagement (RQ1)

## Findings

### *Students' engagement in podcast-based speaking activities*

From the data analysis, the students' behavioral, cognitive, and emotional engagement were observed in three main pedagogical phases; (1) Preparation, (2) Being a Podcaster, and (3) Virtual Tour and Reflection.

**Behavioral engagement.** Behaviorally, a majority of students showed their positive engagement in the three pedagogical phases. The detailed indication of students' behavioral engagement for each pedagogical phase captured from students' portfolios, oral reflections, and written narratives is summarized in Table 2.

**Table 2.** Students' behavioral engagement

Sub-themes	Codes	Participants (N)	Data (N)	Sample data (excerpts or notes)
In Preparation	Considerable endeavor in navigating and reading/ listening to the language texts.	19	33	"Today, I listened to 2 videos such as 'how fast is the speed of thought?' and ... I chose those videos because I'm interested in the title and the thumbnails." (Excerpt 1 by MAS)
	Considerable endeavor in constructing VLH.	16	16	The students' VLHs (16 out of 23) were well organized and decorated with pictures, appealing fonts and colors. (Students' Portfolios)
	Active participation in communicating learning progress.	19	19	The students regularly recorded their learning progress every week. 19 out of 23 students always submitted the portfolio in or on time. (Students' Portfolios)
		14	14	They (14 out of 23) engaged in consultative oral reflection. (oral reflection notes)
In Being a Podcaster	Considerable endeavor to surmount the hurdles in podcast production.	23	51	"I managed to record my first Podcasts at 1 a.m. It took 15 times recording in the afternoon and seven times in the evening. I did it because I wanted to get the best result. You know... the recording at noon was full of distractors such as my niece's noise, commuting vehicles, ..." (Excerpt 2 by NC)
	Considerable endeavor to create a good podcast.	23	50	"... I recorded it five times till I got the perfect one to upload, and it took 3 hours. I thought it was hard to do the recording. However, after ... everything is manageable." (Excerpt 3 by RA)
In Virtual Tour and Reflection	Active participation in delivering and responding to feedback.	19	19	The students (19 out of 23) provided feedback to their peers' portfolios and responded to the received feedback as scheduled. (Students' Portfolios)
	Considerable endeavor in revising VLH & Podcast.	18	18	The students (18 out of 23) made some changes in their portfolios accommodating their peers and teacher's feedback. (Students' Portfolios)

In Preparation, most of the students (n = 19) actively searched for and read or listened to language texts as the references for their speaking production.

Based on the close observation of their portfolios, they managed to listen to or read 2 to 6 language texts before a single speaking production with investing around 10 to 25 minutes per text listening or reading. A lot of students also disclosed their active participation and endeavor in creating their VLH (n = 16) and communicating their learning progress either by recording their learning progress weekly (n = 19) or by engaging in consultative oral reflection (n = 14). In addition to their personal VLH page, they collaboratively designed their group VLH based on the joint interest of all group members through a series of group negotiations. The observation depicted their creativity in designing the cover page that was imbued with their collective interest.

In Being a Podcaster, some indications of students' behavioral engagement were also salient. In the recording process, all students (n = 23) experienced some technical problems such as noisy environment preventing them to create quality podcast episodes. Correspondingly, they showed their endeavor to tackle the problems by finding the proper time for recording. As sampled by NC in excerpt 2, students frequently recorded their voices in a quiet time such as the late evening or early in the morning. Additionally, as narrated by RA in excerpt 3, all students (n = 23) repeated the recording for several times and spent some hours to produce a single podcast episode.

The similar findings were also found in Virtual Tour and Reflection showing that most of the students were actively participating in delivering and responding to comment and feedbacks (n = 19) and were disclosing substantial effort in revising their VLH and podcast episodes (n = 18) based on their peer- and self-assessment, and teacher's feedback.

**Cognitive engagement.** The data also indicate students' salient cognitive engagement in the three pedagogical phases. Table 3 highlights the indications of students' cognitive engagement in each phase.

**Table 3.** Students' cognitive engagement

Sub-themes	Codes	Participants (N)	Data (N)	Sample data (excerpts or notes)
In Preparation	Selecting language texts based on their relevance.	19	19	"I chose the first video because the title is eye-catching and the topic is relevant to today's issues. I chose the second one because of the unusual topic... I am curious to know the perspective. Then, I believe that the third one ... would benefit me personally... They have interesting animation and interesting discussion." (Excerpt 4 by MGAS)
	Engaging in making meaning process.	14	21	"On the fourth day, ... I feel confused to understand this text, so I repeated listening to it 3 or 4 times to understand better." (Excerpt 5 by NHA)
	Clarifying textual meaning.	14	14	"I found several unfamiliar words: comprised, digestion, ... Then I look up the meaning from my dictionary and google translate. It helps me a lot." (Excerpt 6 by NHA)
In Being a Podcaster	Setting learning strategies to get better speaking products.	12	12	"...I prepare an outline to help me speak better." (Excerpt 7 by MGAS)
	Engaging in self-assessment in podcast production.	19	35	"I realized that I made something wrong with the outline of last week's meeting. Then, I fixed it and made a slight change in the following days." (Excerpt 8 by RA)
In Virtual Tour and Reflection	Engaging in feedback internalization.	18	19	"The most fav page on the C group is Nanda's page because Nanda's page is so colorful and creative, everything on her page is perfect, the material in her Podcast is so great, and I learned something from Nanda. I asked her to teach me how to decorate my VLH better." (Excerpt 9 by MHR)

In Preparation, most of the students independently selected their language texts based on their interests and needs (n = 19). In various degrees, the students had salient attempt to undertake and elaborate more the learning tasks by functioning learning strategies and self-regulation. Many of them (n = 14) engaged in making meaning process through repeated listening or reading and in textual meaning clarification and confirmation by utilizing dictionary and google translate as narrated in excerpts 5 and 6 by NHA.

In Being a Podcaster, several students (n = 12) disclosed their strategies in surmounting the learning hurdles and creating quality podcast episode. For instance, to produce an organized and fluent speaking in podcast episode, students employed outlining technique as reported in excerpt 7 by MGAS. A great number of students (n = 19) also displayed awareness to self-evaluate



their learning process and their speaking product. The instance from RA's excerpt shows that RA could identify particular mistakes and then revised them accordingly.

Likewise, the data elucidate the students' engagement in the Virtual Tour and Reflection. The virtual tours permitted most of the students (n = 18) to learn from their peers and examine their learning portfolios as reflected by MHR in excerpt 9. Other excerpts also signify comparable voices wherein a significant number of students saw virtual tour and reflection assisted them to understand the position of their learning progress by examining their peers' learning progress. Through the eyes of peers in visiting peers' VLH, they were more aware of their strengths and weaknesses. There were some mental processes where they observed, compared, contrasted, and then took some lessons to ponder. MHR testified that the virtual tour opened the possibility to commit to peer tutoring where they could learn from each other.

**Emotional engagement.** Having been introduced to podcasts as the speaking platform during distance learning, almost all of the students were curious and showed positive emotions. The detailed sub-themes and codes are recorded in Table 4.

**Table 4.** Students' emotional engagement

Sub-themes	Codes	Participants (N)	Data (N)	Sample data (excerpts or notes)
In Preparation	Feelings of curiosity to explore language resources.	16	20	"I think the materials did not only motivate my friends. I also felt motivated. I understand the importance of the materials for my life. That's why I like to explore various texts and learn more. I am very grateful for this course, I learned a lot." (Excerpt 10 by NS)
	Feelings of being enriched with the content knowledge and the lexical resources.	17	37	"The topics were very beneficial for my life and gave me new knowledge. I know more about the world and how to improve myself." (Excerpt 11 by NM) - Students started to use new vocabulary that they have learned in their speaking (Students' portfolios)



In Being a Podcaster	Feelings of excitement in the speaking production	19	29	"Once ... I was confused and nervous. I was only accustomed to listening to podcasts on Spotify... From time to time, I was used to it, and everything went easy, I am excited." (Excerpt 12 by LAW)
	Feelings of enthusiasm to learn new technology.	22	49	"Learning how to speak using podcast is very interesting for me because I have never tried it before. I wanted to experience how to record my voice using this new technology... I began more interested. I was delighted with various unique soundtracks to beautify my voice." (Excerpt 13 by NMDTW)
	Feelings of better speaking skills and pronunciation.	22	50	To me, podcast was convenient. I got ample benefits, especially in terms of my speaking quality ... Now, I am very enthusiastic about recording my voice. I do remember that I was ashamed of my terrible pronunciation. I tried my best to improve day by day, and I feel better even though I still make some mistakes. (Excerpt 14 by LAW)
	Feelings of being connected.	22	33	Using podcasts, I could listen to all my friends' voices ...It helped me reach my friends. Learning to use podcasts in this pandemic is something that deserves high appreciation. It connected us by listening to each other. (Excerpt 15 by NC)
	Feelings of positive self-development	18	43	"... and it is enjoyable to listen to my own voice. Feeling a little proud and feeling what I learned turned out to bring tangible results. Indeed, this is very pleasant ... I feel like a professional podcaster." (Excerpt 16 by NMMS)
In Virtual Tour and Reflection	Feelings of excitement to learn from others.	10	11	"When doing the virtual tour activities, I am very excited and curious because I want to see how they learn, whether from the way they edit or the material they convey. So, I can know my strengths and weaknesses. Apart from that, I can also see and learn more from the materials I have not read." (Excerpt 17 by MRP)
	Feelings of being motivated and appreciated.	15	33	
	Feelings of better self-awareness.	23	46	

In Preparation, many students (n = 16) reflected that they were enthusiastically participating in language resources navigation. As sampled by NM in excerpt 11, a lot of students (n = 17) concerned that the language texts they read or listened to before creating their podcast episodes enriched them with useful global knowledge, lived experiences and myriad new lexical resources.

In Being a Podcaster, a majority of students also showed their positive emotional engagement with five indications pertaining to students' positive feelings

in speaking production (n = 19), in learning new technology (n = 22), in speaking skills and pronunciation (n = 22), of being connected (n = 22), and of positive self-development (n = 18). However, one student perceived that the process was devoid of meaningful learning interaction.

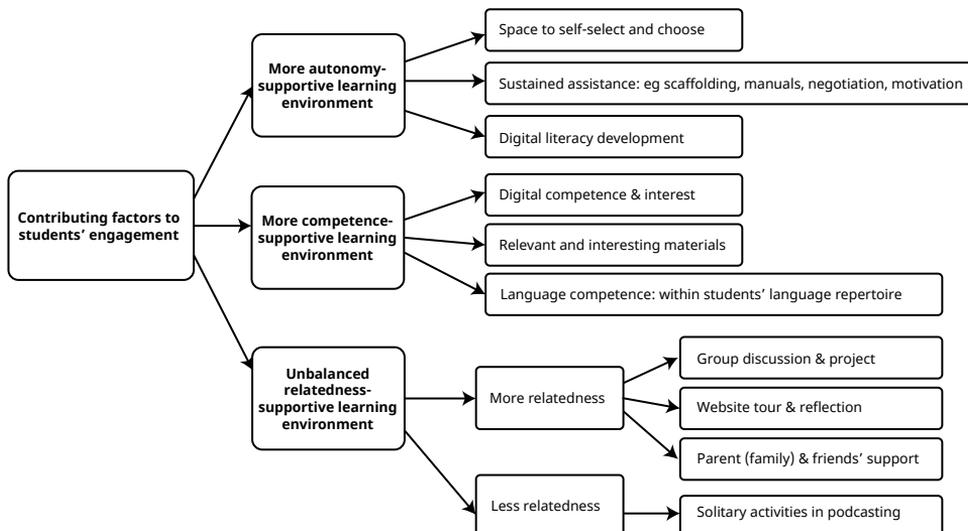
Using podcasts is not that effective because it is like we are talking by ourselves. ... The Podcast did help me with my speaking, but it was not that significant. My suggestion is that the most effective technique to improve students' speaking is testing the student directly in a face-to-face, Zoom mediated, or video call. (Excerpt 18 by MRA).

Different to the other students, MRA felt isolated in creating podcasts episodes since MRA could not engage in reciprocal verbal interaction.

The positive feelings were also found in the Virtual Tour and Reflection. Several students (n = 10) were excited to learn from their peers' VLH, to see what they had done in progress. As narrated by MRP in excerpt 17, they appreciated the virtual tour since all of them (n = 23) felt that they had better awareness on their strength and weaknesses of their works. A great number of students (n = 15) were also perceived to feel motivated and appreciated by their peers who visited their VLH and gave feedback on their work.

### *Contributing factors to students' engagement based on Self-Determination Theory*

In exploring the potential antecedents of students' engagement in the series of podcast-based speaking activities, three major themes emerged from the data coding: 1) more autonomy-supportive learning environment, 2) more competence-supportive learning environment, and 3) unbalanced relatedness-supportive learning environment. The following figure highlights the findings.



**Figure 2.** Contributing factors to students' engagement

**More autonomy-supportive learning environment.** It is evident from the selected data that more autonomy-supportive learning environment was seen as one of the contributing factors of students' engagement. This autonomy-supportive learning environment was reflected in the instructional design in which the teacher afforded students with ample space to self-select and choose the learning topics that interested them. This space for choices was also articulated in a great number of students' reflection ( $n = 19$ ). As previously stated in excerpt 4 by MGAS, 10 by NS, and 11 by NM, the relevant and interesting materials introduced by the teacher in the instructions accrued sense of meaning and satisfaction motivating them ( $n = 17$ ) to grow and make more progress.

The teacher gave us exciting material. She gave an exciting theme then let us select our topic based on our interests. She always brought new things during the learning process, such as 3-minute live talks and virtual group projects. (Excerpt 19 by FDR).

FDR's excerpt signifies that the students not only acknowledged the motivating podcast-based learning activities guided by the teacher, but also appreciated the non-podcast ones such as 3-minute live talks and virtual group project that they perceived had aggravated their engagement.

At the same time, students' digital competence and interest towards the use of podcast played a significant role to help them to be more autonomous in learning that ultimately could foster their extent of engagement.

Learning to use a podcast account is not difficult. As a millennial who is used to using smartphones, such things are very easy for me to do, especially there are instructions on how to use them that are indeed very helpful. (Excerpt 20 by NMMS)

Akin to NMMS in excerpt 20, most of the students ( $n = 17$ ) felt that learning to create their Podcasts was part of their millennial lives. A significant number of students ( $n = 15$ ) did not experience obstacles in utilizing the Podcast. Concomitantly, some students ( $n = 8$ ) voiced their anxiety on the first try and finally felt satisfaction.

**More competence-supportive learning environment.** The more competence-supportive learning environment was also coded as a noticeable factor facilitating students' engagement. A majority of students ( $n = 20$ ) reported that the teacher provided sustained assistance through scaffolding, manuals, negotiation process, and verbal and behavioral encouragement. For example, RA confessed that the teacher's support had assisted her to engaged in the learning process.

However, after I read the course details, manuals, and learned from the lecturer's assistance, everything is manageable. (Excerpt 21 by RA)

Besides, as explained in the learning activities, the teacher had devoted two meetings to develop students' digital literacy through training and tutorials. Another example was captured in the third meeting in which three students did

not actively participate in the instructions. Their learning portfolios confirmed that they had not make any progress in the Preparation such as in building VLH and navigating texts. In response, the teacher texted them, reminding and motivating them to go back on track. Some technical supports such as short training were also provided. This teacher's nudge and technical supports appeared to work, resulting in better students' engagement for the following meetings. Another reflection is articulated as follows:

The most important thing that made learning using podcast interesting is the lecturer's support. I found the lecturer was very facilitative. She guided us very well. She provided examples. The learning agenda was well organized. As students, we were not confused. We knew where to go. She was responsive to any question. Even though, I had to submit my learning progress every week, I was happy doing the all learning processes because the lecturer was very kind. (Excerpt 22 by LMBN)

In this manner, LMBN counted that the teacher's supports and well-structured instruction might have encouraged students to be more engaged in the instructions. Lastly, most of the students (n =19) intended to select language texts within their language repertoire that assisted them to engage better in the instruction. In this respect, the teacher had guided them to select the texts that were neither too difficult nor too easy for them.

**Unbalanced relatedness-supportive learning environment.** It was observed that there was unbalanced relatedness-supportive learning environment in the instructions that might affect students' engagement. On the one hand, students were facilitated with more relatedness-supportive learning environment in the Preparation and Virtual Tour and Reflection. Students had ample opportunities to work with their peers in the group project, virtual tour, and reflection that tended to help them behaviorally, cognitively, and emotionally more engaged in the instructions. For example, for the group project, students were facilitated to engage in shared discussions through synchronous virtual group meetings either supervised or unsupervised by the teacher. The example of students' related reflection is as follows.

... moreover, in the group project. It was the most exciting part because I did the project with some friends, we were engaged in a shared discussion on a particular topic in English. For me, it was an excellent way to learn and perform my English learning progress. (Excerpt 23 by NM)

A significant number of students (n = 19), as exemplified by NM in excerpt 23, appreciated the teacher's support in setting some group works that could help students to feel more connected. The teacher also managed to create caring atmosphere through behavioral and verbal encouragement helping students to feel more motivated. Additionally, the data show that the relatedness-supportive learning environment was not only mediated by the teacher and classmates, some students (n = 6) reflected that parents or family and friends from outside classroom also contributed to the engagement, as voiced by NPEVS.

I shared my podcasts episodes to my parents, family, and some friends. I got a lot of support, my friends suggested me to continue making podcasts episodes. I felt very happy and more motivated because I got supports from my people, I feel connected with my world and I want to go forward. (Excerpt 24 by NPEVS).

On the other hand, despite the more supportive environment in the Preparation and Virtual Tour and Reflection, it was evident that there was less relatedness in Being a Podcaster. In the all recording cycles, the instructional design required students to only do solo recording. They were not facilitated to have tandem podcasts creation. Excerpt 18 by MRA confirms this finding.

## Discussion

This study aimed to inquire students' engagement and the potential contributing factors in podcast-based speaking activities. The observed data from learning portfolios, oral reflections, and written narratives have disclosed that most of the students, to some extent, demonstrated positive behavioral, cognitive, and emotional engagement in the series of podcast-based speaking activities. This positive engagement was mostly due to the teacher's pedagogical instruction that afforded students opportunities to have more autonomy, more competence, and unbalanced relatedness-supportive environment. In this context, podcast has its attributes to support students' engagement as has been unfolded by some previous studies (Bedenlier et al., 2020; Chiu, 2021a; Morgan, 2015; Yeh et al., 2021).

Behaviorally, the students showed considerable endeavor and participation in Preparation, Being a Podcaster, and Virtual Tour and Reflection. For instance, they spent longer (time) in navigating and learning the language resources, building their VLH, recording their podcast episodes, and engaging in a series of reflections. They read and listened to several language resources and did recording repeatedly to produce single podcast episode. These indications echo the behavioral engagement parameters (Fredricks et al., 2004; Philp & Duchesne, 2016). Cognitively, they demonstrated their elaboration in tasks (Baralt et al., 2016; Storch, 2008; Svalberg, 2009) through a series of mental processes such as repeated meaning-making process, internalization, and willingness to use their perceived effective learning strategies to gain better learning attainment (Fredricks et al., 2004). Podcast, in this case, facilitated constructivist learning practices orienting to the students-centered learning process (Lonn & Teasley, 2009). The students also felt some positive emotions wherein they disclosed feeling of interest and enthusiasm towards their experiences in podcast-based speaking activities (Fredricks et al., 2004). They linguistically sensed some benefits of the activities such as: getting better speaking fluency, better pronunciation, enhanced language lexical repertoire, and decreased speaking anxiety, as have been revealed in a significant volume of literature (see Bueno-Alastuey & Nemeth, 2020; Cross, 2014; Farangi et al., 2015; Fouz-González, 2019; Hamzaoğlu & Koçoğlu, 2016; Hur & Suh, 2012; Lowman, 2014;

Oslawski-Lopez & Kordsmeier, 2021; Suzani, 2021; Yeh et al., 2021). Different from previous studies, other positive feelings of nested personal development facets such as optimistic of future self-projection, better confidence, creativity, and autonomy emerged in this study. The students also felt of being connected even though they did not meet their teacher and classmates in person. These findings indicate that they were emotionally engaged in the podcast-based speaking activities.

In searching the underlying factors contributing to the observed students' engagement, the teacher's pedagogical practices endorsing students' basic needs appeared to foreground those engagements. This result is consistent with the previous empirical findings in the school context, either in face-to-face (Reeve & Lee, 2014) or in online learning during the pandemic (Chiu, 2021a, 2021b) and in online higher education (Brown et al., 2020; Ferrer et al., 2020; Hsu et al., 2019; Muir et al., 2019; Randi & Corno, 2022). This study has enriched the body of literature by confirming SDT workability to explain students' engagement in emergency online learning for higher education. Accordingly, this study spotlights the teacher's fundamental role in maintaining students' motivation in online learning (Xiao, 2012), especially in the unprecedented learning milieu such as due to the global pandemic or natural disaster (Khotimah et al., 2021). The teacher's competence and agency in adopting approaches and strategies shaping the bond among students, student-content, as well as student-teacher, was reflected in the engaging course design (Korkealehto et al., 2021) becoming the bedrock of quality learning in this challenging learning atmosphere (O'Shea et al., 2015). The students as millennials with their related attributes also contributed to the extent of their behavioral, cognitive, and emotional engagement. Furthermore, the role of parents or families, and friends' support also appeared to contribute to the more relatedness-supportive learning environment impacting to their engagement.

The teacher facilitated students' engagement in three themes of a supportive learning environment: more autonomy, more competence, and unbalanced relatedness. First, teachers' role in providing space for students to self-select language texts and delivering relevant and interesting materials was quite helpful to establish students' sense of autonomy (Ryan & Deci, 2020; Chiu, 2021a), building better engagement in searching and reading or listening to more language resources and in producing podcast episodes. Students' status as digital natives that had strong interest and better digital competence towards the use of new technology possibly has contributed to their engagement in the recording process. In this respect, using podcast was a kind of innovation and surprising technique to help them stay motivated and engaged (Renandya, 2015) in their relatively mundane online learning activities. This result supports the view stated elsewhere (Alamri et al., 2020; Bedenlier et al., 2020; Chan et al., 2011; Korkealehto et al., 2021) on the magnitude of meeting students' interests and needs to empower students' learning.

Second, the teacher maintained a more competence-supportive learning environment. In this respect, the teacher provided sustained assistance such as through scaffolding, manuals, verbal and non-verbal encouragement. For

example, the nudging to the less engaged students showed its positive impact to support students to be reengaged in the learning process (Brown et al., 2020). The materials with the language complexity within the students' language repertoire were also supportive to students' engagement in understanding the language resources and generating positive affective feelings before the speaking production. Besides, the inclusion of other technological learning platforms and other non-podcast-based activities into this podcast-based speaking activities allowed teachers to deliver adequate scaffolding for students' speaking development. Correspondingly, the teacher could provide three forms of scaffolding (Goh, 2017), starting from pre-task planning in Preparation, task repetition in Being a Podcaster, and metacognitive enhancement in all three pedagogical phases. Specifically, four metacognitive processes of planning, monitoring, evaluating, and revising in speaking activity (Chan et al., 2011; Yeh et al., 2021) were observed in the podcast enactment.

Third, it is also interesting to note how the teacher delivered a relatedness-supportive learning environment that was observed as unbalanced. Despite the positive reflection from almost all students whereby they felt connected to the instruction due to the teacher's instructional design and parents, families, and friends' support, a student (MRA) voiced that speaking through podcast left the feeling of lonely escorting to the sense of unsatisfactory. Even though this testimony has juxtaposed the major data, it is reasonable since when we observed the design of instruction, we could see that the teacher had designed solitary speaking production. The teacher had not situated students to speak collaboratively with their peers, albeit the podcast's menu allowing such a collaboration. The sense of relatedness was only facilitated in Preparation and Virtual Tour and Reflection. This fulfilment of students' needs for relatedness in the two phases might help most of the students to feel still connected, except for MRA. What MRA voiced in the reflection represents the empirical finding from Chan et al. (2011) unveiling that podcast in praxis occasionally discloses some mismatch between the podcast design and students' expectation, needs, and preferences requiring teachers to respond them wisely to find the decent lesson learned for the better practices. Likewise, this finding reflects Chiu's (2021a) finding arguing that in online learning the needs for relatedness should be more advocated.

## Conclusion and implications

Understanding students' engagement in podcast-based speaking activities in the online milieu and the factors contributing to the observed engagement has robust conceivable benefits for improving educational outcomes. In the micro-level of learning, this study offers a practical contribution for teachers and practitioners to better enact podcast in facilitating students' engagement in language learning, particularly speaking. This study has chronicled how, in general, the students positively engaged in a series of podcast based-speaking activities. In this context, a podcast, as one of the educational technologies, contributes to support students' engagement. In this respect, teachers' have a

fundamental role in mediating and creating a supportive learning environment to address students' basic needs to better engage students in the instruction.

Despite the teachers' positive practices in facilitating autonomy and a competence-supportive learning environment, unbalanced relatedness-supportive learning environment situated by the teacher gave a lesson on how to design the instruction more effectively. In so doing, teachers and practitioners who intend to integrate podcast to teach speaking in the EFL context should consider three aspects. First, when employing podcast, teachers should consider students' psychological basic needs in their instructional design, especially addressing the needs for relatedness such as by designing collaborative learning activities in podcast creation. Second, teachers might integrate other supporting online learning platforms and activities in podcast-based speaking activities to provide a more effective scaffolding. Third, in addition to teachers' and students' factors, parents or families and students' friends beyond the classroom appeared to be other social factors which might affect students' engagement.

This study also contributes to the theoretical perspective on applying SDT to enhance students' engagement in the classroom. It has confirmed that SDT is workable to foster students' engagement in podcast-based speaking activities in higher education during the emergency online teaching-learning. In a wider context, these findings have validated the workability of SDT to obtain a quality education in diverse contexts. However, we realize that this study has some limitations. First, the data lack the hallmark of heterogeneity in the sense that this study only involved one particular cohort of students. The merit, therefore, does not lie for its generalizability but transferability. The similar studies from other contexts might result differently. EFL researchers, teachers, and other EFL practitioners from Indonesia and beyond could make connection between the findings of the present study and their contextual experiences to draw beneficial implication for their EFL teaching-learning practices. Second, our inability to access students' actual learning behind the screen and beyond their stories, reflections, and learning portfolios has impeded this study to access the whole aspect of students' learning. Thus, future research is suggested to carry out similar research using ethnographic study where the researchers could immerse themselves in students' context. Since this study methodologically focused on the students' engagement in relation to how teachers' practices support their behavioral, cognitive, and emotional engagement, the perusal focuses on the students' agentic engagement, parents or families' influences in online learning using podcast or other technological platforms is also worth extended scrutiny.

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