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Fostering Entrepreneurial Character of University Students Through Digital Learning and Green Economy Integration

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Abstract

The transformation of higher education into entrepreneurial universities requires innovative approaches to teaching that integrate digital learning and sustainability values. While previous research has highlighted the potential of technology-enhanced education, less is known about whether digital learning effectively shapes student character and entrepreneurial aspirations when compared with sustainability-oriented pedagogy. This study aims to examine the influence of digital learning and green economic orientation on student character development and its subsequent effect on entrepreneurial interest. Using quantitative design, data were collected from 198 university students enrolled in entrepreneurship-related programs and analyzed with structural equation modeling (SEM) using AMOS. The results show that green economic orientation significantly predicts student character development, which in turn strongly influences entrepreneurial interest. However, digital learning does not exhibit a significant direct effect on character formation, suggesting that technology-driven pedagogy alone may be insufficient to instill entrepreneurial values. These findings extend human capital and institutional theories by demonstrating the differential impact of educational inputs on entrepreneurial readiness. Practically, the study highlights the need for universities to redesign digital curricula by embedding sustainability-oriented and interactive pedagogy. Although limited by its cross-sectional design, this research provides important directions for future studies to test the long-term and cross-contextual effects of integrating digital learning and sustainability in entrepreneurship education.

Keywords: *Green economic orientation; Student character formation; Sustainability-driven pedagogy; Entrepreneurial competencies.*

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INTRODUCTION

National economic development is significantly influenced by the presence of entrepreneurs who can create jobs, drive innovation, and strengthen local economic structures. However, as of 2024, Indonesia's entrepreneurship ratio remains at 3.47% of the total population, which lags other ASEAN countries such as Malaysia (4.74%), Thailand (4.26%), and Singapore (8.76%) (Kemenkop UKM, 2024; OJK Institute, 2024). The government has targeted an increase to 4% by 2024 and, in the long term, aims to achieve 12% by 2045 to support the "Golden Indonesia Vision."

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This relatively low ratio not only reflects disparities among countries but also underscores structural challenges within Indonesia itself. Limited access to business capital continues to hinder aspiring young entrepreneurs, compounded by insufficient financial literacy and constrained access to formal credit or investors (Amalia and von Korflesch 2023; Jun and Ran 2024; Peter Timmer 2022). Furthermore, complex regulatory procedures and unfriendly bureaucratic systems often complicate the process of establishing and legalizing businesses, particularly in regional areas (Chu and Nguyen 2025; David et al. 2024). At the same time, entrepreneurship education at the high school and university levels remains uneven, with a lack of practical business training, digital literacy, and 21st-century competencies relevant to the entrepreneurial landscape (Bachmann et al. 2024; Liang et al. 2025).

From a socio-cultural perspective, risk aversion and a preference for the security of formal employment continue to shape the mindset of younger generations, discouraging them from pursuing entrepreneurial ventures (Cook et al. 2021; Vancea and Utzet 2017). This cultural tendency has resulted in the loss of entrepreneurial potential among youth due to fear of failure. Addressing these challenges requires educational approaches that integrate digital learning and green economy values. Digital learning, in this context, goes beyond online delivery and emphasizes the use of technology as an interactive, flexible, and skill-based medium, including business simulations, virtual classrooms, and open access to global knowledge resources (Gaweł et al. 2025; Hsu and Wu 2023; Yang, Zhang, and Lin 2022). Previous studies have shown that digital learning enhances innovative, collaborative, and critical thinking skills competencies that are essential for entrepreneurial character building (Meepung 2024; Meirbekov, Maslova, and Gallyamova 2022; Zhou et al. 2025) Simultaneously, the integration of green economy principles has been found effective in fostering environmental awareness, social responsibility, and sustainability-oriented values in students. Green-oriented education instills ethical values in entrepreneurship and develops an entrepreneurial mindset that is not only profit-driven but also ecologically and socially sustainable (Leal Filho et al. 2025; Meirbekov et al. 2022; Zhou et al. 2025).

Therefore, the integration of digital learning and green economy approaches in higher education represents a strategic pathway for shaping student entrepreneurial character that is adaptive, innovative, and socially and environmentally responsible. Such a model of entrepreneurial education is urgently needed to address national economic challenges and cultivate a generation of young Indonesian entrepreneurs who are globally competitive yet rooted in sustainability

METHODOLOGY

This study employed a quantitative research design to examine the relationships between digital learning, green economy orientation, student character development, and entrepreneurial character among university students. The population consisted of students enrolled in entrepreneurship study programs across higher education institutions. A random sampling technique was applied, yielding a final sample of 198 respondents. Such a sample size was considered adequate to represent the targeted population and to meet the minimum requirements for structural equation modeling (SEM).

Data were collected through a structured survey administered directly to students using a Google Form. The questionnaire was designed to capture perceptions and experiences related to digital learning, green economy orientation, student character development, and entrepreneurial character. Prior to distribution, the instrument was reviewed to ensure clarity and relevance of items.

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The measurement model included several constructs adapted from prior validated studies. Digital learning was measured using three indicators: ability possessed, deep understanding, and communication patterns (Hizam et al. 2021; Zhao et al. 2025). Green economy orientation was operationalized as students' attitudes and behaviors in applying sustainable development principles in their academic environment, measured through four indicators (Leal et al. 2024; Ngare et al. 2022). Student character development was defined as the cultivation of values, attitudes, and positive habits fostered through formal and non-formal educational processes, and was assessed using six indicators (Oldham and McLoughlin 2025; Yuan et al. 2025). Entrepreneurial characters were conceptualized as students' internal potential reflecting readiness and motivation to engage in entrepreneurial activities. Indicators for this construction were developed based on previous theoretical and empirical work (Che Embi, Jaiyeoba, and Yussof 2019; Olugbola 2017). Data was analyzed using structural equation modeling (SEM) with AMOS software. This technique allowed simultaneous examination of the measurement and structural models, ensuring rigorous assessment of reliability, validity, and the hypothesized relationships among constructs.

FINDINGS AND DISCUSSION

1. Descriptive Statistics

Descriptive analysis was conducted to examine the respondents' perceptions of digital learning, green economy orientation, character development, and entrepreneurial interest. As summarized in Table 1, the highest-rated indicator was related to cooperation among peers (Z2, mean = 4.68), followed by discipline in attending classes (Z3, mean = 4.57) and entrepreneurial risk-taking (Y3, mean = 4.48). In contrast, the lowest-rated item concerned campus facilities for entrepreneurial practice (Z1, mean = 3.49). These findings suggest that while personal attitudes such as cooperation, discipline, and confidence are well internalized by students, structural support from institutions remains relatively limited.

Table 1. Descriptive Statistics of Indicators

Code	Question items	Average of respondents
X1.1	The use of digital media helps accelerate access to learning, especially business frameworks.	4.3182
X.12	Digital learning makes the process of discussing and exploring business ideas more interactive.	4.1263
X1.3	Using digital platforms facilitates the development and presentation of business plans.	4.2828
X2.1	On-campus learning provides knowledge about entrepreneurship.	3.7879
X2.2	On-campus learning implements an entrepreneurship curriculum.	3.6414
X2.3	Entrepreneurship learning on campus encourages students to become entrepreneurs.	3.6566
Y1	Campus learning fosters entrepreneurial skills and abilities	3.8535
Y2	Upholding entrepreneurial leadership	4.1616
Y3	Entrepreneurs are willing to take risks	4.4798
Y4	Applying entrepreneurial qualities in life	4.0758
Y5	Becoming an entrepreneur requires self-confidence	4.4444
Z1	The campus provides facilities and infrastructure for entrepreneurial practice	3.4949
Z2	Helping each other	4.6768

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Code	Question items	Average of respondents
Z3	Discipline in attending campus learning	4.5657
Z4	Discipline in adhering to lecture rules	4.5657
Z5	Implementation of entrepreneurial character-building methods/programs	4.2121
Z6	Consistently maintaining a conducive campus atmosphere	4.1212
Z7	Entrepreneurship learning activities support the success of entrepreneurial character education	4.2929

2. Measurement Model Evaluation

Convergent validity was established as all retained indicators exceeded the threshold of 0.50, with loadings ranging from 0.669 to 0.927. Two indicators (Y1 and Z1) were excluded due to factors loading below 0.50. As shown in Table 2, all constructions achieved AVE values above 0.50 (ranging from 0.51 to 0.74) and composite reliability (CR) scores above 0.80. Cronbach's alpha coefficients also exceeded 0.70, confirming internal consistency. These results indicate that the constructions of digital learning, green economic orientation, character development, and entrepreneurial interest were measured reliably and validly.

Table 2. Measurement Model Evaluation

Variabel	Indikator	λ	Validitas	AVE	CR	Reliabilitas
Digital learning	X.1.1	0.917	valid	0.74	0.87	reliabel
	X.1.2	0.771	valid			
	X.1.3	0.884	valid			
Green economic	X.2.1	0.708	valid	0.51	0.82	reliabel
	X.2.2	0.747	valid			
	X.2.3	0.688	valid			
Character development	Y.1.2	0.733	valid	0.61	0.91	reliabel
	Y.1.3	0.844	valid			
	Y.1.4	0.676	valid			
	Y.1.5	0.861	valid			
Interest in Entrepreneurship	Z.1.2	0.850	valid	0.65	0.96	reliabel
	Z.1.3	0.902	valid			
	Z.1.4	0.927	valid			
	Z.1.5	0.739	valid			
	Z.1.6	0.669	valid			
	Z.1.7	0.720	valid			

3. Structural Model Fit

The structural equation model was tested using AMOS. Goodness-of-fit indices, including Probability, RMR, NFI, CFI, TLI, IFI, and RFI, all approached the recommended cut-off values (Franklin Hair et al. 2017), suggesting that the model achieved an acceptable fit with the observed data

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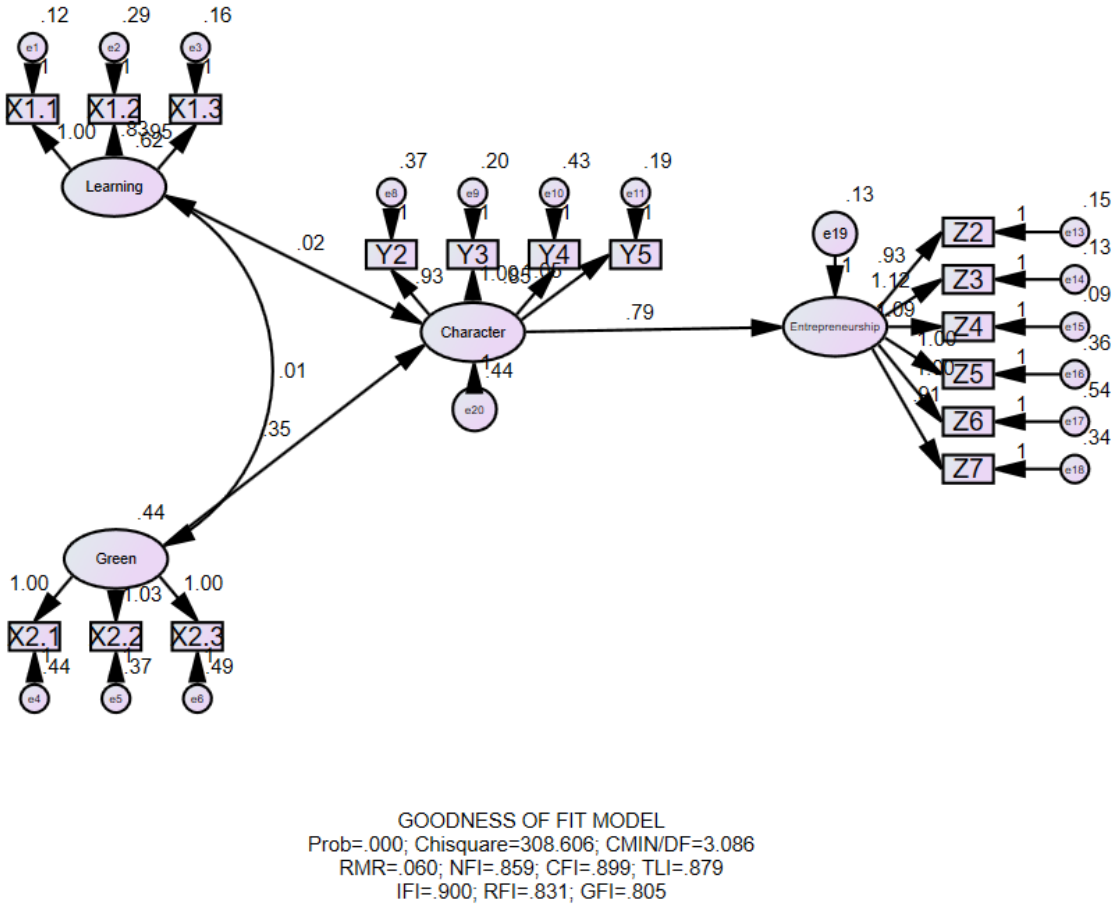

Figure 1. Full Structural Model with Estimates

4. Hypothesis Testing

Path analysis revealed mixed results. As shown in Table 3, the effect of digital learning on character development was not significant (β = 0.020, p = 0.769). In contrast, green economic orientation had a significant positive effect on character development (β = 0.349, p < 0.001). Furthermore, character development strongly predicted entrepreneurial interest (β = 0.787, p < 0.001). These findings suggest that while digital learning in its current form does not directly enhance entrepreneurial character, the integration of green economic values plays a pivotal role in fostering student development, which in turn stimulates entrepreneurial aspirations.

Table 3. Hypothesis Testing Results

Hip.	Influence between variables	Estimate	S.E.	C.R.	P	Decision
H1	Digital learning towards character building	.020	.068	.293	.769	Not Support
H2	Green Economy towards character building	.349	.095	3.659	***	Support
H3	character development towards students' interest in entrepreneurship	.787	.079	9.983	***	Support

note: *** indicates significant at 1% level

Overall, the results highlight three important insights. First, students report strong personal attributes such as risk-taking, discipline, and confidence, but institutional

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infrastructure for entrepreneurship remains weak. Second, measurement and structural model evaluations confirm that the constructions used are valid and reliable, providing a solid basis for hypothesis testing. Finally, the most critical finding is that green economic orientation serves as a significant driver of character development, which subsequently leads to greater entrepreneurial interest. Digital learning, however, did not exhibit a direct effect, suggesting the need for its redesign or integration with sustainability-oriented pedagogy.

5. Discussion

The findings of this study revealed that green economic orientation exerted a significant influence on student character development, which subsequently predicted entrepreneurial interest. In contrast, digital learning did not demonstrate a significant direct effect on character development ($\beta = 0.020$, $p = 0.769$). These results indicate that while sustainability-oriented values are internalized effectively by students and shape their entrepreneurial dispositions, current digital learning approaches may not yet function as a strong driver of character formation.

The significant role of green economic orientation in shaping student character development is consistent with recent studies emphasizing the integration of sustainability principles into entrepreneurship education (Ip 2024; Olugbola 2017; Sucipto et al. 2025). Prior work has shown that exposure to green economy concepts not only strengthens awareness of environmental and social issues but also fosters values such as responsibility, discipline, and collaboration that are central to entrepreneurial competencies (Akinsemolu and Onyeaka 2025; Chen, Shahbaz, and Haq 2024; Man Seong et al. 2025; Uzorka, Akiyode, and Isa 2024). This confirms that embedding sustainability values in the educational process equips students with a more holistic perspective on entrepreneurship, aligning economic ambitions with ethical and ecological considerations.

The non-significant relationship between digital learning and student character development suggests important limitations in the way digital pedagogy is currently implemented. This contrasts with earlier studies which reported that digital learning can enhance critical thinking, communication skills, and collaborative learning, thereby supporting the development of entrepreneurial character (Dias-Oliveira et al. 2024; Zou et al. 2025). A possible explanation is that digital learning in the sampled institutions remains focused on content delivery rather than interactive, experiential, and value-based pedagogical practices. Prior research has highlighted that digital tools alone are insufficient unless embedded in active learning strategies that encourage reflection, problem-solving, and ethical reasoning (Özöztürk et al. 2023; Rossi et al. 2021; Tautz, Sprenger, and Schwaninger 2021). This study therefore contributes to the literature by illustrating that the effectiveness of digital learning is context-dependent and may not automatically foster deeper character development without adequate pedagogical design and institutional support.

These findings extend human capital theory by highlighting the limits of digital learning in its current form for fostering entrepreneurial dispositions. While human capital theory posits that educational inputs enhance skills and competencies, the results indicate that not all forms of learning investment produce the same outcomes (Altonji, Blom, and Meghir 2012; Serneels 2008; Tan and Liu 2023). This suggests the need to reconsider digital learning not merely as a technological resource but as a pedagogical process requiring structured integration with sustainability-oriented values. In addition, the results enrich institutional theory by showing that universities adopting green economy principles achieve stronger alignment between education and entrepreneurial outcomes, thereby positioning themselves as entrepreneurial universities responsive to societal challenges (Nguyen, Timilsina, and Shamsuzzoha 2025; Soonsan et al. 2025; Valencia-Arias et al. 2024).

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For university leaders and policymakers, the findings imply that digital learning strategies should be redesigned to incorporate interactive and sustainability-oriented pedagogy. Rather than focusing primarily on technology adoption, institutions should invest in digital curricula that encourage collaboration, ethical reasoning, and experiential entrepreneurship training. Embedding sustainability modules within digital platforms can enhance students' awareness of green economy values and ensure that character formation becomes a deliberate outcome of digital education. For faculty, this requires professional development programs that strengthen pedagogical competencies in designing digital learning environments aligned with character-building objectives (Djafri and Aneta 2025; Meyer, Kleinknecht, and Richter 2023).

This study is limited by its cross-sectional design and reliance on self-reported measures, which may restrict causal interpretations. Future research could employ longitudinal designs to capture the dynamic effects of digital learning and sustainability orientation on entrepreneurial character formation. Comparative studies across public and private universities, or between different regions, may also help identify institutional factors that strengthen or weaken the impact of digital learning. Further investigations could also test moderating effects, such as institutional support, teaching quality, or cultural attitudes, in shaping the link between digital pedagogy and student character development.

In summary, the study demonstrates that sustainability-oriented education is a stronger predictor of entrepreneurial character development than digital learning in its current form. This highlights the importance of embedding green economy values into higher education and redesigning digital learning strategies to align with pedagogical objectives for character formation. By integrating sustainability and digital innovation, entrepreneurial universities in emerging economies can better prepare students not only for business success but also for socially responsible and sustainable economic growth

CONCLUSION

This study examined the role of digital learning and green economic orientation in shaping student character development and entrepreneurial interest. The results demonstrated that green economic orientation significantly enhanced student character formation, which in turn strongly predicted entrepreneurial aspirations. In contrast, digital learning did not exert a significant direct effect on character development, suggesting that technology-driven education in its current form may not yet serve as a reliable driver of entrepreneurial character.

Theoretically, these findings extend human capital theory by underscoring that not all educational inputs equally contribute to character building and entrepreneurial readiness. They also enrich institutional theory by demonstrating how embedding sustainability principles within higher education strengthens the alignment between teaching practices and entrepreneurial outcomes.

From a practical standpoint, the results highlight the urgent need for universities to redesign digital learning strategies to integrate interactive and sustainability-oriented pedagogy. For policymakers, the findings emphasize the importance of embedding green economy values into entrepreneurship curricula, while for educators, they call for professional development to strengthen digital teaching competencies. These measures can ensure that entrepreneurial universities prepare graduates who are both innovative and socially responsible.

Although this study is limited by its cross-sectional design and specific context, it opens opportunities for future research using longitudinal approaches and

comparative studies across institutions and regions. By integrating sustainability and digital innovation, higher education institutions can transform into entrepreneurial universities that act as engines of sustainable economic development in emerging economies.

References :

Akinsemolu, Adenike A., and Helen Onyeaka. 2025. "The Role of Green Education in Achieving the Sustainable Development Goals: A Review." *Renewable and Sustainable Energy Reviews* 210(August 2024):115239. doi: 10.1016/j.rser.2024.115239.

Altonji, Joseph G., Erica Blom, and Costas Meghir. 2012. "Heterogeneity in Human Capital Investments: High School Curriculum, College Major, and Careers." *Annual Review of Economics* 4(Volume 4, 2012):185–223. doi: https://doi.org/10.1146/annurev-economics-080511-110908.

Amalia, Ria Tristya, and Harald F. O. von Korflesch. 2023. "Entrepreneurial Design Thinking© in Higher Education: Conceptualizing Cross-Cultural Adaptation of the Western Teaching Methodology to the Eastern Perspective." *FGF Studies in Small Business and Entrepreneurship* 137–54. doi: 10.1007/978-3-031-28559-2_10.

Bachmann, Nina, Robert Rose, Valeska Maul, and Katharina Hölzle. 2024. "What Makes for Future Entrepreneurs? The Role of Digital Competencies for Entrepreneurial Intention." *Journal of Business Research* 174(October 2022):114481. doi: 10.1016/j.jbusres.2023.114481.

Che Embi, Nor Azizan, Haruna Babatunde Jaiyeoba, and Sheila Ainon Yussof. 2019. "The Effects of Students' Entrepreneurial Characteristics on Their Propensity to Become Entrepreneurs in Malaysia." *Education and Training* 61(7–8):1020–37. doi: 10.1108/ET-11-2018-0229.

Chen, Cai, Pomi Shahbaz, and Shamsheer ul Haq. 2024. "Transforming Students' Green Behavior through Environmental Education: The Impact of Institutional Practices and Policies." *Frontiers in Psychology* 15(January):1–13. doi: 10.3389/fpsyg.2024.1499781.

Chu, Chau M., and Bach Nguyen. 2025. "Foreign Small- and Medium-Sized Enterprises and Regional Institutions." *Journal of World Business* 60(5):101649. doi: 10.1016/j.jwb.2025.101649.

Cook, Julia, Steven Threadgold, David Farrugia, and Julia Coffey. 2021. "Youth, Precarious Work and the Pandemic." *Young* 29(4):331–48. doi: 10.1177/11033088211018964.

David, Audretsch B., Belitski Maksim, Chowdhury Farzana, and Desai Sameeksha. 2024. "Regulating Entrepreneurship Quality and Quantity." *Research Policy* 53(2):104942. doi: 10.1016/j.respol.2023.104942.

Dias-Oliveira, Eva, Rita Pasion, Rui Vieira da Cunha, and Sandra Lima Coelho. 2024. "The Development of Critical Thinking, Team Working, and Communication Skills in a Business School–A Project-Based Learning Approach." *Thinking Skills and Creativity* 54(October):101680. doi: 10.1016/j.tsc.2024.101680.

Djafri, Novianty, and Asna Aneta. 2025. "Teacher Pedagogical Competence in Online Learning During COVID-19: A Study in Gorontalo, Indonesia." *International Journal of Online Pedagogy and Course Design* 15(1):1–16. doi: 10.4018/IJOPCD.368253.

Franklin Hair, Joseph, G. Tomas M. Hult, Christian M. Ringle, and Marko Sarstedt. 2017. *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM) Second Edition*.

Gaweł, Aleksandra, Valentyna Ksendzuk, Oleksandr Patlatoi, and Anna Wach. 2025. "Digital Business Simulation Games in Higher Education during Armed Conflicts." *International Journal of Management Education* 23(3). doi: 10.1016/j.ijme.2025.101261.

Hizam, S. M., H. Akter, I. Sentosa, and W. Ahmed. 2021. "Digital Competency of Educators in the Virtual Learning Environment: A Structural Equation Modeling Analysis." *IOP Conference Series: Earth and Environmental Science* 704(1):1–10. doi: 10.1088/1755-1315/704/1/012023.

Hsu, Ching-yun, and Ting-ting Wu. 2023. "Application-of-Business-Simulation-Games-in-Flipped-Classrooms-to-Facilitate-Student-Engagement-and-HigherOrder-Thinking-Skills-for-Sustainable-Learning-Practices_2023_Multidisciplinary-Digital-Publishing-Institute-.Pdf."

Ip, Ching Yin. 2024. "From Green Entrepreneurial Intention to Behaviour: The Role of Environmental Knowledge, Subjective Norms, and External Institutional Support." *Sustainable Futures* 8(April):100331. doi: 10.1016/j.sftr.2024.100331.

Jun, Wang, and Xin Qian Ran. 2024. "Dynamics in Digital Finance and Its Impact on SME Financing." *Heliyon* 10(9):e30586. doi: 10.1016/j.heliyon.2024.e30586.

Leal Filho, Walter, David Anthony Kirby, Tiago F. A. C. Sigahi, Ricardo L. F. Bella, Rosley Anholon,

and Osvaldo L. G. Quelhas. 2025. "Higher Education and Sustainable Entrepreneurship: The State of the Art and a Look to the Future." *Sustainable Development* 33(1):957–69. doi: https://doi.org/10.1002/sd.3167.

Leal, Susana, João Nascimento, Andriani Piki, Adem Tekerek, Alper Güzel, Ana Loureiro, Catarina Gonçalves, Inês Messias, Joke Simons, Lorenz Teunen, Luís C. S. Barradas, Naomi Palmer, Tito Livio Mongelli, Zlatko Nedelko, and Sandra Oliveira. 2024. "Exploring Sustainable Development Perceptions among Higher Education Students: An Empirical Study on Knowledge, Attitudes, and Behaviours." *Cleaner and Responsible Consumption* 14(September). doi: 10.1016/j.clrc.2024.100223.

Liang, Yaoming, Ruiqi Chen, Hanhui Hong, Sisi Li, and Li Han. 2025. "Shaping Digital Entrepreneurial Intention in Higher Education: The Role of Entrepreneurship Education, Creativity, and Digital Literacy among Chinese University Students." *Journal of Innovation and Knowledge* 10(5):100788. doi: 10.1016/j.jik.2025.100788.

Man Seong, Chan, Tan Chi Hau, Thee Chun Cheng, and Tan Booi Chen. 2025. "Impacts of Green Curriculum Exposure and Sustainability Awareness on Green Entrepreneurship Intention among Malaysian University Students: The Mediating Role of Self-Efficacy." *Industry and Higher Education* 39(4):379–94. doi: 10.1177/09504222251354885.

Meepung, Tippawan. 2024. "A Digital Learning Ecosystem through Metaverse Experiences to Develop Modern Digital Entrepreneurs Competencies." *Journal of Education and Learning* 14(1):94. doi: 10.5539/jel.v14n1p94.

Meirbekov, Akylbek, Inga Maslova, and Zemfira Gallyamova. 2022. "Digital Education Tools for Critical Thinking Development." *Thinking Skills and Creativity* 44:101023. doi: https://doi.org/10.1016/j.tsc.2022.101023.

Meyer, André, Marc Kleinknecht, and Dirk Richter. 2023. "What Makes Online Professional Development Effective? The Effect of Quality Characteristics on Teachers' Satisfaction and Changes in Their Professional Practices." *Computers and Education* 200(April). doi: 10.1016/j.compedu.2023.104805.

Ngare, Innocent Osoro, Dorcas Beryl Otieno, Emma Atieno Ogutu, Duncan Ondieki Omwami, Amos Atima Marang'a, Edwin Odhiambo Otieno, Salome Wairimu Gikonyo, and Lamech Owino Opiyo. 2022. "Inclusion of Green Economy and Sustainability Programs in Higher Education Institutions: Examining the Case of Kenyatta University, Kenya." *Educational Research and Reviews* 17(6):168–75. doi: 10.5897/err2022.4241.

Nguyen, Phung, Binod Timilsina, and Ahm Shamsuzzoha. 2025. "Higher Education as a Driver of Green Innovation and Entrepreneurship: A Systematic Literature Review and Future Research Agenda." *Journal of Cleaner Production* 516(May):145820. doi: 10.1016/j.jclepro.2025.145820.

Oldham, Peter, and Shane McLoughlin. 2025. "Character Education Empirical Research: A Thematic Review and Comparative Content Analysis." *Journal of Moral Education* 00(00):1–29. doi: 10.1080/03057240.2025.2480185.

Olugbola, Seun Azeez. 2017. "Exploring Entrepreneurial Readiness of Youth and Startup Success Components: Entrepreneurship Training as a Moderator." *Journal of Innovation and Knowledge* 2(3):155–71. doi: 10.1016/j.jik.2016.12.004.

Özöztürk, Sevcan, Buse Güler, Dilek Bilgiç, Hülya Özberk, Hande Yağcan, and Merlinda Aluş Tokat. 2023. "The Effect of Online and Face-to-Face Active Learning Methods on Learning Attitudes." *Nurse Education Today* 129:105915. doi: https://doi.org/10.1016/j.nedt.2023.105915.

Peter Timmer, C. 2022. "Periphery and Small Ones Matter: Interplay of Policy and Social Capital." *Bulletin of Indonesian Economic Studies* 58(1):97–99. doi: 10.1080/00074918.2022.2056937.

Rossi, Izadora Volpato, Jordana Dinorá de Lima, Bruna Sabatke, Maria Alice Ferreira Nunes, Graciela Evans Ramirez, and Marcel Ivan Ramirez. 2021. "Active Learning Tools Improve the Learning Outcomes, Scientific Attitude, and Critical Thinking in Higher Education: Experiences in an Online Course during the COVID-19 Pandemic." *Biochemistry and Molecular Biology Education* 49(6):888–903. doi: 10.1002/bmb.21574.

Serneels, Pieter. 2008. "Human Capital Revisited: The Role of Experience and Education When Controlling for Performance and Cognitive Skills." *Labour Economics* 15(6):1143–61. doi: https://doi.org/10.1016/j.labeco.2007.10.003.

Soonsan, Nimit, Hiran Prasankarn, Piangjit Tanticharatwarodom, Jiraporn Prasankarn, and Zulfiqar Ali Jumani. 2025. "University Entrepreneurial Support and Green Entrepreneurial Behavior: A Quantitative Serial Mediation." *Journal of Innovation and Entrepreneurship* 14(1). doi:

10.1186/s13731-025-00494-9.

Sucipto, Fitra Jaya, Zulkifli Sultan, Flora Puspitaningsih, and Afiah Mukhtar. 2025. "The Role of Education: Building Student Entrepreneurship Character Through Green Economic." 11(2):125–39. doi: 10.31289/jkbm.v11i2.14156.

Tan, Minda, and Shuiyun Liu. 2023. "A Way of Human Capital Accumulation: Heterogeneous Impact of Shadow Education on Students' Academic Performance in China." *SAGE Open* 13(4):1–14. doi: 10.1177/21582440231207189.

Tautz, Dorothee, David Alexis Sprenger, and Adrian Schwaninger. 2021. "Evaluation of Four Digital Tools and Their Perceived Impact on Active Learning, Repetition and Feedback in a Large University Class." *Computers & Education* 175:104338. doi: https://doi.org/10.1016/j.compedu.2021.104338.

Uzorka, Afam, Oluwole Akiyode, and Sulaiman Muhammad Isa. 2024. "Strategies for Engaging Students in Sustainability Initiatives and Fostering a Sense of Ownership and Responsibility towards Sustainable Development." *Discover Sustainability* 5(1). doi: 10.1007/s43621-024-00505-x.

Valencia-Arias, Alejandro, Lucía Palacios-Moya, Wilmer Londoño-Celis, and Kathyusca Ipaguirre Sanchez. 2024. "Sustainable Entrepreneurial Intention: A Research Trends and Agenda." *Sustainable Environment* 10(1). doi: 10.1080/27658511.2024.2362512.

Vancea, Mihaela, and Mireia Utzet. 2017. "Does Unemployment and Precarious Employment Lead to Increasing Entrepreneurial Intentions among Young People? Results from a Survey-Based Study in Spain." *Central European Business Review* 6(2):5–17. doi: 10.18267/J.CEBR.176.

Yang, Qixing, Yue Zhang, and Yawen Lin. 2022. "Study on the Influence Mechanism of Virtual Simulation Game Learning Experience on Student Engagement and Entrepreneurial Skill Development." *Frontiers in Psychology* 12(January):1–11. doi: 10.3389/fpsyg.2021.772157.

Yuan, May, Marisa MacDonnell, Polina Poliakova, Danielle R. Hatchimonji, Arielle C. V. Linsky, Edward A. Selby, and Maurice J. Elias. 2025. "Testing the Social-Emotional and Character Development (SECD) Approach with Student Mental Health and Academic Outcomes." *Social and Emotional Learning: Research, Practice, and Policy* 5(August 2023):100105. doi: 10.1016/j.sel.2025.100105.

Zhao, Lei, Jiahui Liu, Ayaz Karimov, and Mirka Saarela. 2025. "Assessing and Developing College Students' Digital Learning Power: An Empirical Study Based on Questionnaire Survey in a Chinese University." *International Journal of Educational Technology in Higher Education* 22(1). doi: 10.1186/s41239-025-00514-4.

Zhou, Xingyu, Kaili Sun, Kai Zhu, Linru Feng, Qi Sun, and Dongdong Zhong. 2025. "The Impact of Digital Literacy on University Students' Innovation Capability: Evidence from Ningbo, China." *Frontiers in Psychology* 16. doi: 10.3389/fpsyg.2025.1548817.

Zou, Yumei, Florence Kuek, Wenqin Feng, and Xiaoli Cheng. 2025. "Digital Learning in the 21st Century: Trends, Challenges, and Innovations in Technology Integration." *Frontiers in Education* 10. doi: 10.3389/feduc.2025.1562391