Exploring the Integration of Sociocultural Theory and Self-Determination Theory in Blended Learning: Implications for Language Education

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Abstract
Blended learning, which combines traditional classroom teaching with online learning, is a popular educational trend. This study explores the integration of Sociocultural Theory (SCT) and Self-Determination Theory (SDT) in blended learning environments to enhance language learners' motivation, autonomy, and learning outcomes. This article provides an overview of blended learning in second/foreign language contexts, followed by a discussion of the key concepts and principles of SCT and SDT. The challenges and opportunities of integrating these theories in blended learning environments are examined, and potential research directions are suggested. The study concludes that integrating SCT and SDT in blended learning environments can significantly enhance language learners' motivation, autonomy, and learning outcomes. This study provides a theoretical framework for educators to design and implement effective blended learning environments for language education. The findings of this study inform policy makers and educational leaders of the potential benefits of integrating SCT and SDT in blended learning environments for language education. Teachers and educational psychologists can use the recommendations of this study to design effective blended learning environments that promote learner motivation, autonomy and learning outcomes in language education.

Keywords: Blended Learning, Sociocultural Theory, Self-Determination Theory, Language Education, Learning Outcomes

Introduction

Blended learning, which combines traditional classroom instruction and online learning, has become a well-liked educational trend in recent years (Edward et al., 2018; Ma & Lee, 2021; Imran et al., 2023). Its adaptability and flexibility have been widely recognized and adopted in a variety of educational contexts (Medina, 2018; Castro, 2019; Peimani & Kamalipour, 2022). This study aims to investigate how Sociocultural Theory (SCT) and Self-Determination Theory (SDT), can be integrated in blended learning environments. The study specifically focuses on investigating how this integration can improve language learners' motivation, autonomy, and learning outcomes.

In the field of language education, motivation, autonomy, and learning outcomes are crucial (Dörnyei & Muir, 2019; Mehdiyev, 2020; Yu et al., 2021). The success of language learning is increased when students are motivated and self-sufficient (Cirocki, 2019; Phuong & Vo, 2019; Marantika, 2021). In order to explore the integration of SCT and SDT, blended learning offers opportunities for learners to exercise autonomy, self-regulation, and independent learning (Sabah, 2020; Teng & Zeng, 2022; Cheng et al., 2023).

It is crucial to give a general overview of blended learning in second/foreign language contexts to set the scene and lay the groundwork for this study. The application, advantages, and potential difficulties will all be covered in this overview. Additionally, pertinent literature will be cited to support the need for further investigation of the integration of SCT and SDT in blended learning environments.

Self-Determination Theory (SDT) and Sociocultural Theory (SCT) are two significant theoretical frameworks that provide important insights into instructional strategies in language education. SDT focuses on people's intrinsic motivation and psychological needs, whereas SCT emphasizes the importance of social and cultural interactions in learning (Vygotsky, 1978). The concepts of SCT and SDT have enormous potential for guiding and enhancing instructional strategies in blended learning environments (Alamri et al., 2020; Alenezi, 2023; Bizami et al., 2023).

To take advantage of the synergistic advantages of these two theories, it is rational to investigate the integration of SCT and SDT in the context of blended learning. Language educators can create a rich and supportive learning environment that improves learners' motivation, autonomy, and learning outcomes by integrating the social and cultural aspects of learning with the promotion of intrinsic motivation and self-direction (Reeve et al., 2018; Ryan & Deci, 2020; Reeve & Cheon, 2021).

The purpose of this study is to review the opportunities and problems related to integrating SCT and SDT in blended learning environments. To effectively implement and make use of these theories to support language learners' development, educators need to be able to recognize these opportunities and challenges. The study also aims to suggest potential research avenues to further our comprehension of this integrated approach to language education.

The importance of this study lies in its potential to offer educators a theoretical framework for creating and implementing successful blended learning environments for language education. A holistic approach that considers both the sociocultural components of learning and the psychological needs of learners may be provided by the integration of SCT and SDT.

The results of this study will also inform policymakers and educational leaders about the potential advantages of incorporating SCT and SDT in blended learning environments for language education.

The researcher will delve more deeply into the opportunities and challenges related to integrating SCT and SDT in blended learning environments in the ensuing sections of this scoping study. The topic will also be thoroughly understood through the exploration of additional potential research avenues. The study will conclude with a summary of the major findings and a discussion of the implications for educators, decision-makers, and educational psychologists who want to create effective blended learning environments that support learner motivation, autonomy, and learning outcomes in language education.

Methods

Using a protocol developed by Arksey and O'Malley (2005), this scoping review was carried out. The protocol comprises five phases: (i) identification of research questions, (ii) identification of relevant articles, (iii) selection of relevant studies, (iv) data collection and charting, and (v) collating, summarizing, and reporting the results.

(i) Identification of research questions
The researcher created specific research questions to address the scoping review's goals after reading through the abstracts and pulling out pertinent themes and concepts.

RQ1: What is the current state of research on blended learning in second/foreign language contexts?
RQ2: How is Sociocultural Theory (SCT) integrated into blended learning environments for language education?
RQ3: How is Self-Determination Theory (SDT) integrated into blended learning environments for language education?
RQ4: What are the challenges and opportunities associated with integrating SCT and SDT in blended learning environments?
RQ5: What are the potential effects of integrating SCT and SDT on language learners' motivation, autonomy, and learning outcomes in blended learning environments?

(ii) Identification of relevant articles
Using relevant databases and sources, the researcher conducted a thorough search. The development of search strategies included the inclusion of pertinent keywords and phrases like "blended learning," "Sociocultural Theory," "Self-Determination Theory," "language education," "motivation," "autonomy," and "learning outcomes." Search techniques were used to find pertinent articles in academic databases, journals of higher learning, and conference proceedings.

(iii) Selection of relevant studies
The researcher performed two levels of screening: title and abstract screening, followed by full-text screening. Each article's title and abstract were evaluated for relevance to the research question during the title and abstract screening. Articles that were obviously irrelevant were eliminated. The remaining articles were then examined in their entirety to determine whether or not they met the inclusion criteria. Applying predetermined inclusion criteria, such as focusing on blended learning in language education, discussing the incorporation of SCT and/or SDT, and analyzing the impact on motivation, autonomy, and

learning outcomes. The articles were manually transferred to Excel from the three databases. After weeding out duplicates, the researcher carefully evaluated the remaining articles using inclusion and exclusion criteria. Titles and abstracts were used to evaluate the criteria's robustness in identifying articles pertinent to blended learning.

Criteria	Inclusion Criteria	Exclusion Criteria
Criteria for title and abstract selection	1: Application of blended learning in language education. 2: Sociocultural Theory (SCT) with blended learning in language education. 3: Self-Determination Theory (SDT) with blended learning in language education.	1. Primary and secondary students' populations 2. Primary and secondary education context
Criteria for full article selection	1: Discuss the current state of research on blended learning in the second/foreign language context. 2: Discuss how Sociocultural Theory (SCT) can be integrated into blended learning environments in language education. 3: Discuss how Self-Determination Theory (SDT) can be integreted into the blended learning environments in language education. 4: Discuss the challenges and opportunities of integrating SCT and SDT in blended learning environments. 5: Discuss the potential impact of integrating SCT and SDT on language learners' motivation, autonomy and learning outcomes in blended learning environments.	1. Review articles, published theses, books, research report, editorial and letters will be excluded from the searching process.

Figure 1: Selection Criteria

(iv) Data collection and charting:
Data extraction forms or charts were used to collect the necessary information from the included studies. Study characteristics (e.g., study design, sample size), key concepts and principles of SCT and SDT, challenges and opportunities identified, and reported impact on motivation, autonomy, and learning outcomes were all collected by the researcher. The extracted data were systematically organized for further examination and synthesis.

(v) Collating, summarizing, and reporting the results:
To present an overview of the results, the researcher compiled and summarized the extracted data. To find common themes, patterns, and trends among the included studies, thematic analyses were used. The researcher summarizes the findings in light of the established research themes and questions. The researcher presented a statement in the scoping review report that contains an introduction (background and objectives), methodology (search strategy and selection criteria), results (summary of findings), discussion (interpretation of results, limitations, and implications), and conclusions (key findings and directions for future research).

Author (year)	Location	Study design/method	Subjects	Intervention	Outcome
Han, Y., Luan, N. L., & Zhao, S. (2022)	China	a mixed-method approach with a quantitative questionnaire complemented by semi-structured interviews	282 Chinese undergraduate students	BL and FL groups Face to face groups	1. Tthe technology-mediated learning environment facilitates students' needs for SDT. 2. FL learning did not significantly increase student satisfaction with BL learning. 3. Besides SDT factors, students also had psychological needs to ease tension.
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Figure 2: Literature Summary Sample

Results and Discussion

Literature Search and Screening Process

Academic journals, databases, and conference proceedings were searched for SCT and SDT integration in blended learning for second/foreign language learners. The keywords were "blended learning," "Sociocultural Theory," "Self-Determination Theory," "language education," and "learning outcomes." A thorough search yielded 1983 articles. Multiple databases and resources removed unoriginal articles. This scoping study used two-stage screening to select relevant articles after a thorough literature review. A thorough title review eliminated non-research articles. 314 articles advanced after 1326 were eliminated. Second-phase abstract and full-text screening determined article inclusion. The articles discussed foreign language blended learning. These articles also examined SCT and SDT in blended language education. Read about how these methods affect motivation, autonomy, and academic performance. The scoping study included 26 articles after careful screening.

Research Characteristics

These articles include empirical, literature, theoretical, and case studies. This study uses 2018–present articles to suggest current literature. Thus, publishing articles in reputable academic journals and conference proceedings provided diverse perspectives. The articles covered blended learning in second/foreign language education across languages, educational levels, and locations.

Results of Thematic Analysis

Several research-relevant themes and sub-themes emerged from the selected articles. The above findings help us understand blended learning, SCT, SDT, and language education. An overview of the main and sub-themes follows.

Current State of Research on Blended Learning in Second/Foreign Language Contexts

The literature explored the effectiveness of various blended learning approaches in language education. Studies investigated the impact of blended learning on language learning outcomes, student engagement, and learner satisfaction (Ismail, 2018; Rajabalee & Santally, 2021; Ustun et al., 2021; Prifti, 2022). Sub-themes within this category may include measures of effectiveness (language proficiency assessments, learner feedback) and comparative analyses of blended learning with other instructional models (Dziuban et al., 2018; Yu & Du, 2019; Moradimokhles & Hwang; 2022). The literature review revealed a considerable body of research focusing on the effectiveness of blended learning in language education. The findings suggest that blended learning can positively impact language learning outcomes, student engagement, and learner satisfaction. For future research, it is important to explore the specific measures of effectiveness employed in different studies and conduct comparative analyses to gain a deeper understanding of the outcomes associated with blended learning.

The reviewed articles discussed different models and instructional strategies employed in blended learning contexts. Examples of sub-themes within this category may include the flipped classroom model, hybrid learning models, and specific instructional strategies (project-based learning, peer collaboration) (Tong & Wei, 2020; Chua & Islam, 2021; Alamri et al., 2021; Dai et al., 2021). The reviewed articles discussed various models and

instructional strategies utilized in blended learning environments. The findings indicate the prevalence of approaches such as the flipped classroom model, hybrid learning models, and specific instructional strategies like project-based learning and peer collaboration. Further investigation is needed to explore the effectiveness of these models and strategies in different language-learning contexts.

The role of technology in blended learning was a prominent focus in the literature. Articles explored the use of digital tools, online platforms, and learning management systems to support blended learning experiences (Holmes & Prieto-Rodriguez, 2018; Taufiqurrochman et al., 2020; Bradley, 2021; Castro, 2019). Sub-themes may include discussions on the integration of specific technologies (video conferencing, virtual learning environments) and their impact on language learning outcomes (Almusharraf & Khahro, 2020; Al-Samarraie, 2019; Correia et al., 2020; Baber, 2020). The role of technology in blended learning emerged as a prominent focus in the literature. The findings emphasize the use of digital tools, online platforms, and learning management systems to support blended learning experiences. It is essential for future research to examine the integration of specific technologies and their impact on language learning outcomes. Additionally, investigating issues related to technology accessibility and digital literacy among learners and educators will be crucial.

Integration of Sociocultural Theory (Sct) Into Blended Learning Environments

The literature discussed how blended learning environments can facilitate sociocultural interaction among language learners. This sub-theme explored the importance of collaboration, peer interaction, and authentic language use in promoting language learners' motivation, autonomy, and learning outcomes (Kukulska Hulme & Viberg, 2018; Zhou & Wei, 2018; Al Fadda, 2019; Su & Zou, 2022; Hung & Nguyen, 2022). The literature highlighted the importance of sociocultural interaction within blended learning environments. The findings indicate that blended learning can facilitate collaboration, peer interaction, and authentic language use, which are essential for promoting language learners' motivation, autonomy, and learning outcomes. Future research should further explore instructional approaches that maximize sociocultural interaction and examine their impact on language learning processes and outcomes.

Articles highlighted the role of collaboration in blended learning, emphasizing the benefits of social interaction and collaborative learning tasks. Sub-themes within this category may include discussions on the implementation of group projects, online discussions, and cooperative learning strategies (Wieser & Seeler, 2018; Kimmelmann & Lang, 2019; Albiladi & Alshareef, 2019; Erbil, 2020; Cheng, 2020). The integration of collaborative learning in blended environments emerged as a sub-theme of particular significance. The findings suggest that collaborative learning tasks, such as group projects and online discussions, can foster social interaction and enhance language learning experiences. Further investigation is needed to explore the most effective ways to implement and facilitate collaborative learning in blended environments to optimize language learners' motivation, autonomy, and learning outcomes.

Integration of Self-Determination Theory (SDT) Into Blended Learning Environments

The literature explored how blended learning environments can support learners' autonomy and foster self-regulated learning. This sub-theme examined instructional strategies that promote learner choice, learner agency, and self-paced learning (Halverson & Graham, 2019;

Alonso-Mencía et al., 2020; Karakaya & Bozkurt, 2022). The literature underscored the importance of autonomy support within blended learning environments. The findings indicate that blended learning can provide opportunities for learners to exercise autonomy, make choices, and engage in self-regulated learning. Future research should investigate instructional strategies that effectively promote learner autonomy, learner agency, and self-paced learning within blended learning contexts.

The reviewed articles discussed the role of intrinsic motivation and learner engagement within blended learning contexts. Sub-themes may include discussions on promoting learners' sense of competence, relatedness, and autonomy, and how these factors influence motivation and engagement in language learning (Halverson & Graham, 2019; Zainuddin et al., 2020; Castro-Rodríguez et al., 2021; Wei, 2022). The findings suggest that fostering intrinsic motivation and learner engagement is crucial within blended learning environments. The reviewed articles highlight the significance of supporting learners' sense of competence, relatedness, and autonomy, as these factors influence motivation and engagement in language learning. Further research should explore effective approaches to enhance intrinsic motivation and learner engagement within blended learning contexts.

Challenges and Opportunities of Integrating SCT and SDT in Blended Learning Environments

Integrating SCT and SDT in blended learning environments presents instructional design challenges, according to the literature. Themes in this category may include balancing online and face-to-face components, designing effective learning activities, and ensuring sociocultural interaction (Sahri & Helmi, 2019; Wang et al., 2022; Douglas et al., 2018). These include balancing online and face-to-face components, designing effective learning activities, and ensuring sociocultural interaction. These challenges require innovative instructional design models that integrate SCT and SDT principles. Future research should address these issues.

Articles discussed the challenges associated with integrating technology within blended learning environments. Sub-themes within this category may include technical barriers, access to technology, and the need for digital literacy among learners and educators (Castro, 2019; Turnbull et al., 2021; Shohel et al., 2022; Mhlanga, 2021). The findings highlight the challenges associated with integrating technology within blended learning environments. Technical barriers, access to technology, and the need for digital literacy among learners and educators were identified as significant challenges. Future research should explore strategies to overcome these challenges and maximize the potential of technology integration in blended learning contexts.

The literature highlighted the opportunities provided by integrating SCT and SDT in blended learning environments. Sub-themes within this category may include creating learner-centred environments, facilitating personalization of learning, and leveraging digital tools to enhance language learning experiences (Bradley, 2021; Chan Paul Leong, 2022; Marwaha et al., 2019). The literature identified several opportunities provided by integrating SCT and SDT in blended learning environments. These opportunities include creating learner-centred environments, facilitating personalization of learning, and leveraging digital tools to enhance language learning experiences. Future research should investigate how these opportunities can be effectively harnessed to optimize language learners' motivation, autonomy, and learning outcomes.

Potential Effects of Integrating SCT and SDT on Language Learners' Motivation, Autonomy, and Learning Outcomes

According to the articles under review, the integration of Sociocultural Theory (SCT) and Self-Determination Theory (SDT) within blended learning environments has the potential to yield favourable outcomes in terms of language learners' motivation and engagement. The sub-themes encompassed by this category may consist of heightened intrinsic motivation, elevated self-efficacy, and a perception of possessing control over the learning process (Fong, 2022; Kanellopoulou & Giannakoulopoulos, 2020; Zheng, 2021; Al-Hoorie et al., 2022). The results indicate that the incorporation of Sociocultural Theory (SCT) and Self-Determination Theory (SDT) within blended learning settings has the potential to enhance the motivation and engagement levels of individuals learning a language. The results are linked to heightened internal motivation, elevated belief in one's abilities, and a feeling of possessing control over the educational journey. Further investigation is warranted to examine the precise mechanisms by which the integration of self-control theory (SCT) and Self-Determination Theory (SDT) impacts motivation and engagement.

The existing body of literature suggests that the integration of Sociocultural Theory (SCT) and Self-Determination Theory (SDT) within the context of blended learning has the potential to facilitate the cultivation of learner autonomy and self-regulation. The sub-themes encompassed in this study consist of the promotion of learners' self-directed learning, the cultivation of self-reflection and goal setting, and the provision of choices in learning activities (Yang et al., 2018; Christ et al., 2022). The literature reviews suggest that the incorporation of Sociocultural Theory (SCT) and Self-Determination Theory (SDT) within blended learning settings has the potential to facilitate the cultivation of learner autonomy and self-regulation. This discovery is consistent with the focus on providing autonomy support and promoting learner agency in the context of blended learning. Further investigation is warranted to explore the mechanisms and pedagogical approaches that facilitate the development of autonomy and self-regulation within blended learning environments.

The results indicated that the incorporation of Sociocultural Theory (SCT) and Self-Determination Theory (SDT) within blended learning settings can result in favorable educational achievements. The sub-themes encompassed by this category may consist of enhancements in linguistic competence, heightened learner contentment, and the cultivation of skills relevant to the 21st century (Bradley, 2021; Santos et al., 2019; Al-Nuaimi & Al-Emran, 2021). The results indicate that the incorporation of Sociocultural Theory (SCT) and Self-Determination Theory (SDT) within blended learning settings can result in favorable educational achievements in the field of language education. Possible outcomes of this process could encompass enhancements in linguistic proficiency, heightened levels of learner contentment, and the cultivation of skills relevant to the demands of the 21st century. Future research should aim to conduct a more comprehensive investigation into the specific effects and long-term implications of integrating Self-Regulated Strategy Development (SRSD) and Self-Determination Theory (SDT) on language learning outcomes.

The results of this thematic analysis provide a comprehensive overview of the primary themes and sub-themes that have been derived from the chosen articles. This study focuses on the present status of research concerning blended learning in language education. Specifically, it examines the incorporation of Sociocultural Theory (SCT) and Self-Determination Theory (SDT) within blended learning environments, and the potential

impact of these theories on motivation, autonomy, and learning outcomes. The synthesized findings make a valuable contribution to the existing theoretical framework for educators and offer valuable insights for future research and practical applications in the field of language education.

The selected articles provide a valuable analysis of the themes related to blended learning, Sociocultural Theory (SCT), Self-Determination Theory (SDT), and their integration into the field of language education. The themes and sub-themes that have been identified shed light on the present state of research, the obstacles, and possibilities, as well as the potential impacts of incorporating Sociocultural Theory (SCT) and Self-Determination Theory (SDT) into blended learning settings. The findings establish a basis for future research and present practical implications for the development of successful blended learning strategies in the field of language education.

Conclusion

In blended language education settings, Sociocultural Theory (SCT) and Self-Determination Theory (SDT) were examined in this scoping review. A thorough literature review yielded several significant findings.

There is growing evidence that blended learning improves language learning outcomes, student engagement, and learner satisfaction in second/foreign language contexts.

Integrating Sociocultural Theory (SCT) into blended learning settings can promote sociocultural interaction, collaboration, and genuine language use, which boosts language learners' motivation, autonomy, and academic performance.

Blended learning with Self-Determination Theory (SDT) improves autonomy, intrinsic motivation, and engagement. Self-support and learner-centred approaches can improve language learning outcomes.

Integrating Sociocultural Theory (SCT) and Social Development Theory (SDT) in blended learning environments is complicated by instructional design, technology integration, and educator training. This integration's potential benefits and opportunities outweigh these challenges.

Blended learning settings can boost language learners' motivation, autonomy, and learning outcomes by combining Sociocultural Theory (SCT) and Self-Determination Theory (SDT). Increased engagement, intrinsic motivation, and personal investment in learning can improve language proficiency and enable the acquisition of essential language competencies.

Limitations of the Study

This scoping review study provided valuable insights, but its limitations must be acknowledged:

The research study focused on a specific set of questions and keywords, which may have excluded relevant articles that offered additional perspectives (Okoli & Schabram, 2015).

The research's linguistic context may have predisposed it to certain publication categories. This may reduce the incorporation of a variety of viewpoints on blended learning, Sociocultural Theory (SCT), and Self-Determination Theory (SDT) in language education, limiting inclusivity.

The scoping review's conclusions are based on the articles analyzed, so they may not cover all language education contexts and populations. Language learners, educational environments, and culture affect outcomes.

The scoping review did not assess article quality or rigor. Although a wide range of studies was included, their methodological rigor and potential biases were not assessed.

Recommendations for Future Research

Based on this scoping review's findings and limitations, several research recommendations can be made.

Diverse blended learning models and strategies should be tested in different language learning environments. Comparative and longitudinal studies can help explain blended learning's long-term effects.

Further research is needed to determine how Sociocultural Theory (SCT) and Self-Determination Theory (SDT) principles work in blended learning settings. This study investigates how collaborative learning, autonomy support, and learner-centered approaches affect language learners' motivation, autonomy, and learning outcomes.

Future studies investigating the incorporation of Sociocultural Theory (SCT) and Self-Determination Theory (SDT) in blended learning settings should consider a wide range of cultural and linguistic settings to improve applicability. This study examines how culture affects language education motivation, autonomy, and learning outcomes.

Integrating qualitative and quantitative methods can help understand the effects of Sociocultural Theory (SCT) and Self-Determination Theory (SDT) in blended learning environments. Data triangulation and multiple measures can improve research credibility.

Future research should use quality assessment tools to assess study robustness. This method will ensure a stronger and more reliable literature integration. In its entirety, this scoping review study enhances the theoretical framework and understanding of blended learning, Sociocultural Theory (SCT), Self-Determination Theory (SDT), and their combination in language education. Examining current scholarly research adds to the body of research. It also illuminates the pros, cons, and opportunities of integrating Sociocultural Theory (SCT) and Self-Determination Theory (SDT) into blended learning. This study has important implications for educators, policymakers, and researchers who want to create and implement effective blended learning strategies in language education.

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