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Engaging students through messaging applications in foreign language learning

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Abstract

This study explores undergraduate students' experiences and perceptions of group discussions facilitated by eStudentMentors in WhatsApp or Telegram groups in the context of German language learning. eStudentMentors are senior peers who volunteer to support novice language learners. The study was conducted with 159 students enrolled in German Language Level 1 and German Language Level 2 at a university in Singapore. Each of the language classes comprises 15-21 students and are assigned an eStudentMentor to facilitate online learning and discussions in a dedicated WhatsApp or Telegram group. With considerations to information-sharing behaviour, the study examines how receptive students are to online information-sharing in this context. As such, a combined quantitative and qualitative online survey questionnaire was used to collect data, with survey questions examining information-sharing behaviour governed by personality traits and based on the Social Exchange Theory, Social Capital Theory, and theory of instinctive information-sharing behaviour. Overall, 55.97% of the students who completed the survey used the WhatsApp or Telegram groups created by their eStudentMentor to ask or answer questions and share information at least once throughout the semester. In comparison, the other 44.13% were completely inactive in their chat groups. This analysis examined the reasons behind this group of students' inactivity and found that a major factor for individual inactivity was the overall inactivity of the chats, which makes the active facilitation of the eStudentMentor a crucial element for success. The lack of social bonds appears to be another main reason for inactivity. Additional factors are class size, unfamiliarity with their classmates, fear of judgement, feeling awkward, having negative assumptions, and low commitment levels. The findings counter the Social Exchange Theory (SET) propositions, as the greater benefits of information sharing are overshadowed by the seemingly trivial cost. Yet, these costs in the form of social perceptions and pressures appear to accumulate and collectively outweigh the rationally perceived benefits to the users.

Introduction

This study explores undergraduate students' experiences and perceptions of group discussions facilitated by eStudentMentors in WhatsApp or Telegram groups. In this technological age, many universities across the globe are adopting e-learning to complement traditional teaching and learning methods (Belias et al., 2013; Kasraie & Kasraie, 2010). In comparison to traditional teaching and learning methods, modern methods that incorporate the use of technology, social media, and the internet are more attractive to students and have improved student performance (Sirbu et al., 2014). Hardy et al. (2023) also observed that well-constructed online learning can contribute to the learners' wellbeing and foster a sense of connection in a learner community.

eStudentMentors are senior learners who volunteer to guide level 1 (LG5001) and level 2 (LG5002) German learners, who learn German at a Common European Framework of Reference for Languages (CEFR) A1 Level, through a dedicated chat group in their learning journey (Common European Framework of Reference for Languages, 2023). The eStudentMentors are recruited from higher level courses in which students learn German at a CEFR B1 level. The study was conducted with a cohort size of 159 students enrolled in German Language Level 1 (LG5001) and German Language Level 2 (LG5002) at a Singaporean university. Each German language class, comprising 15-21 learners, was assigned an eStudentMentor to facilitate and encourage class discussions in a WhatsApp or Telegram group. The students enrolled in the classes were free to use the platform to engage in further learning outside classroom time; be it to clear doubts or share resources. With considerations to information sharing behaviour an online survey comprising quantitative Likert scale questions and qualitative questions was developed. The study aims to examine whether peer mentors (eStudentMentors) are able to extend learning beyond the classroom and if it is widely used and accepted by students. The study also examines how receptive students are to stimulated online information sharing in a group chat, and if it positively affects students' overall learning experience and performance.

Blended learning

Blended learning combines traditional face-to-face (FTF) instruction with technology-mediated instruction, while emphasising the central role of technology (Bonk & Graham, 2005). Essentially, the technological part takes place outside the FTF teaching location, subject to individual students' own time, space and pace (Hockly, 2018). A survey done in 2020 found that 94% of lecturers thought blended learning to be one of the more active approaches compared to just traditional FTF learning (Widyasari et al., 2020). Such interactive teaching approaches benefit students by improving their understanding and increasing their subjective learning gains (Alonso et al., 2011). Kember (2010) has also noted that blended learning increases students' learning productivity and improves their communication skills by enabling active participation and constructive communication (Gecer & Dag, 2012; Sirbu et al., 2014). Blended learning facilitates prompt feedback and increased accessibility to both information technology and human resources (Poon, 2013). Based on the previously recorded benefits, this study begins with a promising projected outcome for students through the use of modern, interactive, and technological learning.

Stein and Graham (2020) argue that in order to choose the technological aspects of blended learning, teachers should focus less on the technology itself and instead focus on how it enables learning. Studies have pointed out some disadvantages of technology itself, such as some platforms being user-unfriendly or facing overwhelming technical difficulties, which hinder learning (Szadziewska & Kujawski, 2017). Hence, for the purpose of this study, a medium thought to be low-maintenance and user-friendly was social media—a platform that is readily available and familiar to students in a Singapore context. Social networking sites, such as Facebook and Instagram, are one of the most visited sites on the internet. Along with their open interface and popularity, these sites enable effective communications, diminish social barriers and are deemed a good medium to facilitate learning (McCarthy, 2010). Chat groups allow students to discuss, clear doubts, and share information in real-time. Students are also no strangers to these online platforms, which have long been successfully employed to support university students in language learning (Conroy, 2010). In one study by Shih (2011), the online platform enabled students to continue to learn English as a foreign language outside of class time and thereby provided more flexibility in the learning process, enabling learner-centric interactions and practice that helped students acquire new knowledge. However, a disadvantage that has been pointed out is that students are not motivated or disciplined enough to put aside time outside the classroom to engage in learning (Tosun, 2015).

Messaging applications, such as WhatsApp and Telegram, have long been identified to be a large part of the technological trends after the web-based social networks (Cetinkaya, 2017). It is also argued that WhatsApp surpasses social networking sites, such as Facebook, in terms of educational purposes, connectivity, and ease of usage (Rani et al., 2019) since it is swifter and more efficient to facilitate real-time communication (Kamel et al., 2016). WhatsApp, in particular, is one of the most used mobile communication tools in the world (Statista, 2016). Based on the application's flexible and informal nature, WhatsApp has been proven to facilitate seamless and informal learning (Annamalai, 2018). This communication tool has also been proven to support learning outside of class time by increasing students' interest and motivation, creating a sense of belonging, and enabling peer support, as well as information sharing among students (Cetinkaya, 2017; Raiman et al., 2017). Previous studies have also demonstrated that messaging applications have helped enhance the university experience (Nitza & Roman, 2016). Thus, the use of WhatsApp or Telegram was adopted over social networking sites for this research, with WhatsApp being used in the earlier implementations of eStudentMentor run group chats and Telegram being predominantly used in consecutive runs. The Singaporean students' growing preference for Telegram is driven by the ability to create groups based on user names only, thus avoiding having to save each chat member's number in the phone.

The use of eStudentMentors

Studies have also shown that student mentorship enhances participation, engagement, and acquisition of knowledge, contributing to a more satisfying learning experience and academic performance (Bhatia et al., 2016). Deri (2022) notes that students are better equipped to succeed and to reach their learning goals if they witness someone else succeeding, which highlights the role model function of eStudentMentors recruited from higher-level language learners. According to Snowden and Hardy's (2013) findings, having a student mentor eases a mentee into a social environment and helps him or her to become more comfortable with their peers, which later enables them to reflect better on their thinking. Indeed, a mentorship programme can contribute to learning in light of the fact that students consider continuous access to an instructor, or a figure with more knowledge than them to be vital in the context of blended learning (Martinez-Caro & Campuzano-Bolarin, 2011).

This study goes a step further by replacing the 'faculty figure' with a fellow student, albeit from a higher level, to create an even more informal and accessible learning environment. Informality is important as students perceive it to be more amiable, which helps to combat detached interactions between faculty and student (Dumford & Miller, 2018). Thus, this study combines the use of peer mentorship on top of the communication application in hopes that it will boost learning outcomes. The study is conducted in a foreign language learning environment at the university level that has implemented blended learning through a flipped classroom approach. As such, total beginners to German language learning are tasked to familiarise themselves with grammatical content prior to the FTF classes, with the aim to engage students in more seamless and self-directed learning, where students do not feel the necessity to set aside specific time to contribute to their learning while being able to familiarise themselves with new materials at their own pace. Hence, the eStudentMentors are engaged in order to support and motivate the A1 level learners in this self-directed learning process.

The eStudentMentors were recruited from higher-level German language learners to act as role models and to provide a seemingly informal platform for learning beyond the classroom. All eStudentMentors were volunteers, who were neither paid nor rewarded in any other form. While each eStudentMentor was in charge of one class of learners, the department head supported the peer mentors in a chat in order to clarify queries or provide advice in case complex questions were asked in the individual chats. Yet, in order to maintain the informal and highly individual nature of the various chat groups, no specific routine or schedule was implemented. Thus, the eStudentMentors displayed varying levels of engagement and motivational strategies in their respective group chats. The eStudentMentors were also left to decide whether they wanted to facilitate the group chat on WhatsApp or Telegram and in the context of this study, no differentiation was made between WhatsApp or Telegram chat groups.

Methodology

After the implementation of the eStudentMentor facilitated chat groups, it was found that only very few group chats were active throughout the semester. The need to identify the causes for this inactivity was deemed important. Consequently, a Qualtrics survey was conducted online, using questions to collect qualitative and quantitative data in order to understand and evaluate undergraduate students' experiences and perceptions of group discussions facilitated by eStudentMentors in WhatsApp or Telegram groups.

All 159 students enrolled in the CEFR A1 courses were encouraged to participate in the survey. Surveyed students were assured that participation in the survey is optional, and that survey data is anonymised. Surveyed students had 12 weeks to use the group chats for their learning prior to the online survey being conducted. The survey structure and questions used in this study were adapted from Wang and Chan's (2011) survey, examining information-sharing behaviour governed by personality traits and based on the Social Exchange Theory (SET), Social Capital Theory (SCT), and the theory of instinctive information-sharing behaviour (Widen-Wulff, 2014).

The online survey in this study consisted of 12 sections and a total of 53 questions, 39 of which were Likert scale questions, with choices ranging from 'strongly disagree' to 'strongly agree' on a 6-point scale, and from 'never' to 'daily' on a 5-point scale. The former was used to gather how agreeable students were to the learning conditions, while the latter measured the frequency with which students engaged with the set medium. 13 of the other questions in the survey were open-ended, and one was a yes-no question. Each of the 12 sections terminated with one of the open-ended questions, which were deemed critical in understanding the reasons behind students' agreements, or lack thereof, with the learning platform. (A copy of the questionnaire can be found in Appendix A.)

The 53 questions were categorised into 12 segments, with each segment covering a different aspect of the theories that govern information-sharing behaviour. The first segment elicited responses on general group chat behaviour. The second and third segments explored the intrinsic benefits of Social Exchange Theory and the theory of instinctive information-sharing. The theory of instinctive information-sharing behaviour posits that it is natural for individuals to share information with other people (Fehr et al., 2008). Segments four to eight focus on the Social Exchange Theory under the consideration of cost, as well as intrinsic and extrinsic motivation. The Social Exchange Theory (SET) examines the motivations behind human social interactions and considers the costs and rewards of social behaviours (Homans, 1974). Lastly, the final segments evaluate pro-sharing norms and dimensions in the Social Capital Theory. The Social Capital Theory (SCT) also governs information-sharing behaviour. SCT examines social capital resources, which, according to Putnam (2000), arise from individual relationships and the benefits that they entail. By employing theories that govern information-sharing behaviour, this analysis seeks to understand the reasons behind the German language learners' behaviour in their eStudentMentor-

facilitated WhatsApp or Telegram groups.

Findings

Out of 159 students, 93.7% fully completed the survey. Mean values are used in this study to analyse Likert scale data; a smaller mean value indicates a more positive response and vice versa. Values less than 3.5 are considered positive, while values above and equal to 3.5 are negative. All graphics illustrating the results of Likert scale data questions indicate the number of students choosing the respective answers.

55.97% (81 out of 145 students) of the students who completed the survey used the WhatsApp or Telegram groups created by their eStudentMentor to ask or answer questions and share information pertaining to the study of the German language at least once throughout the semester. Students who were active in their chat groups understood the purpose of the chat groups and used them to share resources, exchange ideas, seek or provide clarifications and support their peers. The other 44.13% (64 out of 145 students), however, were completely inactive in their chat groups.

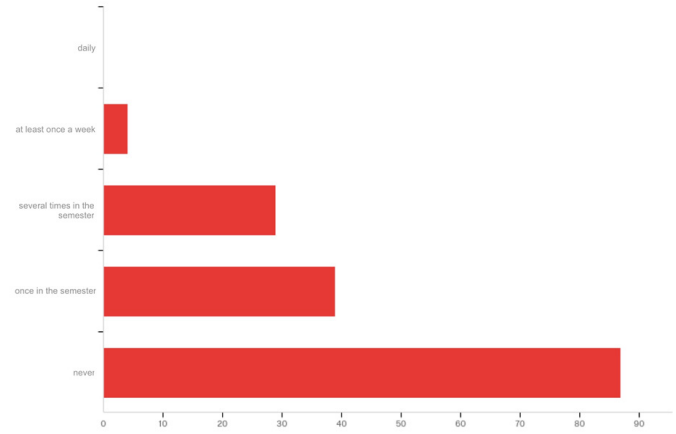

Figure 1: Q1.1. I have asked questions in my WhatsApp/ Telegram group.

The theory of instinctive information-sharing behaviour suggests the natural inclination of individuals to share information with others (Warneken & Tomasello, 2007), which was largely true for the students who participated in this study. In stark contrast to the recorded inactivity, 88.27% (128 out of 145 students) surveyed felt that it was natural for them to share information with other students, 90.34% (131 out of 145 students) reported that when they learned something new, they wished to share it with other students, and 87.58% (127 out of 145 students) preferred to share information with other students rather than keep it to themselves. Clearly, more than half of the students who were completely inactive in their chat groups made a conscious decision to go against their instinctive desire to share information with their peers.

92.41% of surveyed students (134 out of 145 students) agreed that active participation in information sharing via their chat groups benefited their learning. 88.27% (128 out of 145 students) agreed that asking questions in their

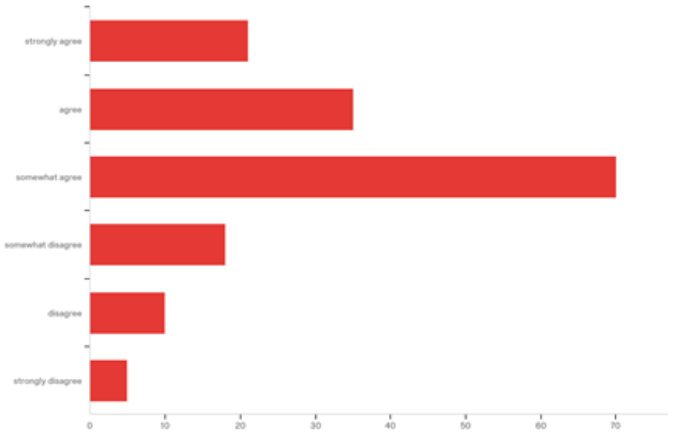

Figure 2: Q2.1. I enjoy sharing information with others in our WhatsApp/Telegram group.

chat groups helped with their learning, and 89.65% (130 out of 145 students) agreed that answering questions in their chat groups helped with their learning. Yet again, this understanding stands in contrast to the actual chat group participation rate.

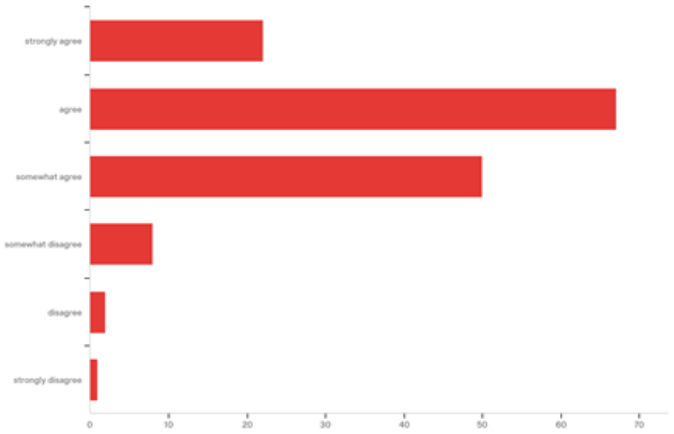

Figure 3: Q8.1 Active participation in the information sharing benefits my learning.

Despite being informed at the beginning of the semester that their eStudentMentors would only be facilitating the discussions rather than providing them with answers, 90.45% (142 out of 145 students) expected their eStudentMentors rather than their peer learners to answer their questions when surveyed.

Surprisingly, only 17.24% (25 out of 145 students) thought that sharing information in their group chats made them lose the knowledge that made them stand out with respect to other students. 15.17% (22 out of 145 students) thought that sharing information in their chat groups made them lose power over knowledge that no one else had, and 13.10% (19 out of 145 students) thought that sharing information in their chat groups made them lose their unique value. Out of those who did not utilise the chat group, 20.31% (13 out of 64 students) thought they would be disadvantaged in any of the above mentioned reasonings that would derive from information sharing.

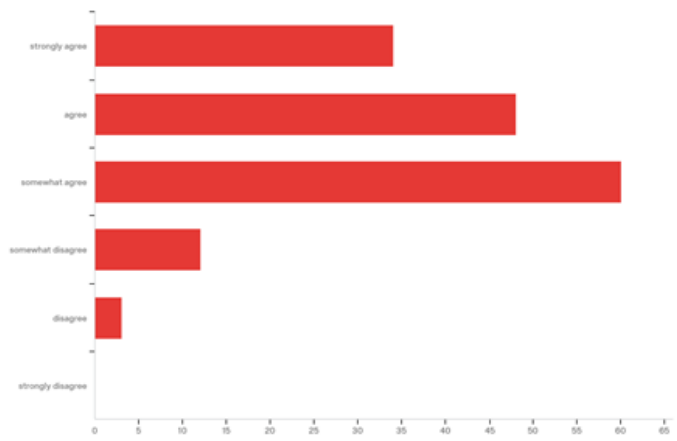

Figure 4: Q4.3. When I ask questions in my WhatsApp/ Telegram group, I expect my eStudentMentor to answer my questions.

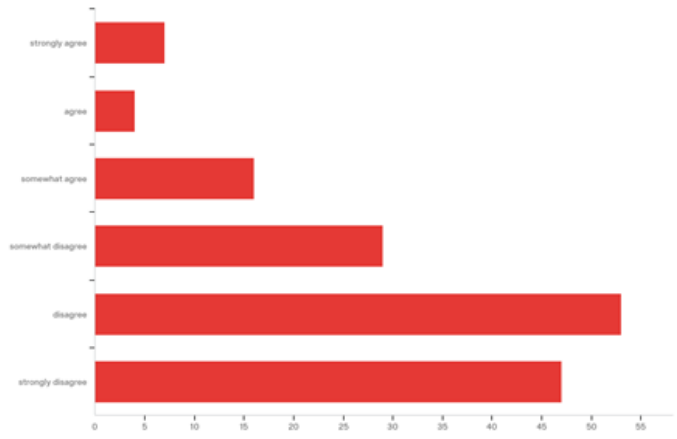

Figure 5: Q5.1. Sharing Information in our WhatsApp/ Telegram group makes me lose my knowledge that makes me stand out with respect to others.

Despite a large number of students not using the eStudentMentor facilitated group chats, 97.24% of surveyed students (141 out of 145 students) created a separate small group chat (Team Chats) with their oral assessment team members. Students are grouped in teams of three for the final group assessment, and the survey demonstrated that Team Chats are more frequently used than the eStudentMentor chat groups.

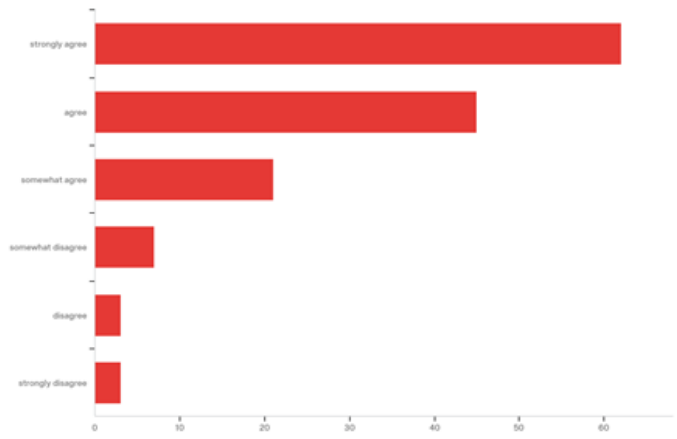

Figure 6: Q12.2. I ask my questions in my Team Chats rather than in my eStudentMentor chat group.

Analysis and discussion

This analysis seeks to understand the reasons behind this group of students' inactivity in their eStudentMentor facilitated chat groups, as 44.13% of students (64 out of 145 students) were completely inactive throughout the semester. Most eStudentMentors made some attempts to keep the chat groups active by posting subject-relevant questions or information about events, yet hardly any managed to initiate extensive discussion. Thus, despite the natural inclination of surveyed students to share information with others, more than half of the ones who were completely inactive in their group chats made a conscious decision to go against their instinctive desire to share information with their peers. The Social Exchange Theory provides a possible explanation for this behaviour.

The Social Exchange Theory (SET) consists of various propositions that influence information-sharing behaviour, the following of which are applicable to this study: value, success and rationality. The success proposition is determined by the likelihood or success rate in obtaining information; the value proposition focuses on the value of actions; the rationality proposition is determined by the success rate, value of action, and reasoning behind the action (Homans, 1974). The open-ended questions revealed that one reason that stopped some students from participating in their group chats was the lack of activity. Due to the chat group being quiet and with few asking questions, students did not expect any information-sharing, as evident below:

Not many people asking/answering questions.
It is too quiet in the group.
There isn't much activity in the group in the first place.

This lack of activity meant that students were less likely to be rewarded for asking questions or sharing resources in their chat groups. As Homans (1974) points out, if an action were proved to be successful, one would repeat the action in the future and vice versa. This ties in with the success and rational propositions of SET, which suggest that students were less willing to engage in discussions in their WhatsApp groups if they were less likely to be rewarded for it and that they had rationalised the fact that the lack of activity meant a lack of information.

Wang (2013) explains that one is likely to partake in information sharing if it generates more rewards than punishments. These considerations form the basis of the following equation by Molm (1997), which serves to predict social behaviours:

Behaviour (Profits) = Rewards of Interaction – Costs of Interaction

Applied to this study, the above equation takes the following form:

Likelihood of Utilising Chat Group = Rewards of Utilisation – Costs of Utilisation

In this study, 'utilisation' refers to asking and answering questions or sharing useful links and images related to the learning of the German language in chat groups. Costs refer to how a student's action affects or takes away something from them. Rewards are the benefits students obtain from utilising the chat groups. Divided by intrinsic and extrinsic motivational factors, these benefits form the basis of motivation theory.

An intrinsic motivational factor arises from the pleasure an individual derives from engaging in an activity, which makes the means (in itself) an end (Deci & Ryan, 2010). According to the survey results of this study, the mean value of students having enjoyed sharing information through the chat group is 2.85. Generally, students feel good from sharing or helping a fellow classmate or contributing to the 'greater good' of their class. Interestingly, however, 100% of those who had never used the WhatsApp or Telegram group agreed that they enjoyed sharing information. For this group of students, the pleasure that they could derive from sharing information in their chat groups appeared insufficient to motivate them to utilise the chat groups.

An extrinsic motivational factor, on the other hand, can be derived from a utilitarian value that results from a perceived overall usefulness (Davis, 1989; Limone et al., 2019). In this study, students attributed the perceived overall usefulness of their group chats to refining their understanding of the course's syllabus, clarifying their doubts and misconceptions, and improving their proficiency in the German language. According to the survey results, there is a mean value of 2.36 for students' perception that sharing information in their group chats benefited their learning. Yet, while the understanding of the benefits of asking questions stands in contrast to the actual chat group participation rate, many students could explain the ways in which sharing information benefited them in the open-ended questions.

Students realised that they could not only learn from mistakes they were unaware of, but from their peers' mistakes as well. The community presence made it possible to bounce off and clarify from each other's doubts. Additionally, the different explanations or thoughts from other students could bring about a wider range of perspectives for an individual student. The explanations, in turn, are good for revision, and is also a form of learning for the explainer as well. One student noted that it was especially helpful that others were asking the questions that shy students were too afraid of. Overall, these reasons emphasise the understanding of the benefits of the eStudentMentor facilitated chat group. These reasons provided by the students in the open-ended questions were as follows:

People could help to correct your mistakes (that you did not know).
Teaching is a form of learning.
Explanations from people may bring about different perspectives on issues and everyone learns better.
We learn things that we might not already know. Learn from other people's mistakes.
The forum helps make me aware of doubts others have concerning the content. Any discussion on those queries will benefit my learning experience as well.
Asking questions will help to clarify my doubts and similar doubts that others may have but choose not to ask about. Answering questions helps to clarify the doubts of others and gives everyone an opportunity to learn if I make a mistake.
It allows me to revise concepts I already learnt and trying to think of new ways to better explain it improve my understanding of the concept.

Again, 93.75% (60 out of 64 students) of those who did not use their chat group at all understood that engaging with the group in any way would benefit their learning. Yet, they consciously chose not to use their chat groups despite knowing that it could benefit their learning.

Another extrinsic motivational factor is reciprocity, which is fuelled by one's expectation of receiving help in return for helping other people (Connolly & Thorn, 1990; Hung et al., 2011; Kollock, 1999). This motivational factor applies to the students who participated in this study since they understood that communication was not one-way where they could take without giving and that it helped contribute to the group's 'greater good', as evident in the explanations they provided:

Because if I help others, I expect others to reciprocate, if not it's just one-way traffic.
I help you, you help me, let's make this world a better place.

In fact, 77.24% (112 out of 145 students) who participated in this study expected their peers to discuss their questions in the chat groups, and 84.71% (123 out of 145 students) expected their peers to answer their questions in the group chats. Some students clarified that it was precisely due to the purpose of the chat groups that they had such expectations while other students explained that their expectations arose from their perceptions that some of their peers were smarter than them and hence would be able to provide the solutions to their questions, or perhaps they would do so purely out of politeness or a desire to reciprocate favours. Yet, 90.45% of surveyed students (142 out of 145 students) expected their eStudentMentors to answer their questions instead of taking responsibility for their own learning by participating actively in group discussions. Some students even blamed the eStudentMentors for not providing them with the answers they wanted and deemed both the eStudentMentors and the chat groups 'quite useless'. On the other hand, since the eStudentMentors existed outside the realm of competition within each class, some students reasoned that the eStudentMentors were in a much better position to provide answers to students' questions. Such reasoning resonates with the value proposition of SET as they may no longer see value in the group due to the eStudentMentors not meeting expectations. Another possible explanation for this might be a lingering dependency on a perceived higher authority within a peer-learning setting.

In theory, participating actively in their chat groups would also reward students by improving their image, considering that they would appear to be more knowledgeable than their peers. Thus, the survey measures students' perceptions with respect to image. On one hand, 46.20% (67 out of 145 students) agree that those who share knowledge have more prestige, while 37.93% (55 out of 145 students) agree that answering questions made them look smart. On the other hand, however, 24.17% (35 out of 145 students) agree that asking questions would make them look stupid. Although the majority seem unfazed by how their interactions with the chat group affect their image, there are still a handful who do take their image into consideration. For these students, the act of sharing and answering is taken positively while the act of asking is taken negatively. Responding to enquiries boosts their image. Asking, however, according to

the following responses, scares them as they do not want to sound 'stupid'. The fear of appearing 'stupid' surfaced several times in the answers to the open-ended question in question block pertaining to extrinsic motivations. This is considered a cost in utilising the chat group.

Afraid to sound stupid
Slightly scared to ask a stupid question
Asking is part of learning. However, if we get a sarcastic reply to our question, we may feel stupid.

From the last response above, the students' attention towards another's sarcastic reply also highlights how students discern their peer's perceptions. The response suggests that students perceive there is a consensus that their peers also subscribe to, whereby asking is a call for humiliation. Out of those who were completely inactive in their chat groups, 31.25% (20 out of 64 students) follow the same mindset. Their fear of sounding or being made to feel stupid prevented them from making the best use of the chat groups that their eStudentMentors created to help them with their learning of the German language. For the remaining 68.75% (40 out of 64 students), their image does not appear to be the key factor for disengaging from the group chat. Only 10.34% (15 out of 145 students) were able to overcome their fear of ruining their image, and consequently, reap the benefits of using their chat groups.

Another possible cost of utilising the chat groups is students losing their knowledge power. According to Wang (2013), some people may withhold information if they believe it would benefit them more as opposed to sharing it. Yet only a very small number of students that participated in this study were reluctant to participate in their chat groups and preferred to keep information to themselves instead, due to the fear of losing their competitive advantage. The percentage of students who were reluctant to participate in their group chats due to their competitive mindset is surprisingly low in the context of a highly competitive Singapore. One of the chief explanations to this result might be the emphasis on collaborative learning. This resulted in the implementation of fixed learner teams from the beginning of the semester, which are the basis for all in-class group activities and team assignments. These teams consist of three students and are created on the principle of diversity in terms of gender and field of study. Some students also explained that they were more willing to help their peers when they were not graded on a Bell Curve when they could be certain that they would lose nothing by helping their peers.

According to Nahapiet and Ghoshal (1997), there are three dimensions to the Social Capital Theory (SCT), namely, structural, cognitive and relational (see Table 1).

According to SCT, in an ideal situation, an individual would perceive collective obligation, trust, and assimilate into the norm of the collective if he or she identified strongly with the collective (Lewicki & Bunker, 1996). Applied to this study, it would mean a strong relational dimension between an individual student and the student's entire chat group, hence the student having good chemistry with other classmates. Structurally, a student would be able to build good relationships and can influence classmates when

Table 1. Dimensions of Social Capital Theory.

	Structural	Cognitive	Relational
Focus	Individual's ability to build strong relationships with other individuals in a social network; how well an individual could influence the people around them.	Shared meaning or understanding within a group of people	Strength of the connection between the individual and the collective.

necessary. Cognitively, the student would share a common goal and understanding with the rest of the class. This cannot be validated by this study, as only about half the students felt that having chat groups served to nurture a sense of commitment by enabling them to interact, help one another, share important information, learn together as a class and build rapport outside of class. 48.97% (71 out of 145 students) thought their chat groups fostered group spirit; 50.35% (73 out of 145 students) thought their chat groups nurtured a sense of belonging; and 48.97% (71 out of 145 students) reported feeling a sense of loyalty towards their chat groups. 55.17% (80 out of 145 students) reported that they would feel a loss if their chat groups were no longer available. For better ease of analysis, 92 students had agreed with at least one of the abovementioned statistics. Out of the 92, 38 students did not use the group chat at all. They may have perceived that engagement would improve relations and class dynamics yet persisted in ignoring the group.

Personality traits, including openness to experience, extraversion, neuroticism, conscientiousness and agreeableness, may have been the cause to such perceptions (Matzler et al., 2008). Some students thought that they were not in a good position to help their peers due to self-doubts and insecurities, while other students were afraid of disturbing or annoying other students with their messages. Another group of students preferred to seek clarifications from their German lecturers directly. Others preferred face-to-face interactions and would rather discuss problems in person. Some students also prioritised other modules and commitments over the elective German language course. One student had difficulties expressing his or her question in words. A few students were independent, self-reliant learners who preferred to solve problems or source answers on their own rather than seek help from other students. Such reasonings could explain how students maintain a positive perception towards the chat group even if they did not use it at all. Indeed, some students pointed out that they were only more confident to share information with their peers when they were certain of the information that they were going to share, when the information was important, and when their peers requested for the information.

Many students were also intimidated by the size of the chat groups and felt shy, awkward and uncomfortable discussing problems with a larger group of students that included all students of their class, many of whom they were unfamiliar with. For these students, an easy workaround was to create separate groups with the members of their respective student teams within the class. These smaller chat groups will be referred to as Team Chats in this analysis, to avoid confusing them with the larger group chats created by the eStudentMentors.

92.41% (134 out of 145 students) mostly used Team Chats to organise meetings and prepare for team assignments. Students also reported feeling more comfortable discussing problems in these comfort zones that they created for themselves. 90.78% of the students that participated in this study asked more questions in their Team Chats than in their eStudentMentor facilitated chat groups. 88.27% (128 out of 145 students) asked and answered more questions in their Team Chats than in their chat groups, and 86.20% (125 out of 145 students) preferred using Team Chats to eStudentMentor facilitated chat groups to discuss problems. According to the strength-of-strong tie proposition of SCT, students were more likely to share information with the ones whom they had bonded with. Students felt closer to the small collaborative learning teams they were assigned to, because they interacted far more with their team members than with their classmates, as evident:

I'm closer to my team than my class as a whole. And the discussions on my team chat can be further discussed after class or when the opportunity arises.
I prefer Team Chat cos there's more familiarity and also we know each other's strengths and weaknesses better.
I prefer discussions in my Team Chat because, with fewer members, the pressure to reply is greater so I can be assured that someone will reply to my query faster.

As a result, they found it easier, less awkward and more comfortable to discuss questions with their team members than with the entire German class. Since there were only three people in the Team Chats, students were also less afraid of being judged for asking 'stupid questions'.

On the other hand, 41.37% (60 out of 145 students) preferred discussing problems in their chat groups instead because they were hosted by eStudentMentors. One student correlated students' willingness to participate in collaborative learning in their chat groups with having a friendly eStudentMentor to facilitate the discussions. According to the strength-of-weak-tie proposition of SCT (Lin, 2001), these students may have recognised that their Team Chat would be limited in knowledge since they are equal in level, thus driving them to look into the chat group where they have access to their eStudentMentor, one who has higher levels of knowledge. Additionally, eStudentMentors played a large role in the formation of pro-sharing norms in the chat groups by sharing exciting events that were related to the learning of German language and by replying promptly to students' messages. 84.92% (123 out of 145 students) agreed that their eStudentMentors encouraged information-sharing in the chat groups. The social environment in the chat groups was also healthy as 96.58% (140 out of 145 students) felt encouraged to respect other members while 95.21% (138 out of 145 students) felt open to conflicting views in the chat groups. Overall, students should have felt safe to engage in the group. Yet, it cannot be dismissed that some students were still concerned of being judged by their peers, as previously mentioned. This is highlighted by one team that explained they tried to reach a consensus in their Team Chat before seeking clarifications in their eStudentMentor-facilitated chat group. According to the rationality proposition of SET, students chose either Team Chats or chat groups based on that they believed had a higher probability of attaining the results that they wanted.

Conclusion

While the analysis shows the benefits of using chat groups facilitated by eStudentMentors to enhance collaborative learning, it also reveals the issues that prevented a notable number of students from making the best use of their chat groups to help with their language learning. Although the students recognised the value and benefits of the eStudentMentor-facilitated chats, a considerable number of students still chose not to partake in it due to their perceptions. A major factor was the overall relative inactivity of the chats, which makes the active role of the eStudentMentor a crucial element for success. Further studies would need to be conducted in order to determine whether certain engagement strategies would automatically result in more active group chats, as this study provided no evidence for specific desirable engagement strategies. A second main reason for the lack of active participation in the chats was identified as the lack of social bonds and unfamiliarity with their classmates. Further factors were fear of judgement and low commitment levels, which trickle down to additional problems, such as feeling awkward or having negative assumptions. These, in turn, hinder communication and the building of social bonds. These findings debunk SET propositions, in as much as the benefits of information sharing, though certainly greater, are diminished by a cost that should, in fact, be trivial. In the end, the seemingly small cost in the form of social perceptions and pressures accumulate and outweigh the rationally perceived benefits which students knew they could acquire.

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Appendix A

Segment	Theory	Questions
1	Not Applicable General Group Chat Behaviour	1.1 I have asked questions in my WhatsApp/Telegram group 1.2 I have answered questions in my WhatsApp/Telegram Group 1.3 How often do you share questions in your WhatsApp/Telegram Group? 1.4 Why have you been active/ inactive in your WhatsApp/Telegram group?
2	Intrinsic Benefit in Social Exchange Theory	2.1 I enjoy sharing information with others in our WhatsApp/Telegram group 2.2 It feels good to help someone else by sharing my knowledge in our WhatsApp/Telegram group 2.3 I enjoy helping others when they ask questions in our WhatsApp/Telegram group. 2.4 Why do you enjoy/ dislike helping others in your WhatsApp/Telegram group
3	Theory of Instinctive Information Sharing	3.1 It is natural for me to share information with others. 3.2 When I learn something new, I wish to share it with others. 3.3 I prefer sharing information with people rather than keeping it to myself. 3.4 In which way does it come natural/ unnatural for you to share information with others?
4	Social Exchange Theory	4.1 When I ask questions in my WhatsApp/Telegram group, I expect my peer learners to discuss my questions 4.2 When I ask questions in my WhatsApp/Telegram group, I expect my peer learners to answer my questions 4.3 When I ask questions in my WhatsApp/Telegram group, I expect my mentor to answer my questions 4.4 Why do you (not) expect help from others in your WhatsApp/Telegram group?
5	Cost in Social Exchange Theory	5.1 Sharing information in our WhatsApp/Telegram group makes me lose my knowledge that makes me stand out with respect to others. 5.2 Sharing information in our WhatsApp/Telegram group makes me lose my knowledge that no one else has. 5.3 Sharing information in our WhatsApp/Telegram group makes me lose my unique value. 5.4 Why does sharing information in your WhatsApp/Telegram group help you get an advantage/ make you lose your advantage in terms of knowledge?
6	Extrinsic Benefit in Social Exchange Theory	6.1 Students who share our knowledge in our WhatsApp/Telegram group have more prestige than those who do not. 6.2 Sharing information in our WhatsApp/Telegram group improves others' respect of me. 6.3 Asking questions in our WhatsApp/Telegram group makes me look stupid. 6.4 Answering questions in our WhatsApp/Telegram group makes me look smart.
		6.5 In which way does sharing information in your WhatsApp/Telegram group improve your image/ make others lose respect of you?
7	The Ego and Intrinsic Motivation in Social Exchange Theory	7.1 Sharing information in our WhatsApp/Telegram group makes me feel important. 7.2 Sharing information in our WhatsApp/Telegram group increases my self-esteem. 7.3 Sharing information in our WhatsApp/Telegram group makes me feel needed. 7.4 In which way does sharing information in your WhatsApp/Telegram group make you feel better/ worse about yourself?
8	Extrinsic Motivation in Social Exchange Theory	8.1 Active participation in the information sharing benefits my learning. 8.2 Asking questions in our WhatsApp/Telegram group helps my learning. 8.3 Answering questions in our WhatsApp/Telegram group helps my learning. 8.4 In which way does sharing information in your WhatsApp/Telegram group help your learning?
9	Relational Dimension in Social Capital Theory; Pro-sharing Norms	9.1 Our eStudentMentor encourages us to ask questions in our WhatsApp/Telegram group. 9.2 Our eStudentMentor encourages us to post answers in our WhatsApp/Telegram group. 9.3 Our eStudentMentor encourages discussion in our WhatsApp/Telegram group. 9.4 How does your eStudentMentor encourage you to share information in your WhatsApp/Telegram group?

10	Structural Dimension in Social Capital Theory	10.1 Members are encouraged to respect other members in our WhatsApp/Telegram group. 10.2 Members are encouraged to be open to conflicting views in our WhatsApp/Telegram group. 10.3 In which way are members encouraged to respect others and their views in your WhatsApp/Telegram group?
11	Construct of Commitment and Cognitive Dimension in Social Capital Theory	11.1 I would feel a loss if our WhatsApp/Telegram group was no longer available. 11.2 I feel a sense of loyalty towards our WhatsApp/Telegram group. 11.3 Our WhatsApp/Telegram group created a group spirit. 11.4 Our WhatsApp/Telegram group nurtured a sense of belonging. 11.5 How has your WhatsApp/Telegram group nurtured/ failed to nurture a sense of commitment?
12	Propositions of Social Capital Theory	12.1 Do you have a WhatsApp/Telegram chat group with your Oral-Team members (Team Chat)? 12.2 I ask more questions in my Team Chat than in my WhatsApp/Telegram group. 12.3 I answer more questions in my Team Chat than in my WhatsApp/Telegram group. 12.4 I prefer using the Team Chat for discussion of problems or questions.
		12.5 I mostly use my Team Chat for organisational matters (i.e. when and where to meet, etc.) 12.6 I prefer discussions in the WhatsApp/Telegram group, because it has more members and generates more responses and ideas. 12.7 I prefer discussions in the WhatsApp/Telegram group, because it is hosted by an eStudentMentor. 12.8 Why did you prefer discussions in the WhatsApp/Telegram group/ Team Chat?

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