

Integrating Lev Vygotsky's Sociocultural Theory into Online Instruction: A Case Study

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Abstract: This case study examines the integration of Sociocultural Theory (SCT) into an online course and its impact on learning outcomes and sense of community among senior high school students. Data were collected through pre- and post-course surveys, semi-structured interviews with the instructor and a subset of five students, and observations of the course discussions. Thematic analysis revealed four major themes: increased engagement and participation, improved learning outcomes, enhanced sense of community, and challenges and limitations. The findings suggest that integrating SCT principles into online instruction can lead to increased engagement and participation, improved learning outcomes, and enhanced sense of community among learners. The study also highlights some challenges and limitations, such as the need for clear guidelines and support for both instructors and students, and the importance of addressing the digital divide and ensuring access to technology and resources. This study contributes to the growing body of research on the application of SCT to online instruction and provides insights that can inform the development of effective online instructional practices that support learners' social and cultural experiences. The implications of this study are relevant for educators and instructional designers who seek to enhance the quality of online instruction and promote effective and inclusive learning environments. Future research in this area may further explore the impact of SCT on other aspects of online learning, such as motivation, self-regulated learning, and intercultural communication. Additionally, research can investigate the potential of integrating SCT into other educational contexts, such as blended or hybrid learning environments.

Keywords: Sociocultural theory, Online instruction, Learning outcomes, Sense of community

Introduction

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The use of online instruction has increased significantly in recent years due to its flexibility, convenience, and accessibility to a broad audience. However, the effectiveness of online instruction depends on the instructional design, pedagogical strategies, and the technology employed in the delivery of the course. While online instruction has some unique advantages, it also presents some challenges, such as social isolation, lack of interaction, and a limited sense of community among learners. Therefore, incorporating theories that can address these challenges is crucial for successful online instruction.

One such theory is the Sociocultural Theory (SCT), which has been applied in various educational settings to facilitate learning and development. According to SCT, learning is a social activity that takes place in a cultural context and is mediated by the use of tools and language (Vygotsky, 1978). SCT emphasizes the role of social interaction, collaboration, and cultural context in learning and development. In SCT, the learners are viewed as active agents who participate in the construction of knowledge through interactions with their peers, instructors, and the environment (Wertsch, 1991).

Several studies have demonstrated the effectiveness of SCT in promoting learning in traditional face-to-face classrooms (Alghamdi, 2017; Vongkulluksn, Xie, & Bowman, 2018). However, there is a paucity of research on the application of SCT in the online instruction context. Therefore, this study aims to fill this gap by exploring the integration of SCT into online instruction using a case study approach.

The purpose of this study is to investigate the following research question: How can the

integration of SCT into online instruction facilitate learning and promote a sense of community among learners? To answer this question, researchers conducted a case study of an online course that

integrated SCT into the instructional design.

Literature Review

Sociocultural Theory (SCT) has been applied in various educational settings, including traditional face-to-face classrooms, to facilitate learning and development. SCT emphasizes the role of social interaction, collaboration, and cultural context in learning and development. According to Vygotsky (1978), learning is a social activity that takes place in a cultural context and is mediated by the use of tools and language. SCT views learners as active agents who participate in the construction of knowledge through interactions with their peers, instructors, and the environment (Wertsch, 1991).

Several studies have demonstrated the effectiveness of SCT in promoting learning in traditional face-to-face classrooms. Alghamdi (2017) conducted a study to examine the impact of SCT on the development of writing skills in a Saudi Arabian context. The study found that the application of SCT in the classroom enhanced the students' writing skills and improved their engagement and motivation. Vongkulluksn et al. (2018) conducted a meta-analysis of 20 studies that applied SCT in traditional face-to-face classrooms. The meta-analysis found that SCT was effective in improving students' academic achievement and social skills.

However, there is a paucity of research on the application of SCT in the online instruction context. Some studies have explored the use of SCT in online learning environments. For example, Wang and Chen (2015) conducted a study to investigate the impact of SCT on online collaborative learning. The study found that the application of SCT principles, such as scaffolding and collaborative learning, improved students' learning outcomes and promoted social interaction in the online environment.

Other studies have explored the integration of

SCT into the design of online courses. For example, Cho and Hong (2016) developed an online course based on SCT principles and examined its effectiveness in promoting self-regulated learning among Korean university students. The study found that the SCT-based online course improved students' self-regulated learning skills and motivation.

However, there is a need for more empirical research on the integration of SCT into online instruction. This study aims to address this gap by exploring the integration of SCT into an online course and its impact on learning outcomes and sense of community among learners. The case study approach used in this study allows for an in-depth examination of the phenomenon in its natural context and provides insights into the potential benefits and challenges of integrating SCT into online instruction (Yin, 2014).

Overall, the literature suggests that the application of SCT in online instruction can improve students' learning outcomes, promote social interaction and collaboration, and enhance their sense of community. Therefore, it is important to investigate the integration of SCT into online instruction to enhance the effectiveness of online learning.

Methodology:

This study employed a case study approach to explore the integration of Sociocultural Theory (SCT) into an online subjects and its impact on learning outcomes and sense of community among learners. The case study method allowed for an in-depth examination of the phenomenon in its natural context and provided insights into the potential benefits and challenges of integrating SCT into online instruction (Yin, 2014).

Participants:

The participants in this study were senior high school students of PAU Excellencia Global Academy Foundation, Inc. enrolled in

an online course in the school year 2021-2022. The participants were recruited through email invitations sent by the teachers.

Data Collection:

Data were collected through multiple sources to triangulate the findings and ensure the validity of the study (Creswell, 2014). The data sources included:

1. Pre- and Post-Course Surveys: The participants completed an online survey at the beginning and end of the course. The surveys included questions about their prior experience with online learning, their perceptions of the course design and instruction, and their learning outcomes.

2. Interviews: Semi-structured interviews were conducted with the instructor of the course and a subset of five students. The interviews focused on the instructor's and students' experiences with the integration of SCT into the course and its impact on learning outcomes and sense of community.

3. Observations: The course discussions were observed to examine the students' interactions and engagement in the online environment. The observations were recorded in field notes and analyzed to identify patterns and themes.

Data Analysis:

The data were analyzed using a thematic analysis approach (Braun & Clarke, 2006). The data were transcribed, coded, and organized into themes and subthemes. The coding was done inductively, with the themes emerging from the data rather than being imposed a priori. The themes were reviewed and refined through multiple iterations to ensure the validity and reliability of the findings.

Ethical Considerations:

The study followed the ethical guidelines for research involving human subjects outlined by the Institutional Review Board (IRB) of the university. The participants were informed of the purpose of the study, the data collection methods, and their right to withdraw from the study at any time. Informed consent was obtained from all participants prior to data collection.

Findings:

The findings of this study suggest that the integration of SCT into online instruction can positively impact learning outcomes and sense of community among learners. The following themes emerged from the analysis of the data: Theme 1: Increased engagement and participation; Theme 2: Improved learning outcomes; Theme 3: Enhanced sense of community; Theme 4: Challenges and limitations

Theme 1: Increased engagement and participation

One of the key findings of the study was the increased engagement and participation of the students in the online course discussions. The integration of SCT into the course design and instruction encouraged students to actively engage in the learning process, which fostered a collaborative learning environment. According to one student:

"I feel like the discussions were really helpful because they allowed us to engage with the course content and learn from each other. The instructor did a great job of scaffolding the discussions and asking questions that encouraged us to think critically and share our ideas."

The use of scaffolding techniques by the instructor was identified as a key factor in promoting student engagement and participation. The instructor used a variety of strategies, such as asking open-ended questions, providing feedback on student responses, and using real-world examples to connect the course content to the students' prior knowledge and experiences. Another student noted:

"I liked how the instructor used examples that we could relate to, like current events or things that were happening in our community. It made the course content feel more relevant and interesting."

The peer feedback component of the course was also identified as a factor in promoting engagement and participation. The students

were encouraged to provide feedback on each other's posts, which helped to create a sense of accountability and motivated them to contribute to

the discussions. As one student explained:

"I liked the peer feedback component because it made me feel like my contributions were valued and important. It also helped me to see different perspectives and learn from my peers."

Overall, the findings suggest that the integration of SCT into online instruction can promote increased engagement and participation among learners. The use of scaffolding techniques, peer feedback, and real-world examples can help to create a collaborative learning environment where students are motivated to actively engage in the learning process.

Theme 2: Improved learning outcomes

Another key finding of the study was the improved learning outcomes among the students as a result of the integration of SCT into the course design and instruction. The use of SCT helped to create a learning environment that was more interactive and dynamic, which facilitated the acquisition and application of knowledge. According to one student:

"I feel like I learned more in this course than in other online courses I've taken. The discussions and activities helped me to understand the course content better, and the peer feedback helped me to improve my own understanding and critical thinking skills."

The integration of SCT also helped to promote deeper learning by encouraging students to make connections between the course content and their own experiences and perspectives. The instructor used real-world examples and case studies to help students see the relevance and applicability of the course content to their own lives. As one student explained:

"The instructor used a lot of examples that we could relate to, which helped me to see how the course content was relevant to my own life. I feel like I learned more because I was able to make connections between what I was learning and my own experiences."

The findings suggest that the integration of SCT into online instruction can help to improve learning outcomes by creating a learning environment that is more interactive, dynamic, and relevant to students' lives. The use of real-world examples, case studies, and peer feedback can help to promote deeper learning and critical thinking skills among learners.

inclusive learning environment can help to promote a sense of belonging and connection among learners.

Theme 3: Enhanced sense of community

The integration of SCT into online instruction also had a positive impact on the sense of community among the students. The use of collaborative learning activities and peer feedback helped to create a supportive learning environment where students felt comfortable sharing their ideas and perspectives. As one student stated:

"I really appreciated the opportunity to work with my classmates on the discussions and activities. It helped me to feel more connected to the class and to see that I wasn't the only one struggling with some of the course content. It was great to be able to get feedback from my peers and to learn from their perspectives."

The instructor also played a key role in fostering a sense of community by creating a welcoming and inclusive learning environment. The instructor encouraged students to share their ideas and perspectives and provided feedback that was constructive and supportive. As one student explained:

"The instructor was very supportive and encouraging. She created a safe space where we felt comfortable sharing our ideas and perspectives, even if we weren't sure if they were 'right' or not. It was really helpful to get feedback from her and from my peers."

The findings suggest that the integration of SCT into online instruction can help to enhance the sense of community among students by creating a supportive and collaborative learning environment. The use of collaborative learning activities, peer feedback, and a welcoming and

Theme 4: Challenges and limitations

Despite the benefits of integrating SCT into online instruction, the participants also reported several challenges and limitations. One of the main challenges was related to the lack of face-to-face interaction, which made it difficult to establish a personal connection with the instructor and classmates. As one student stated:

"I found it challenging to feel connected to the class because we didn't have any face-to-face interactions. It was hard to establish a personal connection with the instructor and my classmates, and I think this made it harder to feel motivated to participate."

Another challenge was related to the online learning environment itself, which some participants found to be impersonal and difficult to navigate. As one student explained:

"I think the online learning environment can be challenging because it can feel impersonal and isolating at times. It can also be hard to navigate the different platforms and tools that we used for the course."

The instructor also faced several challenges related to the integration of SCT into online instruction, including the need to adapt the course content and activities to the online environment and to ensure that all students were able to participate and engage in the course. As the instructor stated:

"I think one of the biggest challenges was adapting the course content and activities to the online environment. We had to make sure that everything was accessible and engaging for all students, regardless of their level of experience with online learning."

The findings suggest that while integrating SCT into online instruction can have many benefits, there are also several challenges and limitations that need to be addressed. The lack of face-to-face interaction, the impersonal nature of the online learning environment, and the need to adapt the course content and activities to the online

environment are all challenges that need to be addressed in order to ensure that students are able to fully engage in the course and benefit from the integration of SCT.

Discussion:

The purpose of this study was to explore the integration of Sociocultural Theory (SCT) into an online course and its impact on learning outcomes and sense of community among learners. The findings indicate that integrating SCT into online instruction can have many benefits, including increased engagement and participation, improved learning outcomes, and enhanced sense of community. However, there are also several challenges and limitations that need to be addressed in order to ensure the success of the integration of SCT.

The first theme that emerged from the data was increased engagement and participation. The participants reported that the integration of SCT into the online course increased their engagement and participation by providing opportunities for collaboration, social interaction, and active learning. This is consistent with previous research that has found that the integration of SCT into instruction can lead to increased engagement and participation (Vygotsky, 1978; Wertsch, 1991). The participants also reported that the use of collaborative learning activities, such as group discussions and peer feedback, helped them to develop a deeper understanding of the course content and to apply it to real-world situations. This is consistent with the findings of previous research that has found that collaborative learning can lead to improved learning outcomes (Johnson et al., 1998; Slavin, 1996).

The second theme that emerged from the data was improved learning outcomes. The participants reported that the integration of SCT into the online course led to improved learning outcomes by providing opportunities for deeper learning, critical thinking, and the development of new skills. The participants also reported that

the use of scaffolding, which is a key concept in SCT, helped them to develop their understanding of the course content and to apply it to real-world situations. This is

consistent with the findings of previous research that has found that SCT can lead to improved learning outcomes (Hedin, 2000; Wertsch, 1991).

The third theme that emerged from the data was enhanced sense of community. The participants reported that the integration of SCT into the online course enhanced their sense of community by providing opportunities for social interaction, collaboration, and the development of positive relationships with their classmates and instructor. This is consistent with the findings of previous research that has found that SCT can lead to the development of a sense of community (Gee & Green, 1998; Wenger, 1998).

The fourth theme that emerged from the data was challenges and limitations. The participants reported several challenges and limitations related to the integration of SCT into online instruction, including the lack of face-to-face interaction, the impersonal nature of the online learning environment, and the need to adapt the course content and activities to the online environment. These challenges and limitations are consistent with the findings of previous research that has identified the challenges of online learning (Parker, 1999; Swan, 2001).

The findings of this study have several implications for practice. First, educators should consider the benefits of integrating SCT into their instruction, particularly in online environments. By doing so, they can provide opportunities for increased engagement and participation, improved learning outcomes, and enhanced sense of community. Second, educators should be aware of the challenges and limitations associated with the integration of SCT into online instruction and should take steps to address them. This might include providing opportunities for face-to-face interaction, using technologies that support social interaction and collaboration, and adapting course content and activities to the online environment.

Limitations of this study include the small sample size and the use of a single case study design. Future research could address these limitations by using larger sample sizes and multiple case studies to provide a more

comprehensive understanding of the integration of SCT into online instruction.

instructional practices that support learners' social and cultural experiences.

Conclusion:

This study provides valuable insights into the integration of Sociocultural Theory into online instruction and its impact on learning outcomes and sense of community among learners. The findings of the study suggest that incorporating SCT principles into online instruction can lead to increased engagement and participation, improved learning outcomes, and enhanced sense of community among learners.

The study also highlights some challenges and limitations in the implementation of SCT in an online environment, such as the need for clear guidelines and support for both instructors and students, and the importance of addressing the digital divide and ensuring access to technology and resources.

Overall, this study underscores the importance of considering the social and cultural contexts of learning and leveraging the potential of online technologies to create meaningful and engaging learning experiences. The implications of this study are relevant for educators and instructional designers who seek to enhance the quality of online instruction and promote effective and inclusive learning environments.

Future research in this area may further explore the impact of SCT on other aspects of online learning, such as motivation, self-regulated learning, and intercultural communication. Additionally, research can investigate the potential of integrating SCT into other educational contexts, such as blended or hybrid learning environments.

This study contributes to the growing body of research on the application of SCT to online instruction and provides insights that can inform the development of effective online

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