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Learning in the Virtual Environment: Instructors' Strategies in Enhancing Interaction in ESL Online Classes

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Abstract

The common features attributed to face-to-face classroom are rather difficult to emulate in a virtual learning environment. This is because participants may not feel obligated to participate when they do not see each other physically. This study examined the instructors' strategies in fostering interaction in their online classes. Using the Classroom Assessment Scoring System (CLASS) as a framework for investigation, the study observed recorded ESL classes under the three domains of interactions between instructors and learners, that is, emotional support, classroom organization and instructional support. This is a qualitative study and therefore, for the purpose of data collection, 6 English Language classes which were carried out virtually from a public university were recorded during lectures for 6 weeks to observe both instructors and

learners. The findings indicate that all the three domains of interactions were related and essential since virtual classrooms were still new not only to students, but also the instructors. The findings also found evidence that classrooms categorized by a positive emotional climate with sensitivity to the needs of the learners, usage of engaging instructional learning formats and at the same time emphasized on higher order thinking skills were all associated to learners' achievement. It is hoped that the findings can contribute to the pedagogical techniques for enhancing interactions in online learning environment.

Introduction

Learning is an active process. It involves participation from the students to connect with content and reinforce skills taught. As such, instructors need to promote student interaction in order to help them succeed and feel part of the learning process. Interaction within a classroom leads to efficient teaching in many ways. It is one of the elements that may bring about students' satisfaction, motivation, retention and academic achievement (Prammanee, 2005). Students' engagement in the learning process can lead to better learning outcome, as put forward by Hefzallah (2004), 'to teach is to communicate, to communicate is to interact, to interact is to learn' (p. 48).

However, integrating interactions in an online classroom, be it learner-instructor interaction or learner-learner interaction, is challenging. The common features attributed to face-to-face classroom interaction such as multimodal, multisensory and multitasking, are rather difficult to emulate in an online interaction. This is because the concept of interaction in online learning environment is more complicated than the traditional classroom context. Kearsley (1995) and Picciano (2002) contended that interaction in online learning setting largely depends on students' personality, age, learning styles, support and feedback from instructors, the sense of belonging in the learning community and the students' perceptions of their learning experiences. In addition, the type of media used can also exert its influence on the interaction. In order to interact successfully in class, students need to have the skills to learn and extract information from the media.

Research has shown that student engagement is developed through interaction (Anderson, 2003). In online learning environment, interaction has a critical impact on student learning and motivation. Although one may argue that content should be the focus in a learning process, research has shown that interaction plays a crucial role in stimulating learning (Bernard et al., 2009; Lou et al., 2006). Keeler (2006) and Thurmond et al. (2002) found that higher levels of interaction between teachers and learners were related to increase learner satisfaction. On the other hand, online learning environment that lacks substantive and meaningful interaction, as well as a sense of presence may contribute to a sense of isolation unsatisfying learning experiences, and high dropout rates (Akyol & Garrison, 2009; Aragon, 2003). Furthermore, Miner (2003) also claimed that students identify that a lack of learner-teacher interaction contribute to learners' frustration and ultimately to a decrease in learners' motivation.

Since research has confirmed the positive link between learner engagement (through interaction) and desirable learning outcomes, instructors need to be encouraged to establish, support and promote interaction in their online courses. In second/foreign language learning, interpersonal interaction is critically important as students develop their language skills through interacting. Hence, this study focuses on instructors' strategies in fostering interaction in their online classes and creating an environment in which all students have the opportunity to engage themselves in the learning process. It is hoped that the findings, especially the strategies that have not yet been identified and reported in the literature, may contribute to the pedagogical techniques for enhancing interactions in online learning environment.

Interactions in Virtual Learning Environment

In virtual learning environment, learner participation may differ from that of face-to-face environment. This is because learners and instructors do not see each other physically, thus, even the active ones in the face-to-face class may opt to be reticent in an online learning session. As put forward by Palloff and Pratt (1999), learners in virtual learning environment may adopt new personas and may not feel obligated or pressured to participate when they do not see each other.

Learner participation in virtual environment requires different pedagogical characteristics compared to the traditional one. Thus, researchers have also looked into the learner aspect to understand reasons behind the varying degrees of participation in online class. Mason (1994) and Taylor (2002), for example, found three groups of learners in online participation, namely, 1) active participants, who are proactive and regularly contribute to class discussions, 2) lurkers, who are the peripheral participation group where they are mostly in the 'read-only' mode - reading messages but do not post any of their own, and 3) shirkers, who participated minimally when required. These categories of learner participation are very important if we are to unpack the reasons for varying degrees of engagement in the class.

Interaction is now recognized as playing a significant role in stimulating learning in online courses (Bernard et al. 2009; Lou et al., 2006; Norris et al., 2003). Not only does it serve the purpose to improve learning and to provide support, it can also provide learners with a sense of community (Rovai, 2002) and sharing the same goals and values (Smith & Hardaker, 2000). Researchers have identified three types of interactions that are complementary in online learning learning environment, namely, learner-learner interaction, learner-teacher/instructor, and learner-content (Palloff & Pratt, 2001; Strachota, 2003). Learners' interaction with content includes the ability of learners to access, manipulate, synthesize, and communicate content information provided in the course. On the other hand, learners' interaction with the teacher or instructor is the ability of the learners to communicate with their teachers/instructors and receive feedback from them. As for learner-learner interaction, this involves interaction with fellow classmates, communicating with each other regarding the content of the course, thus, creating an active learning community. These interactions can occur both synchronously and asynchronously. According to Strachota (2003), a collaborative learning community can be built in cyberspace if these interactions are used effectively.

Studies have shown the need for all these three types of interaction for effective online learning. For example, it is found that learner-learner interaction can lead to greater learning and satisfaction. Gray and DiLoreto (2016) explained that learners who had greater interaction with others in the class achieved higher levels of perceived learning. This is supported by Gašević et al. (2015) who claimed that

learners could reach higher levels of knowledge construction and learning outcomes in student-student discussions. There seemed to be a positive relationship between learner-learner interaction and motivation to learn as they do not feel isolated and can benefit from each other's feedback. Along the same line, high levels of learner-teacher/instructor interaction have a positive impact on student satisfaction with the course and learning (Swan, 2001). In the same vein, Molinillo et al. (2018) put forward that social presence and learner-teacher interaction has a positive influence on students' active learning, both directly and indirectly. On the contrary, a lack of learner-teacher interaction may contribute to learners' frustration and, eventually, to a decrease in learners' motivation (Miner, 2003). Meanwhile, learner-content interaction is a one-way interaction of the learner on the subject matter or course content. The interaction may involve students' reading texts, using study guides, completing assignments, and integrating new knowledge with previous ones. Abulibdeh and Hassan (2011) saw this type of interaction as the vital predictor of students' academic achievement. These empirical studies have shown that the three types of interaction promote students' engagement and participation in learning. However, the present study only focused on the learner-teacher/instructor interaction as this type of interaction needs to be developed to promote active learning in the virtual classroom.

Strategies in Promoting Interactions in Virtual Learning Environment

In online learning environments, teachers often face the challenges of keeping learners' attention to their teaching and getting them engaged in the class activities. As the learning process is now reshaped into online learning, educators have been adopting strategies to improve the pedagogical aspects of their online teaching.

In online learning, teachers need to balance between delivering content to meet the course objectives and to get the learners to participate in the learning activities. Educational psychologists have recommended that passive learning content is to be delivered in 10 to 15 minutes chunks of content (Bao, 2020; Bradbury, 2017). This is because the average of a human's attention span shifts every eight seconds (McSpadden, 2015). Thus, as the success of teaching often correlates with how well learners are engaged in the class activities, teachers need

to pay attention to the class' attention level and adapt their teaching method if and when needed.

Another strategy that can ensure learners' engagement in online class is by creating a good learning environment. This can be done by fostering a sense of belonging through different types of interaction during teaching/learning like individual, small-group and large-group discussions (Persico et al., 2010). These may include activities that promote interaction such as ice-breaking, think-pair and interactive presentations. Having a balance of different types of interaction throughout the session can keep the environment supportive and help the learners stay engaged (Sriharan, 2020).

Another common strategy employed by teachers are facilitating and encouraging learners to participate in the classroom activities. Teachers can facilitate this by employing effective questioning techniques like probing, redirecting questions or comments to the rest of the class, bridging previous class discussions to the present ones, shifting perspectives, i.e., looking at the issue from a different angle, and asking for summary and synthesis during learning.

As online education is evolving, teachers need to continue developing more effective strategies in creating a classroom environment that can promote positive learning. Teachers can provide online learning experiences for the students as effective as the traditional classroom experience by using technology skillfully and communicating through the online platform effectively (Kelly & Westerman, 2020).

Methods

The objective of this study was to gauge the strategies employed by ESL instructors in fostering interaction in their online classes. Specifically, it looked into the strategies employed by novice and experienced instructors with the hope that they can contribute to the pedagogical techniques for enhancing interactions in online learning environment. Thus, the research questions can be expressed as the following:

1. What are the strategies employed by novice ESL instructors in fostering interaction in the online classes?
2. What are the strategies employed by experienced instructors in fostering interaction in the online classes?

3. Which strategies are more effective in fostering interaction in the online classes?

This was a descriptive qualitative study involving observation as a method of data collection. Recorded ESL classes of three novice instructors (of less than one year teaching experience) and three experienced instructors (of more than 10 years-experience) were observed. Purposive sampling method was used as the study aimed to compare the strategies employed by these instructors. Thus, only those who fulfil the category of novice and experienced instructors were invited to take part. Another category that was considered in the sample selection was the factor of technological familiarity. Based on a brief survey prior to invitation, it was found that both the novice and experienced instructors had more or less a similar level of technological skills. The former were familiar with the technology due to their generation and time. However, the latter had received ample training from the university in using technology in the classroom. Furthermore, they were more or less ready now in teaching using the online platform compared to the first year of the COVID-19 pandemic when they were forced to do so.

However, since the study involved classroom observation and recording of the classroom events, not many instructors were willing to take part. Thus, the study also employed convenience sampling method where only those who were willing and consented to the observation and recording were selected as the samples.

Tables 1 and 2 show the detailed information regarding the classes observed. The same topics were taught by both novice and experience instructors so that the researchers would not have bias results.

Table 1

Observation Details on Novice Instructors' Classes

Instructors	Topic	Duration	No. of Students
NA	Organizing a Speech	1 hour	24
NB	Informative Speech	45 minutes	19
NC	Delivering a Speech	40 minutes	27

Table 2

Observation Details on Experienced Instructors' Classes

Instructors	Topic	Duration	No. of Students
E1	Organizing a Speech	40 minutes	22
E2	Informative Speech	40 minutes	20
E3	Delivering a Speech	40 minutes	25

The Classroom Assessment Scoring System (CLASS), developed by Pianta et al. (2008) was used as a framework for the observation. CLASS has been identified as a reliable observational tool for assessing the effectiveness of classroom interactions between teachers and students. This framework measures three domains of interactions between instructors and learners in the classroom, that are, emotional support, classroom organization and instructional support (refer to Appendix 1 for the detailed description of the domains and their dimensions). These three domains in CLASS evaluate the aspects that teachers need and should give attention to in creating a healthy and secure classroom environment, which, in turn, can promote interaction in class.

The observations were made by focusing on the strategies employed by the instructors to foster interaction between the instructors and learners in the classroom and the effectiveness of the strategies under the domains of emotional support, classroom organization and instructional support. Since this observation was based on the inference of the researchers, two experienced instructors on classroom interaction acted as inter-raters to confirm the researchers' observation. The inter-raters, who are qualified ESL/ESOL instructors with 22 and 25 years of teaching experience, also had had some experience in qualitative research and qualitative data instruction. In case of any discrepancies in the analysis of the observation, the inter-raters and researchers would re-evaluate the events and came to a consensus of interpretation.

The data collected from the observation were qualitatively analyzed by grouping the strategies under categories based on the emerging patterns of similarities and differences. The effectiveness of the strategies was evaluated based on the level of responses by the learners.

Results and Discussion

The study acknowledged a few classroom interactions that can be linked to the achievement of the students over the semester. The study also identified a number of aspects of teacher-learners' classroom interactions that were linked to the changes of learners' achievement over the semester. The tables below describe the observation of the classes by the instructors in handling their classes and also the learners using the three domains. The descriptions below are organized from the six observations done but not in order. The observations were categorized to suit the explanations below and to answer the following research questions.

1. What are the strategies employed by novice ESL instructors in fostering interaction in the online classes?

Table 3

Observation for Emotional Support Domain for novice instructors

Dimension	Novice Instructors
Positive Climate	All the three instructors began the classes by greeting the students and asked if they were ready for class. The instructors were seen to be well-prepared for the lesson and reiterated well. The students were also ready for the class as they responded when asked by the instructors.
Negative Climate	Students in NA and NB classes refused to switch on the camera despite being instructed by both NA and NB. NA was quite disappointed and told the students that she needed to see them in person in order to get to know them. NA refused to begin class until everybody switched on their cameras. She even threatened that their marks would be affected if she did not recognize them.
Teacher Sensitivity	NA was quite strict with the students' request to extend submission of work since they were having problem with the group members and some were having internet problem.

	NB tried to negotiate with the students by allowing them to submit later than the actual date provided they included extra task in the assignment given. NC was more sensitive towards the students' plea to extend the due date since most of them wanted to relook to what have been done based on her latest lesson. She allowed extension.
Regard for students' sensitivity	NC was seen to be firmer and instructed the students to only follow what was given to them based on the lectures. Students were seen a bit confused and some even said they needed extra materials to complete the given assignment. NA and NB were very encouraging and assured the students that whatever they gave would be considered provided they followed the guidelines and assignments requirements.

Table 4

Observation for Classroom Organization Domain for novice instructors

Dimension	Novice Instructors
Behaviour Management	NC would be checking on her students' attendance by calling their names at the end of the class while NA and NB have informed the students if they failed to sign in attendance in time, their marks would be deducted.
Productivity	NA would normally refresh on what was taught at the previous lesson before moving on to the new lesson. The students were advised to discuss in class on any issues or uncertainties that they had regarding the lesson taught. NB and NC recapped the lessons learnt for the day at the end of the class. NA was the only one who recorded her teaching and gave the link to students in case they needed them.
Instructional Learning Format	All the three instructors were so much into you tubes to create different learning environments to the students and to supplement their lessons. NA used plenty of you tubes versions. NC was more to her own recorded versions and provided more links associated with the topics taught.

Table 5

Observation for Instructional Support Domain for novice instructors

Dimension	Novice Instructors
Concept Development	Being novice, NA and NB were strictly by the book and the students were guided based on syllabus. The students were not quite free to explore. NC was a bit more relaxed and the students had the opportunity to intricate more than what was taught in class.
Quality of Feedback	NB and NC commented on the good performance and picked out the non-performing in order to let the students performed better in future tasks and at the same time could get examples from the good ones.
Language Modelling	All the three instructors used English Language throughout the lessons but for small group discussions, NA and NC switched between English and Malay if the students were unable to understand. NC's command of English Language was eloquent but she made it possible for the students to understand. At times, she was seen to rephase her instructions if she felt that students were unable to follow.

From the above observations on novice instructors, they were seen to be more strictly bounded by rules and ensuring that students follow what they have planned for their classes. The instructors kept on reminding students on how they were supposed to react during online classes, then only they went online. The instructors teaching activities were more sequential; gaining students' interest, informing the learning objectives for the particular lessons, presenting teaching materials, ensuring students obtained knowledge, measuring students' performance and also assisting guidance if needed at the end of the class. The novice instructors, however, ensured that interaction between them and the students occurred so that teaching and learning progressed well. The instructors never failed to guide the students should they need any help at any time. For example, in N1 and N2 classes, during cahoots games, students' interaction, not only with the instructors, but also, with their classmates were motivating. They seem to be competing with each other and trying to outdo one another. It could be seen that most novice instructors like playing games to promote interaction. This is aligned by

this statement by Kolloff (2011) which said 'student-to-student interaction is vital to building community in an online environment, which supports productive and satisfying learning, and helps students develop problem-solving and critical thinking skills.

This is in line with CLASS Framework under Emotional Support with regard to student perspectives where by teachers' interactions with students and classroom activities place an emphasis on students' interest, motivations and points of views rather than being teacher driven. The instructors were seen to be flexible and let the students enjoy the lesson while interaction took place among them.

2. What are the strategies employed by experienced instructors in fostering interaction in the online classes?

Table 6

Observation for Emotional Support Domain for experienced instructors

Dimension	Experienced Instructors
Positive Climate	E1 was late to join the class due to having technical problems with her laptop but apologized accordingly. She was heard saying she hoped that would not happen again. E2 and E3 began the class by asking the students about their internet connection and their well-being due to the pandemic. They were concerned about the students' whereabouts and advised the students to take care of themselves.
Negative Climate	A few students in E2 class were late to join the class and gave reasons of internet connectivity problems and overslept. E2 was quite angry and expressed her dissatisfaction by saying overslept should not be considered as a logical reason. E2 warned the students to be more prepared and vigilant before every of her class.
Teacher Sensitivity	All the three instructors were aware that some students were having difficulties to study alone in home environment. The students were also facing problem in doing group work since they were not able to see each other.

	E1 and E2 even allowed the students to text them outside the class hours should they be having any problems. E3 minimized the contacting hours only during office hours. E2 encouraged students to have group discussions in order for them to share ideas and information relating to their given assignments.
Regard for students' sensitivity	E1 and E2 allowed students to use their own creativity in completing the given assignments but still within the guidelines and scope given to them. The students were encouraged to search for more ideas and information besides the notes given by the instructors. E3 was a bit rigid when she wanted to ensure that whatever materials gathered by students must be checked by her first before allowing them to use.

Table 7

Observation for Classroom Organization Domain for experienced instructors

Dimension	Experienced Instructors
Behaviour Management	All the three instructors have set rules in the classes they taught. Before continuing the lessons, the students were ensured that they have completed their attendance and if they signed in later than 15 minutes after class has already begun, they were considered absent.
Productivity	E1 and E2 would always begin the classes by informing the students what they were supposed to learn for the day. They also explained that at the end of the lesson, the students would be able to achieve the learning objectives set. The students were free to ask questions and stopped the lectures if they had any queries. All the three instructors also audio-recorded their slides presentations and gave the links to the students should they need them for references later. These were considered as extra materials given besides the live lecture.
Instructional Learning Format	E1 and E2 were seen to provide links to the students after every class so that the students were able to attempt to materials given outside the class hours at

	their own convenient time. E3 provided the students with samples of materials and later asked the students to come out with the similar product, but using their own creativity.

Table 8

Observation for Instructional Support Domain for experienced instructors

Dimension	Experienced Instructors
Concept Development	E1 and E2 were astounded with the feedbacks/ assignments submitted by some of their students. They were impressed that with some samples given to the students, they were able to come out with brilliant products of their own.
Quality of Feedback	All the three instructors explained and commented on the students' assignments and given tasks so that the students were able to understand and aware of their products and the mistakes they did, and could perform better in future tasks.
Language Modelling	E1 and E2 used English Language throughout the lessons while E3 was seen to use some Malay Language words whenever she felt angry or upset with the students but the usage was very minimal. Nevertheless, there were times they even rephrased their speech to ensure the students were able to understand. Even in small groups discussions, English Language was the medium of instruction.

Based on the observations on the experience instructors, even though they also have set rules and regulations to the students before going online, the instructors were more relaxed but strict in their own personal ways. They have set instructions from the beginning of the class to ensure students obey and abide their set of rules. The instructors also gave different materials online for students to refer besides the one that they have used in teaching online. By doing this, students can have access to not only limited sources during the lecture, but they have extra support references which they can refer to anytime outside of class time. E1 even has practiced experiential learning which is learning by doing. Students were encouraged on experiential learning to gain experience

and to get them to remember what they have learned especially when it comes to presentation. Nevertheless, the interaction between instructors and students existed when instructors guided the students when they faced difficulties and problems on their lessons. Same like what have been practiced by the novice, the experience instructors never failed to help the students at any time.

These experienced instructors were also keen on calling the students' name most of the time. For example, when discussing reading comprehension, most students were alert because they know that the instructors like to call their names and if they were not able to answer, they would feel shy to their friends. Besides that, in E2 and E3 classes, they like to put the students in groups, so, the students will get to discuss on the activities/ questions given to them. Then only, the instructors would discuss as a class. The students were encouraged to provide answers and again, names will be called if nobody volunteered.

It was seen that most students cooperated and would volunteer to give feedback to the activities given. As mentioned by Kreijns et al. (2004), social interaction may influence group formation, group dynamics and the building of group structures. Understanding how these elements work together in an online context is important in facilitating learning.

This is also in line with CLASS Framework under classroom organization on productivity whereby instructors manage times and routines in order to let students have the chance to learn.

3. Which strategies are more effective in fostering interaction in the online classes?

Based on the above observations, both experienced and novice instructors widely had the interactions in their virtual classrooms, but in their own set goals and strategies. This is in line with claims by Oliver (2011) who said that strategies are essential in adapting to online system of teaching. He, furthermore reiterates that after exploring the strategies, virtual classrooms would be easier to adopt, especially during this widely use of technology. This also supports the prerogatives by Abulibdeh and Hassan (2011) who claimed that interaction as the vital predictor of students' academic achievement.

The experienced instructors' abilities to establish constructive emotional climate, their concern to the learners' needs and the way they

structured their classrooms and lessons for a sense of autonomy and control were all associated to make the lessons possible and carried out in a great manner. This is proven with CLASS Framework under Instructional Learning Formats in which the instructor facilitates activities so that students have the opportunities to experience, perceive, explore and utilize materials.

Besides that, the use of instructional learning formats had stimulated excessive participations from the learners. The strategies, such as providing a variety of classroom approaches to suit the learners' needs as how lessons were required in the syllabus, were employed. There were also multi levels of analysis and problem-solving skills which were used in the classrooms. They were more relaxed in handling the classes in the sense that the students were given opportunities to come out with their own ideas but still in control of the syllabus, and at the same time encouraged a collaborative learning environment. They managed to establish their presence in the class and welcomed the students to the virtual learning community and communicated regularly with the students. They were also able to make the learners follow instructions as well as have respect to the instructors. In the first class itself, strict guidelines were given as to how learners were expected to behave during class time. This is aligned with positive climate in which there is a sense of warmth in the relationship and respect displayed between instructor and students' interactions as well as their display of enjoyment and enthusiasm during the learning activities.

The novice instructors, on the other hand, even lack of experience in handling virtual classrooms and some even dread, they were able to control situations even when some students were not abiding the rules. NA and NC, for example, were stressful when some learners failed to join the class on time and when the learners entered the class late, NC stopped the lesson to communicate with the learners. NA on the other hand, asked the late comers to stay after the lesson was over so that she could ask for clarification of why the learners were late. The instructors, however, accomplished the set lessons by setting well-planned virtual classroom environment. They implemented online student assessment method which brought excitement to the students when they could record presentations and submitted online. Smart and Cappel (2006) in their research have proven how students seemed to enjoy these new techniques of teaching and at the same time increase their level of

motivations. With the instructors having established clear expectations to the students, assessed the needs and necessary conditions to satisfy students' achievement which were similar to the experienced instructors who allowed communication between instructors and students.

Even though the initiation was dominated by the instructors, the interaction between the students and instructors existed where by at some points students were seen raising their hands to provide answers and expressed their opinions when given a chance to do so especially among the experienced instructors. Nevertheless, at some points the instructors needed to call out names when there was no response from the students. Murday et al. (2008) mentioned on the relationship between motivation and self- discipline whereby students who were so accustomed to traditional classrooms felt the freedom they have never encountered when not having to be in a physical classroom. The instructors, in situations like this must be smart in handling the classrooms. It was observed that for novice instructors, lesser opportunities were given due to their long lectures. However, learners were given 10 minutes before the lessons ended to ask questions if they had any. All the three novice instructors had this same pattern of strategies in their classrooms.

Conclusion

In a virtual learning environment, where participants' isolation is always an issue, learners' participation through interaction is essential for effective learning and retention, as well as motivation to learn. This study has looked into the interaction between the instructors and learners in virtual learning classes. However, due to merely limited observation time, the data used in this study was hard to draw a solid picture of what actually happened in virtual classrooms. Yet, from what can be concluded, both the novice and experienced instructors have their own strategies in ensuring learning took place and learners were able to learn. Nonetheless, as face-to-face interaction between learners and instructors is not present in virtual learning environment, it is important for instructors to understand how to establish and maintain social presence in online learning. For example, if instructors understand the factors that influence learners' interaction in the classroom, they would be able to anticipate and prepare approaches or strategies that can lead

to improved interaction. While the sophistication of the tools used to deliver the course may interest the learners, they need to be motivated to interact in the class. This is because interaction can help learners develop a feeling of connectedness to the course, which, in turn, can challenge their thinking and foster acquisition of knowledge in more meaningful ways. As such, all the three strategies listed above, i.e., emotional support, classroom organization and instructional support, are associated to each other and required in virtual learning environment to ensure interaction takes place. This study has, thus, provided some pedagogical support for instructors in fostering interaction in their online classes

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Appendix A

The CLASS Framework (Pianta et al., 2008)

Domain	Dimension	Description
Emotional Support	Positive Climate	Reflects the overall emotional tone of the classroom and the connection between teachers and students. Considers the warmth and respect displayed in teachers' and students' interactions with one another as well as the degree to which they display enjoyment and enthusiasm during learning activities.
	Negative Climate	Reflects the level of expressed negativity such as anger, hostility, or aggression demonstrated by teachers and/or children. Low scores represent fewer instances of expressed negativity in the classroom.
	Teacher Sensitivity	Encompasses teachers' responsivity to students' needs and awareness of students' level of academic and emotional functioning. The highly sensitive teacher helps students see adults as a resource and creates an environment in which students feel safe and free to explore and learn.
	Regard for Student Perspectives	The degree to which the teachers' interactions with students and classroom activities place an emphasis on students' interests, motivations, and points of view, rather than being very teacher-driven. This may be demonstrated by teachers' flexibility within activities and respect for students' autonomy to participate in and initiate activities.
Classroom Organization	Behavior Management	Encompasses teachers' ability to use effective methods to prevent and redirect misbehavior by presenting clear behavioral expectations and minimizing time spent on behavioral issues.

	Productivity	Considers how well teachers manage instructional time and routines so that students have the maximum number of opportunities to learn. Not related to the quality of instruction but rather to teachers' efficiency.
	Instructional Learning Formats	The degree to which teachers maximize students' engagement and ability to learn by providing interesting activities, instruction, centers, and materials. Considers the manner in which the teachers facilitate activities so that students have opportunities to experience, perceive, explore, and utilize materials.
Instructional Support	Concept Development	The degree to which instructional discussions and activities promote students' higher-order thinking skills versus a focus on rote and fact-based learning.
	Quality of Feedback	Considers teachers' provision of feedback focused on expanding learning and understanding (formative evaluation) and not correctness or the end product(summative evaluation).
	Language Modeling	The quality and amount of teachers' use of language-stimulation and language-facilitation techniques during individual, small-group, and large- group interactions with children. Components of high-quality language modeling include self and parallel talk, open-ended questions, repetition, expansion/extension, and use of advanced language.