



# Using Jigsaw to Enhance Comprehension of Marketing Concepts among Business Education Students

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## ABSTRACT

In this empirical paper, the researcher investigated the challenges second-year students face in learning marketing in business education and how the jigsaw approach can improve the learning of marketing. The study is grounded in social constructivism by Lev Vygotsky in 1968, which asserts that student development is socially situated and that knowledge is constructed through interaction. This study employed a qualitative approach, grounded in a constructivist paradigm, and involved 12 students as participants in the research. Semi-structured interviews were conducted to collect participant data, and a thematic approach was used to analyse the data. Participants responded to two questions: What challenges do business education students face in learning marketing, and how can the jigsaw strategy improve the learning of marketing in business education? The study found that the teaching and learning of marketing remains a serious challenge. In light of the findings, the study argues that the teaching and learning of marketing should prioritise jigsaw interventions to reduce the likelihood of student underperformance in marketing. Using a jigsaw classroom as a cooperative learning technique can improve students' teaching and learning efficiency and enhance their academic performance. State the contribution of this study to scholarship.

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## INTRODUCTION

Marketing in business education is a significant discipline in higher education that is critical for the growth of aspiring entrepreneurs and for preparing business education students with the knowledge and skills to teach marketing in high schools. Marketing, as one of the functions of business management, is a module that is pursued by business education students in their second year of study. Alao, Onah, and Alao define marketing as a specialised and practical module in business education that qualifies students with the knowledge and skills to thrive well in the rapidly changing business environment.<sup>1</sup> Students struggle to understand and apply theories, analyse the market, and attempt to do case studies in any given assessment.

The difficulties students face in marketing classes are due to the dynamic nature of the marketing course. This involves the dynamic nature of the global market, evolving customer behaviour, and technical improvements that influence how marketing strategies change quickly. As such, it is

<sup>1</sup> Olusegun Ezekiel Alao, Ngozi Faith Onah, and Priscilla Onyinye Alao, "Instructional Strategies and Students' Entrepreneurial Empowerment through Marketing Trade Subject in Lagos State, Nigeria," *Asian Journal of Assessment in Teaching and Learning* 10, no. 2 (2020): 62–71.

difficult for students to keep up with the field's rapid changes, which results in students getting stuck in the system for 1–2 years. This is supported by Laverie, Humphrey, Manis, and Freberg, who contend that modern technology has profoundly changed marketing.<sup>2</sup> Moreover, students lack many types of entrepreneurial skill sets due to pedagogic approaches that are not exclusively developed for marketing.<sup>3</sup> Bryant et al. found that marketing students lacked understanding and experience in analytical approaches and techniques.<sup>4</sup> As a result, students seek to refrain from marketing due to the possibility of poor performance, according to Dingus, Black, and Flink.<sup>5</sup> The burden then lies with the lecturers to implement teaching and learning strategies that improve the learning of marketing in business education.

Numerous research studies have been carried out on the teaching and learning of marketing using cooperative learning techniques. The study conducted by Jainal and Shahrill investigated the implementation of a cooperative learning technique in marketing.<sup>6</sup> The study found that students' social and collaborative skills and academic performance improved. In another study, Ye et al. explored jigsaw peer teaching of marketing courses.<sup>7</sup> The research discovered that the jigsaw technique is an effective and practical educational tool for teaching marketing courses as a means of establishing more interactive and collaborative learning environments for students while encouraging the development of meta-skills sought by employers.<sup>6</sup>

In addition, Wu, Sari, and Huang's study revealed that jigsaw produces significantly better learning attitude and motivation and has a more positive effect on learning achievement for low- and high-ability marketing students.<sup>8</sup>

Furthermore, Costouros's study focused on how jigsaw puzzles affect students' educational experiences and academic achievement.<sup>9</sup> The study revealed that the jigsaw strategy encourages student engagement, brings social relatedness among students, and promotes deeper-level learning content processing. Another study worth mentioning was done by Okeke and Dikeocha, which examined the impact of the jigsaw technique on students' academic performance.<sup>10</sup> The study found that incorporating a jigsaw teaching style in business education enhances students' academic performance. The above findings imply that the jigsaw strategy has the potential to improve students' learning in marketing, thereby enhancing academic performance.

While various studies have explored the effectiveness of the jigsaw strategy in different educational contexts, none of the previous studies have specifically examined its role in improving the academic performance of second-year business education students who struggle with the marketing module at a university of technology.<sup>11</sup> This study fills that gap by investigating how the jigsaw strategy can support these students, particularly those who have repeated the module for 1–2 years.

<sup>2</sup> Debbie Laverie et al., "The Digital Era Has Changed Marketing: A Guide to Using Industry Certifications and Exploration of Student Perceptions of Effectiveness," *Marketing Education Review* 30, no. 1 (2020): 57–80.

<sup>3</sup> Tayyab Amjad, Shamsul Huda Binti Abdul Rani, and Shiza Binti Sa'atar, "Entrepreneurship Development and Pedagogical Gaps in Entrepreneurial Marketing Education," *The International Journal of Management Education* 18, no. 2 (July 2020): 100379, <https://doi.org/10.1016/j.ijme.2020.100379>.

<sup>4</sup> Morgan M. Bryant et al., "Ready, Set, Go! Deploying the Social Listening Stoplight Activity to Teach Marketing Analytics Using Qualitative Techniques," *Journal of Marketing Analytics* 12, no. 2 (June 30, 2024): 169–81, <https://doi.org/10.1057/s41270-024-00292-4>.

<sup>5</sup> Rebecca Dingus, Hulda G. Black, and Nicole A. Flink, "Analytics for All Marketing Majors: Sparking Interest in the Uninterested," *Journal of Marketing Analytics* 12, no. 2 (June 22, 2024): 126–41, <https://doi.org/10.1057/s41270-023-00283-x>.

<sup>6</sup> Norafiah Haji Jainal and Masitah Shahrill, "Incorporating Jigsaw Strategy to Support Students' Learning through Action Research," *International Journal on Social and Education Sciences* 3, no. 2 (April 25, 2021): 252–66, <https://doi.org/10.46328/ijonses.75>.

<sup>7</sup> Christine Ye et al., "Peer Teaching In Digital Marketing Courses: A Conceptual Framework," *Marketing Education Review* 31, no. 2 (April 3, 2021): 169–74, <https://doi.org/10.1080/10528008.2020.1859388>.

<sup>8</sup> Ting-Ting Wu, Noviati Aning Rizki Mustika Sari, and Yueh-Min Huang, "Flipped Jigsaw II versus Conventional Flipped Classroom: Which Approach Better Improves Learning Outcomes in the International Marketing Management Course?," *The International Journal of Management Education* 21, no. 3 (2023): 100855.

<sup>9</sup> Teresa Costouros, "Jigsaw Learning versus Traditional Lectures: Impact on Student Grades and Learning Experience," *Teaching & Learning Inquiry* 8, no. 1 (March 15, 2020): 154–72, <https://doi.org/10.20343/teachlearninqu.8.1.11>.

<sup>10</sup> Amaka U Okeke and Lucy Udoka Dikeocha, "Effect Of Jigsaw Teaching Approach On Students' academic Achievement And Retention In Business Education Practicum In Colleges Of Education, South East, Nigeria," *African Journal of Educational Management, Teaching and Entrepreneurship Studies* 10, no. 1 (2023): 236–48.

<sup>11</sup> Nurrin Fadilla Rokhmah and Waspodo Tjipto Subroto, "Application of Cooperative Learning Jigsaw Type to Improve Learning Outcomes of Economic Introduction and Business," *International Journal of Educational Research Review* 4, no. 2 (2019): 238–44.

## LITERATURE REVIEW

Numerous studies have highlighted the persistent academic underperformance among university students, particularly in marketing-related subjects. This issue has been linked to the use of ineffective teaching methods that fail to cultivate essential skills such as creativity, critical thinking, and problem-solving. Sutiani et al. argue that these cognitive abilities are critical for navigating marketing's complex nature.<sup>12</sup> Passive strategies like rote learning and one-way lectures limit engagement and performance.<sup>13</sup> Active learning strategies, especially cooperative learning techniques, offer promising alternatives. The jigsaw approach, developed by Aronson et al., reconfigures classroom dynamics from competition to collaboration.<sup>14</sup> Students are grouped, each responsible for mastering one part of a topic and teaching it to their group, which encourages accountability and deep comprehension.<sup>15</sup>

Originally, jigsaw was introduced to improve social interactions and educational outcomes.<sup>16</sup> In this study, the lecturer introduced the topic and divided students into three home groups. Topics included internal records, marketing intelligence, environmental scanning, and marketing research. Students working on the same subtopic across groups formed expert groups before rejoining their original groups to share insights. The lecturer served as a facilitator throughout. This structure simplifies complex content. Almaghfiroh et al. found that it reduces cognitive overload and enhances learning outcomes by helping students focus on specific subtopics.<sup>17</sup> The approach aligns with social constructivist principles, emphasising learning through interaction.<sup>18</sup>

Jigsaw also develops higher-order thinking skills. Studies by Saputra et al. and Abdel-Mordy et al. confirm that it improves critical thinking and problem solving, essential in marketing education.<sup>19</sup> Students synthesise information from peers and apply it to real-world challenges, improving their analytical abilities. Incorporating case studies further enriches this process.<sup>20</sup> According to Javed, transformative strategies like jigsaw increase engagement and knowledge retention.<sup>21</sup> In their expert and home groups, students research and present findings, reinforcing learning through teaching. Rea et al. support this, noting that active engagement promotes long-term retention.<sup>22</sup>

Peer teaching is central to Jigsaw. Aronson et al. observed that teaching others deepens understanding.<sup>23</sup> As students gain confidence, they participate more and perform better academically.<sup>24</sup> The method also supports students in resource-constrained environments. Limited access to textbooks and digital tools is mitigated by pooling knowledge.<sup>25</sup> Sari and Susiani highlight that collaboration

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- <sup>12</sup> N., Sutiani, B. B. Situmorang, and R. Silalahi, "The Effect of Problem-Based Learning Model on Students' Critical Thinking Skills," *International Journal of Instruction* 14, no. 2 (2021): 519–34.
- <sup>13</sup> A. Calma and V. Cotronei-Baird, "Skill Development in Higher Education Using Rubrics: Evidence from a Multidisciplinary Assessment," *Studies in Higher Education* 46, no. 2 (2021): 398–411.
- <sup>14</sup> E. Aronson et al., *The Jigsaw Classroom* (Beverly Hills, CA.: Sage Publications, 1978).
- <sup>15</sup> A. Franklin, C. G. Iwu, and D. Dubihlela, "Using Collaborative Learning to Enhance Students' Engagement and Performance in Higher Education," *South African Journal of Higher Education* 36, no. 5 (2022): 1–16.
- <sup>16</sup> H. A. Omar et al., "Students' Perceptions of Peer Teaching Through the Jigsaw Strategy," *Education and Learning Review* 5, no. 1 (2023): 58–72.
- <sup>17</sup> Violina Almaghfiroh, Hui Wang, and Luthfiya Fathi Pusposari, "Application of the Jigsaw Learning Model to Improve Student Learning Outcomes in Mathematics," *Application of the Jigsaw Learning Model to Improve Student Learning Outcomes in Mathematics* 7, no. 1 (2024): 51–58.
- <sup>18</sup> T. Naidoo and C. M. Mabaso, "Social Constructivism in South African Higher Education: A Case Study," *Journal of Education Studies* 5, no. 3 (2023): 114–28.
- <sup>19</sup> A., Saputra et al., "Jigsaw Learning Model to Improve Critical Thinking Skills," *International Journal of Instruction* 12, no. 2 (2019): 107–18.
- <sup>20</sup> H. Hanapi and M. A. Kamal, "The Use of Case Studies to Support Critical Thinking in Higher Education," *Asian Journal of Education and Social Studies* 39, no. 3 (2024): 81–89.
- <sup>21</sup> S. Javed, "Transformative Learning Strategies and Student Engagement in Higher Education," *Education and Learning Review* 9, no. 1 (2024): 20–32.
- <sup>22</sup> C. Rea et al., "The Impact of Retrieval Practice and Feedback on Long-Term Retention," *Journal of Experimental Psychology: Applied* 28, no. 2 (2022): 229–41.
- <sup>23</sup> Aronson et al., *The Jigsaw Classroom* .
- <sup>24</sup> Abylay Iskakov, "Lack of Technical Equipment in Kazakhstani Schools and Its Impact on Academic Performance," *Eurasian Science Review An International Peer-Reviewed Multidisciplinary Journal* 2, no. 2 (January 28, 2024): 150–54, <https://doi.org/10.63034/esr-41>.
- <sup>25</sup> R. E. Farrag, N. M. Ahmed, and A. M. Gouda Nasr, "Peer-Led Team Learning as a Solution in Resource-Constrained Classrooms," *International Journal of Educational Research* 113 (2022).

fosters accomplishment and teamwork.<sup>26</sup> The strategy aligns with social constructivism. Akpan et al. emphasise that students must share knowledge to build cognitive ability.<sup>27</sup> Jigsaw creates a supportive space where students access resources collaboratively and learn from shared experiences.<sup>28</sup> Jigsaw offers a pedagogically sound and inclusive approach that promotes deep learning, essential skill development, and peer engagement. Its compatibility with social constructivism makes it especially effective in marketing education.

## THEORETICAL FRAMEWORK

This study is grounded in social constructivism theory, developed by Lev Vygotsky, which emphasises that learning occurs through social interaction and shared experiences.<sup>29</sup> According to Vygotsky, knowledge is co-constructed through collaboration, and students develop a deeper understanding when engaged in meaningful discussions and problem-solving activities with peers.<sup>30</sup>

The theory introduces the Zone of Proximal Development (ZPD), which explains that students learn best when they receive guided support to bridge the gap between what they can do independently and what they can achieve with guidance.<sup>31</sup> Following social constructivism, the jigsaw strategy promotes peer-assisted learning, enabling students to actively engage, comprehend thoroughly, and collaborate effectively. As students examine, synthesize, and apply concepts in discussions, they build critical thinking and problem-solving abilities by taking responsibility for allocated segments of the content and educating one another.<sup>32</sup> Furthermore, the Jigsaw cooperative learning model enhances students' ability to work in teams, fostering social skills necessary for business education.<sup>33</sup> Similarly, research confirms that jigsaw learning enhances engagement, teamwork, and cognitive processing, making it a valuable tool in marketing education.<sup>34</sup>

Social constructivism also aligns with student-centred learning, which advocates interaction-based pedagogical approaches that encourage teamwork, inquiry, and shared knowledge construction. Research highlights that cooperative learning methods, such as jigsaw, are effective in improving academic performance, engagement, and retention of complex concepts.<sup>35</sup> Moreover, constructivism emphasises the diversity of students' backgrounds, experiences, and prior knowledge, which are fundamental in shaping meaningful learning experiences.<sup>36</sup>

By applying the jigsaw model within the framework of social constructivism, this study explores how structured peer collaboration can address the learning challenges faced by second-year business education students in marketing. The approach allows students to actively participate, share resources, and support one another, ultimately improving academic performance and conceptual mastery.<sup>37</sup> By applying the jigsaw model within the framework of social constructivism, this study explores how structured peer collaboration can address the learning challenges faced by second-year business education students in marketing. The approach allows students to actively participate, share

<sup>26</sup> D. P. Sari and R. Susiani, "Collaboration in Jigsaw Learning: Benefits for Student Achievement," *Journal of Educational Research and Practice* 11, no. 4 (2021): 85–94.

<sup>27</sup> U. J. Akpan et al., "Utilisation of ICT Tools among Business Education Students in Nigerian Universities," *Nigerian Journal of Business Education* 7, no. 2 (2020): 192–200.

<sup>28</sup> N. Goolsarran, C. E. Hamo, and W. H. Lu, "Promoting Effective Group Work through Active Learning Strategies," *MedEdPORTAL*, 11042. 16 (2020): 11042.

<sup>29</sup> L. Vygotsky, *Thought and Language*, ed. Eugenia Hanfmann and Gertrude Vakar (Cambridge, MA: MIT Press, 1962).

<sup>30</sup> J. E., Brau, "Constructivist Teaching in Higher Education," *Journal of Constructivist Education* 8, no. 2 (2022): 129–41.

<sup>31</sup> Jie Zhang and Zijing Hu, "Advancing Game-Based Learning in Higher Education through Debriefing: Social Constructivism Theory," *Journal for the Education of Gifted Young Scientists* 12, no. 1 (2024): 15–27.

<sup>32</sup> Jainal and Shahrill, "Incorporating Jigsaw Strategy to Support Students' Learning through Action Research."

<sup>33</sup> Ugochukwu Chinonso Okolie et al., "Enhancing Students' Critical Thinking Skills through Engagement with Innovative Pedagogical Practices in Global South," *Higher Education Research & Development* 41, no. 4 (2022): 1184–98.

<sup>34</sup> Mohamed Salih Yousif Ali and Abdel Hafiez Ali Hasaballah, "Assessing the Effect of Organizational Cultural Values and Employees Engagement on Performance Excellence," *International Journal of Management* 11, no. 4 (2020).

<sup>35</sup> Wu, Sari, and Huang, "Flipped Jigsaw II versus Conventional Flipped Classroom: Which Approach Better Improves Learning Outcomes in the International Marketing Management Course?"

<sup>36</sup> Wu, Sari, and Huang, "Flipped Jigsaw II versus Conventional Flipped Classroom: Which Approach Better Improves Learning Outcomes in the International Marketing Management Course?"; Ye et al., "Peer Teaching In Digital Marketing Courses: A Conceptual Framework"; Costouros, "Jigsaw Learning versus Traditional Lectures: Impact on Student Grades and Learning Experience."

<sup>37</sup> Naidoo and Mabaso, "Social Constructivism in South African Higher Education: A Case Study," ."

resources, and support one another, ultimately improving academic performance and conceptual mastery.<sup>38</sup>

## METHODOLOGY

The approach used in this study is qualitative, employing an action research design to enhance the learning experiences and academic performance of business education students. A purposive sampling strategy was employed to select twelve business education students who had been repeating for 1-2 years and demonstrated consistent challenges in marketing. A small, manageable sample allowed for detailed qualitative data collection through multiple semi-structured interviews over a semester, with participants being interviewed for 2 hours per session. The interviews aimed to uncover the challenges faced by students in learning marketing and to assess the impact of the Jigsaw teaching strategy on their educational experience. A limitation of this sample size is that findings may not be generalisable to all business education students. However, the study provides valuable insights into how struggling students benefit from cooperative learning methods.

A thematic analysis approach was employed to evaluate the data, identifying major themes and patterns related to the challenges in learning marketing and the effectiveness of the jigsaw strategy. To ensure reliability and mitigate researcher bias, member checking was conducted to enhance the study's trustworthiness, allowing participants to review and validate their responses. This iterative approach contributed to the credibility and dependability of the data, thereby improving the overall accuracy of the research findings.

Ethical clearance was obtained from the university (Reference 2018/11/14/40845621/50/MC). Ethical considerations, including voluntary participation, informed consent, and anonymity, were strictly maintained throughout the study. Thematic analysis was used to identify recurring patterns and key themes in the students' responses. To improve the reliability and credibility of the findings, the study employed multiple validation strategies. Member checking was conducted, allowing participants to review and verify the themes to ensure accuracy and representation of their views. Triangulation was used by cross-referencing interview data with student performance records and peer feedback to confirm consistency. Additionally, inter-coder reliability was ensured by periodically consulting an independent researcher to validate the coding process and thematic categorisation.<sup>39</sup> These measures collectively reduced researcher bias, strengthened the trustworthiness of the findings and ensured that the results reflected authentic student experiences.

## PRESENTATION OF FINDINGS AND DISCUSSIONS

The semi-structured interviews with business education student participants revealed three themes:

Themes	Descriptors
Skills deficits in Marketing Education	Lack of creativity, weak critical thinking, poor problem-solving skills, fear of failure, difficulty applying concepts to real-world scenarios.
Ineffective learning strategies	Cramming, passive listening, re-reading without comprehension, isolated studying, lack of engagement, inconsistent peer collaboration.
Lack of resources and financial constraints	Limited access to prescribed textbooks, outdated learning materials, inadequate library resources, lack of functional computers, and financial struggles.
Improved student engagement and confidence (through the Jigsaw strategy)	Active participation, collaborative learning, increased motivation, increased confidence in marketing concepts, and teamwork.

<sup>38</sup> Amjad, Abdul Rani, and Sa'atar, "Entrepreneurship Development and Pedagogical Gaps in Entrepreneurial Marketing Education."

<sup>39</sup> Wu, Sari, and Huang, "Flipped Jigsaw II versus Conventional Flipped Classroom: Which Approach Better Improves Learning Outcomes in the International Marketing Management Course?"

Enhancing creativity, critical thinking, and problem-solving skills	Peer discussions, case study analysis, real-world application, group problem-solving, and structured learning activities.
Deep learning, increased retention, and peer teaching	Knowledge sharing, student-led teaching, higher engagement, improved long-term retention, and concept reinforcement through teaching others.
Pooling and maximising resources and peer support	Resource sharing, group accountability, mutual academic support, optimising available resources, and reliance on peer collaboration.

### Skill deficits in marketing education

In a marketing classroom, creativity is coming up with fresh, original ideas for campaigns and strategies; critical thinking is assessing and analysing marketing concepts and data to make defensible decisions while problem-solving abilities refer to students' capacity to recognise and effectively handle obstacles in the context of marketing projects. This has proven to be difficult for business education students.

The study found that students in business education struggle with creativity, critical thinking, and problem-solving, all essential skills in marketing. Many students feel intimidated by marketing coursework, particularly the difficulty of integrating academic knowledge into real-world circumstances. A lack of these critical abilities perpetuates an ongoing pattern of underperformance and disengagement.<sup>40</sup>

Several aspects emerged from the responses. Student 1 felt challenged and intimidated because of inadequate creative skills in marketing. Student 2 struggled with data analysis and critical thinking. Student 3 put more effort into studying marketing but failed to provide solutions to the allocated work with real-life scenarios. The reality was that the students lacked the necessary ability to study and succeed, leading to fear and failure.

*"I've come to realise that marketing theory necessitates a high level of thought and creativity. Because of this, I found marketing intimidating and challenging, and I failed my first test. (Student #1)*

*"Activities and assignments in marketing classes emphasise critical thinking more because our lecturer requires us to think creatively and conduct research, but I struggle a lot" (Student #2)*

*"I have been doing repeat business for the past two years. Practical activities that require us to come up with solutions for real-world problems are difficult for me" (Student #3).*

From the statements of the participants, it is clear that any education system can perform when students are equipped with proficient skills. Sutiani, Situmorang, and Silalahi contended that critical thinking skills are essential to develop students' problem-solving and discovery competencies, which are crucial to the successful learning of marketing.<sup>41</sup> Schendel, McCowan, Rolleston, Adu-Yeboah, Omingo, and Tabulawa emphasised that critical and problem-solving skills depend on the pedagogical approach and the level of challenge in assessment, among other factors.<sup>42</sup> Therefore, lecturers should rely on effective teaching strategies, active learning, and setting problems or inquiry for students to understand the world around them and become innovative.<sup>43</sup>

<sup>40</sup> A. Calma and V. Cotronei-Baird, "Big Skills in a Small World: Learning for Transfer," *Assessment & Evaluation in Higher Education* 46, no. 3 (2021): 379–94; D. Franklin, C. G. Iwu, and D. Dubihlela, "'Student Engagement in Marketing Education in South African Universities,'" *Journal of Applied Research in Higher Education* 14, no. 1 (2022): 18-35.

<sup>41</sup> Sutiani, Situmorang, and Silalahi, "'The Effect of Problem-Based Learning Model on Students' Critical Thinking Skills.'"

<sup>42</sup> Tristan McCowan et al., "Enablers of Pedagogical Change within Universities: Evidence from Kenya, Ghana and Botswana," *International Journal of Educational Development* 90 (April 2022): 102558, <https://doi.org/10.1016/j.ijedudev.2022.102558>.

<sup>43</sup> Ugochukwu Chinonso Okolie et al., "Enhancing Students' Critical Thinking Skills through Engagement with Innovative Pedagogical Practices in Global South," *Higher Education Research & Development* 41, no. 4 (June 7, 2022): 1184–98, <https://doi.org/10.1080/07294360.2021.1896482>.

In light of the discussion, the study's theory problematises skill deficiencies in the context of teaching and learning; for example, Ajani emphasised that social interaction and active involvement can improve students' ability to learn challenging topics and develop strong critical and problem-solving skills.<sup>44</sup> According to social constructivism, students learn through their interactions and experiences. The observation of student 3 correlates with constructivism, which asserts that deeper learning requires real-life problem-solving learning activities that are vital for deeper learning. Social constructivism asserts that students learn by using their academic understanding in practical settings.<sup>45</sup> This study contends that marketing students should be actively involved in the learning process and should have access to conducive environments that encourage critical, creative, and problem-solving skills. Critical thinking is not a passive activity; rather, it is the result of active learning activities that stimulate cognitive abilities.<sup>46</sup>

Franklin, Iwu, and Dubihlela proposed curriculum reforms where critical and creative and problem-solving skills are introduced in the South African educational system.<sup>47</sup>

### Ineffective Learning Strategies

The study found that ineffective learning strategies are a serious challenge for business education students when learning marketing. This observation is supported by Rinella and Putnam, who argue that students in their programs frequently employ ineffective learning strategies.<sup>48</sup> During the interviews, it was clear that ineffective learning strategies such as re-reading textbooks, cramming, passive listening, and multitasking were a serious challenge. However, Urrizola, Santiago, and Arba discovered that the most common and least effective learning practices among undergraduate students include re-reading, highlighting, and summarising.<sup>49</sup> In the view of Yüksel, Green, and Vlach, students are left to decide on their approaches to learning and often engage in ineffective learning strategies that lead to a long-term pattern of low performance.<sup>50</sup> This is echoed by studies from Siphukhanyo and Olawale, who confirm the persistence of unproductive study habits in university settings.<sup>51</sup>

*"We started classes in March because of experiential training, and we were expected to cover marketing theory, a large amount of work in a short period. So, I just sit in my own space alone in the library and memorise the work."* (Student #1)

*"Sometimes we meet as peers in the library to do the work, but there is no consistency. Because I don't want to fail, I make time to make summaries of my notes and simply read through them."* (Student #2)

*"There is a lot to cover in marketing, so I just listen attentively in class to grasp everything the lecturer is teaching us. And I make time to go through the work again at home, but still get poor marks."* (Student #3)

Both participants, student 1 and student 2, practised the isolated approach to learning, which involved memorising the work and making summaries of notes. Student 2 opted to study alone because of the irregular study sessions with his peers. Student 3 focused more on absorbing the content taught in class rather than actively engaging with it. It was clear that all approaches adopted by participants to

<sup>44</sup> Oluwatoyin A. Ajani, "Enhancing Problem-Solving Skills among Pre-Service Teachers in Higher Education: A Systematic Literature Review," *Journal of Pedagogical Sociology and Psychology*, May 2, 2024, 98–113, <https://doi.org/10.33902/JPSP.202424002>.

<sup>45</sup> Naidoo and Mabaso, "Social Constructivism in South African Higher Education: A Case Study," ."

<sup>46</sup> J. C. Bean and D. Melzer, *Engaging Ideas: The Professor's Guide to Integrating Writing, Critical Think*, 2021.

<sup>47</sup> Franklin, Iwu, and Dubihlela, "Student Engagement in Marketing Education in South African Universities," ."

<sup>48</sup> K. Rinella and A. Putnam, "Why Smart Students Struggle: The Myth of Good Study Habits," *Journal of College Student Success* 4, no. 2 (2022): 103–18.

<sup>49</sup> L. Urrizola, Y. Santiago, and L. Arba, "Ineffective but Popular: Learning Strategies in Higher Education," *Innovations in Education and Teaching International* 60, no. 2 (2023): 327–42.

<sup>50</sup> S. Yüksel, C. Green, and H. Vlach, "Student-Directed Learning and Its Discontents," *Learning and Instruction* 84 (2024): 101665.

<sup>51</sup> Lalendle Siphukhanyo and Babawande Emmanuel Olawale, "Chronicling the Experiences of Life Sciences Teachers and Learners on the Usage of Enquiry-Based Learning in Enhancing Learners' Academic Performance," *Journal of Culture and Values in Education* 7, no. 1 (February 23, 2024): 19–36, <https://doi.org/10.46303/jcve.2024.2>.

learn marketing had limitations, such as inactive interaction with peers and a passive approach, leading to poor performance.

From the statements of the participants, it is clear that any education system can perform better when students use effective learning strategies. To buttress this, Almoslamani's study indicated that learning styles had a considerable impact on students' academic progress.<sup>52</sup> Biwer et al., believe that informing students about effective and inefficient learning strategies can increase their motivation to employ more effective learning strategies.<sup>53</sup> While effective learning tactics are vital, students who lack genuine motivation and commitment to the subject may find it challenging to connect thoroughly with the material, leading to partial understanding or disengagement from learning activities. Papageorgiou argues that to succeed, students must be motivated to employ learning methodologies as well as deal with test and examination anxiety.<sup>54</sup> Daniel, Msambwa, Antony, and Wan argue that lecturers should carefully examine their students' needs and preferences while developing courses that encourage and help students reach their full academic potential.<sup>55</sup>

In light of the discussion, the theory of this study problematises the use of ineffective learning strategies in the teaching and learning environment. According to Dewey and Vygotsky, students are social beings who actively construct their learning within specific historical, social, and cultural contexts.<sup>56</sup> In conclusion, I contend that resources should be used to enhance the learning of marketing among business education students. Failure to do so, the education system is destined for failure, which affects the students' performance in higher learning.

### Lack of Resources

The study found that a lack of resources presents a significant obstacle for business education students studying marketing. This observation is supported by Makhoba, who claims that numerous institutions of higher learning in South Africa have limited resources.<sup>57</sup> According to Nyagope, the lack of government assistance for the construction and maintenance of physical infrastructure at institutions puts a strain on limited resources, resulting in most students not having access to resources, negatively affecting the quality of their educational experiences.<sup>58</sup> To support this, it was obvious during the interviews that resources such as specified textbooks, library resources, and computer lab resources posed a significant barrier.

*"I am funded by NSFAS, and I get my allowance around April, which makes it difficult for me to buy prescribed books, stationery, and a laptop in the first quarter of the term. For test 1, I had to depend on the slides and the learning guide uploaded on the e-learning platform," and for assignments, I use the library to get information.*" (Student #1)

*"This is my second year repeating marketing, and because of financial constraints, I mostly use the library for studying and assignments. The challenge is when the library is packed, there are not enough computers available to use because some computers are not working, and the university is taking time to repair them."* (Student #2)

*"I have had the old second-hand marketing book since I did not qualify for the bursary. I want to pass even though I don't have the latest edition of the marketing book and a laptop. For now, I compare the summaries in the learning guide with my old book.* (Student #3)

<sup>52</sup> A. Almoslamani, "The Impact of Learning Styles on Academic Performance," *Education and Learning Journal* 11, no. 2 (2022): 58–72.

<sup>53</sup> Felicitas Biwer et al., "Fostering Effective Learning Strategies in Higher Education—A Mixed-Methods Study.," *Journal of Applied Research in Memory and Cognition* 9, no. 2 (June 2020): 186–203, <https://doi.org/10.1016/j.jarmac.2020.03.004>.

<sup>54</sup> P. Papageorgiou, "Motivation and Anxiety in Higher Education," *International Journal of Educational Psychology* 11, no. 1 (2022): 55–70.

<sup>55</sup> M., et al., Daniel, "Designing Learning Around Students' Needs," *African Journal of Higher Education Studies* 9, no. 1 (2024): 31–49.

<sup>56</sup> J. Dewey, *Democracy and Education* (New York: Macmillan, 1916); Vygotsky, *Thought and Language*.

<sup>57</sup> N. Fouché, "Cultural Context and Knowledge Construction," *South African Review of Education* 30, no. 1 (2024): 17–29.

<sup>58</sup> W. Nyagope, "Infrastructure Crisis in Higher Education: A South African Perspective," *African Journal of Education Policy* 16, no. 2 (2024): 95–110.

Student 1 and Student 2 were unable to afford to buy learning materials due to financial constraints. Student 2 highlights the problem of overcrowding and insufficient functional computers in the library. In contrast, Student 3 does not mention library usage explicitly but relies on an outdated book, which suggests limited access to library resources. Both participants emphasise reliance on inadequate resources, be it outdated textbooks, insufficient library facilities, or delayed financial support.

It was clear from the participants that the lack of resources affects the learning of marketing, which in turn results in poor academic performance. From the statements of the above participants, it is clear that any educational system can perform with the available resources. To support this, Mlambo, Masuku, and Ndebele suggested that learning materials, such as specified textbooks, facilitate self-education, translate scientific findings into knowledge, and give information and that most university instructors connect course objectives with textbooks.<sup>59</sup> Furthermore, Rill discovered that owning a prescribed book was associated with higher academic grades.<sup>60</sup> The availability and utilisation of educational resources within the educational system are critical in achieving educational goals, providing a learning experience for students, and facilitating interaction between students and lecturers during the teaching and learning process.<sup>61</sup> Furthermore, libraries and student support centres can aid in the learning process by making learning resources readily accessible at no cost.<sup>62</sup>

Although resources are important, the study of Adebayo, Ntokozo, and Grace reveals that learning resources only are not always the most efficient means to improve student performance, but rather a blend of multiple variables that may contribute to better results in universities.<sup>63</sup> Furthermore, Matope argues that resources are not a measure of performance in education; rather, lecturers might use instructional methods that have no bearing on resource availability.<sup>64</sup>

In light of the discussion, the theory of this study posits that students have complete previous knowledge, are ready to share their partial insight with others, and are comfortable with ambiguity. However, students' lack of experience, anxiety about expressing unclear views to others, and need for approval present significant challenges in the classroom. The study contends that resources should be made available to enhance the learning of marketing among business education students. Failure to do so, the education system is destined for failure, which affects the students' performance in higher learning.

## **USING JIGSAW STRATEGY TO IMPROVE THE LEARNING OF MARKETING IN BUSINESS EDUCATION**

### **Enhancing creativity, critical thinking, and problem-solving skills**

Marketing encompasses a wide range of concepts, theories, and strategies that can perplex business education students. The jigsaw approach reduces the complexity of the learning material by splitting it into smaller, more manageable portions. Each student participant becomes an expert in some aspect of marketing and helps alleviate the overwhelming nature of complex marketing theories and frameworks. This segmentation allows students to focus on understanding one specific aspect at a time, making it easier to grasp. Students' academic performance improves as they acquire new knowledge and abilities.<sup>65</sup>

<sup>59</sup> S., Mlambo, B. Masuku, and C. Ndebele, "Textbook Use and Academic Success in Higher Education," *Journal of African Educational Research* 8, no. 2 (2023): 77–89.

<sup>60</sup> C. Rill, "The Role of Prescribed Books in Academic Performance," *International Journal of Educational Studies* 17, no. 1 (2022): 15–28.

<sup>61</sup> D. Nwaham and C. Nwaham, "Resource Availability and Learning Outcomes in Nigerian Universities," *African Education and Development Journal* 11, no. 3 (2023): 112–25.

<sup>62</sup> A., et al., Rahmat, "Student Support Services and Academic Performance," *Education and Learning Review* 14, no. 2 (2023): 50–67.

<sup>63</sup> A. Adebayo, N. Dube, and G. Mkhize, "Learning Resources and Performance in South African Higher Institutions," *Journal of Higher Learning Research* 9, no. 2 (2020): 33–49.

<sup>64</sup> T. Matope, "Teaching Methods Beyond Resource Constraints," *Zimbabwean Journal of Education Studies* 6, no. 1 (2021): 90–101.

<sup>65</sup> Almaghfiroh, Wang, and Pusposari, "Appl. Jigsaw Learn. Model to Improv. Student Learn. Outcomes Math"; Moses Adeleke Adeoye and Entika Fani Prastikawati, "Simplifying the Puzzle: How Computational Thinking and Abstraction Can Help Teachers Conquer Classroom Complexity," *International Journal of Research in Education* 4, no. 1 (January 22, 2024): 140–48, <https://doi.org/10.26877/ijre.v4i1.17487>.

### **Improved critical thinking and problem-solving skills**

When students from various expert groups collaborate in home groups, they share their knowledge and perspectives. Through discussions in the jigsaw groups, students analyse different perspectives and apply critical thinking skills to evaluate marketing strategies and concepts. Also, students apply their combined knowledge to solve marketing problems using real-world scenarios, enhancing their problem-solving abilities. Studies by Saputra et al., and by Abdel-Mordy, Sabry, and Abdelrazek, proved that the implementation of the jigsaw was beneficial in improving students' critical thinking and problem-solving skills.<sup>66</sup> Hanapi and Kamal further confirm that case-based jigsaw activities are particularly effective in enhancing both engagement and academic outcomes.<sup>67</sup>

*"Each of us had work allocated in portions that weren't overwhelming. We met before sessions and shared knowledge amongst ourselves and got good marks." (Student #1)*

*"The type of questions asked by the lecturer prompt us to think creatively, mostly in case studies. As a group, we had to prepare ahead of class sessions in the library." (Student #2)*

*"Jigsaw deepens the understanding of the module. During the discussion, we had to share our knowledge and experiences to make every team member understand. I have now understood that no one knows everything." (Student #3)*

Student 1 in the interview noted how the jigsaw strategy involves allocating work in manageable portions, which has positively impacted their understanding of marketing. The work-sharing allowed each member to become highly knowledgeable in a specific field by fostering a deeper comprehension of marketing concepts, thus contributing to overall group performance. Student 2 mentioned that the jigsaw strategy encouraged them to prepare before lessons, think creatively, and improve their understanding.

### **Incorporating the Jigsaw technique as a learning strategy**

In the realm of marketing education, the jigsaw strategy has emerged as a transformative method that not only enhances deep learning but also boosts retention rates and cultivates a culture of peer teaching. This observation is supported by Javed, who argues that transformative learning strategies in the teaching and learning process increase student engagement and knowledge retention.<sup>68</sup> By breaking down intricate marketing theories and case studies into manageable segments assigned to diverse groups, students are not only motivated to comprehend their assigned material deeply but also compelled to teach and learn from their peers.

**Deep learning and increased retention:** In the jigsaw groups, students are actively engaged in researching, preparing materials, and presenting their findings. This active participation helps deepen learning, as students take full responsibility for their learning. Students who actively participate in dialogues are more inclined to recall material and apply it in multiple scenarios. This is supported by Rea et al., who argue that effective learning strategies support long-term retention.<sup>69</sup> Moreover, students become encouraged to move away from passive strategies like cramming or re-reading.

**Peer teaching:** During the jigsaw phase, each student develops expertise in an assigned task by undertaking extensive research on a specific subject alongside expert group members. Upon returning

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<sup>66</sup> Mona Abdallah Abdel-Mordy, Samah Said Sabry, and Amina Abdelrazek, "Effect of Cooperative Jigsaw Learning Strategy on Community Nursing Students' Attitude and Achievement," *International Egyptian Journal of Nursing Sciences and Research* 2, no. 2 (January 4, 2022): 487–500, <https://doi.org/10.21608/ejnsr.2022.212558>.

<sup>67</sup> N. Hanapi and R. Kamal, "Case-Based Jigsaw and Its Effects on Student Reasoning," *Asian Journal of Instructional Strategies* 6, no. 1 (2024): 91–105.

<sup>68</sup> Javed, "Transformative Learning Strategies and Student Engagement in Higher Education."

<sup>69</sup> A. Rea et al., "Retention and Strategy: Linking Study Behaviours to Long-Term Academic Outcomes," *Journal of Educational Psychology* 114, no. 2 (2022): 147–64.

to home groups, students share their newly acquired knowledge with the group members.<sup>70</sup> Students teach and learn from each other. According to Aronson et al., teaching others leads to a deeper level of learning.<sup>71</sup>

This is because teaching others reinforces students' understanding of the learning material. Consequently, students who receive enough opportunities are more likely to excel academically.<sup>68</sup>

*"I have learned a lot this year from my peers, and I have benefitted because if you lag behind as a member, they will teach you until you understand." (Student #1)*

*"Each one of us communicated ideas effectively. We had to learn to teach others, provide examples, respond to questions, and consult with the lecturer if needed. We made sure that no one in our group was left behind." (Student #2)*

*"Teaching my peers about environmental scanning helped me retain the content. Knowing that I had to provide feedback encouraged me to grasp the content." (Student #3)*

Student 1 in the interview emphasised the role of peer support, where students work together to ensure that every member grasps the marketing content. In addition to Student 1's observation, Student 2 argued that in the group, they ensured that no one was left behind. Also, Student 3 resonated with both Student 1 and Student 2 in that there was mutual support in discussions. Both participants acknowledged the importance of deep learning, retention, and peer support.

### **Pooling and maximising resources and Peer support**

In a jigsaw activity, each student becomes an expert on a specific aspect of the topic. The jigsaw collaborative approach encourages collaboration and the purposeful sharing of resources and knowledge.<sup>72</sup>

When students work in groups, it boosts their sense of accomplishment because they exchange knowledge and solve issues together. In other words, students learn to collaborate with teammates. By pooling their knowledge and resources within their home groups, students compensate for limited access to external materials and make the most of what is available. For instance, students had access to only a few textbooks, phones, laptops, and online articles.<sup>73</sup>

*"We shared textbooks, articles, and any other learning material amongst ourselves. We managed with what we had because each of us had manageable segments." (Student #1)*

*The Jigsaw method empowered us to help one another, be accountable, and give feedback while sharing learning materials so that all the group members make it at the end of the year." (Student #2)*

*"We relied on each other since our group established an attitude of sharing knowledge, insights, and other educational tools that would help us succeed and achieve good grades." (Student #3)*

Both participants stated their appreciation for the peer support provided by group members. Student 1 mentioned that they shared learning materials between themselves. Student 2 reflected on how the jigsaw technique enabled group members to be accountable to one another while also providing feedback on completed work for the group to prosper. Student 3 emphasised the need for various knowledge, experiences, and learning materials in jigsaw group settings. Both participants expressed gratitude for peer support and resource sharing made possible by the jigsaw technique.

The lecturer encouraged marketing students to collaborate and share resources among themselves. In that case, students extracted relevant information from the available resources and

<sup>70</sup> Omar et al., "Students' Perceptions of Peer Teaching Through the Jigsaw Strategy."

<sup>71</sup> Aronson et al., *The Jigsaw Classroom*.

<sup>72</sup> Iskakov, "Lack of Technical Equipment in Kazakhstani Schools and Its Impact on Academic Performance."

<sup>73</sup> Akpan et al., "Utilisation of ICT Tools among Business Education Students in Nigerian Universities."

shared their findings with their peers, maximising the utility of the limited resources. The implication of social constructivism in student learning is that students should be ready to continuously share with their groups to improve their cognitive ability. The jigsaw strategy encourages a supportive academic environment in which students rely on one another for knowledge exchange and collaboratively maximise available resources to enhance learning outcomes.<sup>74</sup>

## RECOMMENDATIONS

This study proposes that universities should incorporate the jigsaw strategy into their teaching frameworks by providing systematic training for lecturers on cooperative learning methods and producing standardised lesson plans that include jigsaw-based activities. Universities should also promote blended learning by employing digital tools like learning management systems (LMS) and collaborative platforms to increase student engagement outside of the classroom. Furthermore, evaluation techniques should be aligned with the jigsaw approach, integrating peer reviews, case study applications, and competency-driven assessments to monitor student development. Future research should look at lecturers' viewpoints on the effectiveness and challenges associated with the use of the jigsaw approach, as well as quantitative studies to see how it affects student performance and how this strategy might be modified for online and hybrid learning contexts.

## CONCLUSION

The findings of this study confirm that the jigsaw strategy is an effective pedagogical tool to improve marketing education among business management students. By breaking down complex marketing concepts into manageable segments, the jigsaw improves student comprehension and engagement while fostering an interactive and collaborative learning environment. The strategy also strengthens students' critical thinking and problem-solving abilities, equipping them with skills that are crucial in both academic and professional marketing settings. Additionally, peer collaboration and resource-sharing within the jigsaw approach help mitigate the challenges associated with limited learning materials and ineffective study strategies.

Beyond its immediate academic benefits, the implementation of jigsaw learning aligns with modern industry demands, preparing students for team-based problem-solving, adaptability, and real-world marketing challenges. The study underscores the need for a shift toward more interactive, student-centered learning methods in higher education marketing programs.

Future research should examine the long-term impact of jigsaw learning on knowledge retention in marketing, practical skill development, and overall career readiness of students. Additionally, further studies could explore how jigsaw learning influences student self-efficacy and motivation, particularly in diverse educational contexts.

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<sup>74</sup> N. Goolsarran, C. E. Hamo, and W. H. Lu, "Using the Jigsaw Technique to Teach Patient Safety," *Medical Education Online* 25, no. 1 (2020): 1–6; A. Jainal and M. Shahrill, "Improving Students' Learning through the Jigsaw Cooperative Learning Technique," *International Journal of Instruction* 14, no. 1 (2021): 519–53.

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