

Praxiology-Based Entrepreneurship Learning Media: A Framework for Entrepreneurial Value Internalization Among Students

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ABSTRACT

Entrepreneurship education in higher education continues to emphasize knowledge acquisition, while the internalization of entrepreneurial values through goal-directed action and self-reflection has yet to be systematically integrated into the learning process. This study aimed to develop and evaluate a praxiology-based entrepreneurship learning medium designed to support the internalization of entrepreneurial values among university students. The study employed an educational action research design conducted over three cycles: initial inquiry and planning, intervention implementation and monitoring, and intervention refinement based on reflection on the findings from each cycle. Participants were 50 undergraduate students enrolled in an Entrepreneurship course at the Faculty of Economics and Business, Universitas Negeri Malang. The intervention was delivered through Praxiedu, a Learning Management System (LMS) that integrates learning materials, idea-action-consequence mapping, self-assessment, reflective activities, and video podcasts featuring authentic entrepreneurial experiences. Changes in entrepreneurial values were assessed using pre- and post-intervention measures covering five dimensions and were analyzed descriptively and using a paired-samples t test. The findings showed increases across all measured dimensions, with the most pronounced changes observed in self-confidence, which increased from 65% to 87%, and self-motivation, from 62% to 81%. Creativity increased from 58% to 70%, whereas risk-taking and leadership showed more modest changes, rising from 55% to 63% and from 54% to 61%, respectively. During the intervention-refinement stage, the addition of video podcasts featuring authentic entrepreneurial experiences was followed by reports of more realistic and contextually grounded new business ideas among 60% of the students, along with a 12-percentage-point increase in creativity scores compared with the preceding cycle. These findings suggest that the internalization of entrepreneurial values does not develop uniformly and appears to be stronger in dimensions directly supported by self-evaluation, reflection on action, and exposure to authentic experience. The study's novelty lies in integrating praxiology into LMS-based entrepreneurship education by linking goals, actions, consequences, and reflection as interconnected components of action-oriented entrepreneurial value formation.

Keywords: Entrepreneurial value internalization, Digital learning media, Learning management system, Praxiology, Reflection on action

1. INTRODUCTION

The growing complexity and dynamism of business and entrepreneurship require higher education institutions to reorient their approaches to learning. Entrepreneurship education can no longer focus solely on knowledge transfer; it must also develop students' capacity to act. This challenge is closely related to structural issues such as poverty and persistent unemployment, which reflect a gap between labor market needs and the quality of higher education graduates (Zuhrinal & Siagian, 2023, Winarno, 2016). In this context, the central challenge of entrepreneurship education is not limited to students' mastery of business knowledge. More importantly, students must be able to translate that knowledge into purposeful entrepreneurial

decisions and actions. Although entrepreneurship courses have been increasingly integrated into higher education curricula, learning practices often continue to treat knowledge, intention, and attitudes as the main outcomes, while the development of reflective action capacity receives comparatively less attention (Anjum et al., 2021; Nurbudiyani et al., 2023). This situation creates a pedagogical gap between students' ability to understand entrepreneurial concepts and their ability to use values such as self-confidence, creativity, risk-taking, self-motivation, and leadership when evaluating choices and making decisions. Thus, the main issue in entrepreneurship education is not simply whether students know entrepreneurial principles, but how such knowledge and values are internalized as the basis for conscious, purposeful, and reflective action.

The issue, therefore, is not merely the availability of entrepreneurship courses, but the limited capacity of existing learning approaches to support the deep internalization of entrepreneurial values. Various approaches have been developed to reduce the gap between knowledge and action in entrepreneurship education. Experiential learning emphasizes the development of knowledge through concrete experience, while action learning promotes learning through engagement with real problems. Effectuation focuses on decision-making logic under conditions of uncertainty, entrepreneurial self-efficacy explains individuals' beliefs in their ability to perform entrepreneurial tasks, reflective practice positions reflection as a way of learning from experience, and entrepreneurial identity explains how individuals develop an understanding of themselves as entrepreneurial actors. These approaches make important contributions, yet they do not all explicitly frame the relationship among goals, action choices, consequences, self-evaluation, and reflection as an integrated mechanism of value formation. This limitation points to the need for a learning approach that teaches not only the "what" and "how" of entrepreneurship, but also the "why" behind entrepreneurial action. In this regard, praxiology is relevant because it emphasizes the logic of goal-directed human action and can serve as a foundation for developing entrepreneurship learning media oriented toward value internalization and the sustained formation of students' entrepreneurial character.

In educational contexts, this orientation positions students not merely as recipients of knowledge but as active agents who learn by setting goals, selecting courses of action, observing consequences, and reflecting on the reasons underlying their choices (Biesta, 2015). Higher education, therefore, can no longer focus exclusively on cognitive development but must also foster practical skills, attitudes, and adaptive entrepreneurial dispositions. In this study, praxiology is not treated as synonymous with experiential learning or reflective practice. Experiential learning primarily explains how experience becomes a source of learning, whereas reflective practice emphasizes the critical reconsideration of experience and practice. Praxiology, by contrast, gives particular attention to the logical relationship among goals, actions, and consequences. It thus complements existing approaches by emphasizing how students connect goals, reasons, actions, consequences, and reflection throughout the process of entrepreneurial value formation.

The need for action-oriented learning is also closely linked to the role of higher education in preparing graduates to respond to changes in the world of work and create new economic opportunities. Integrating applied entrepreneurship education with career planning can help strengthen students' entrepreneurial orientation (Zuhrinal & Siagian, 2023). However, the availability of entrepreneurship courses does not necessarily lead to changes in students' attitudes or readiness to engage in entrepreneurial activity. This gap points to the need for learning approaches that more effectively connect knowledge, values, reflection, and entrepreneurial action (Anjum et al., 2021; Nurbudiyani et al., 2023).

One approach that may help address this challenge is praxiology. Praxiology provides a framework for understanding human behavior as intentional and meaningful action (Batoebara, 2016; Wahyudi, 2022). In educational settings, it places meaningful action at the center of learning, so that students do not simply absorb theory but also engage in reflective activities that

foster awareness and support behavioral change. From this perspective, human action is neither accidental nor merely spontaneous; rather, it is guided by reasons and a clear sense of direction toward intended outcomes. A similar pattern can be observed in entrepreneurship, which fundamentally involves a sequence of deliberate actions aimed at identifying opportunities, making decisions, and pursuing goals through innovation and a willingness to engage with risk. Both perspectives therefore emphasize the development of an action logic, that is the capacity to think and act deliberately, rationally, and with attention to intended outcomes. This conceptual alignment makes a praxiological approach particularly relevant to entrepreneurship education.

Entrepreneurship education that focuses primarily on cognitive learning may be insufficient to develop entrepreneurial dispositions and sustained patterns of action. By adopting a praxiological approach, learning extends beyond theoretical understanding to include cycles of reflection and practice that encourage students to think entrepreneurially and act on the basis of internalized values. This approach highlights the importance of direct experience and active student participation throughout the learning process. In entrepreneurship education, praxiology can therefore serve as a conceptual foundation for understanding learning as more than a cognitive process: it also involves preparing students to take action, make decisions, and assume responsibility for their choices.

To operationalize these principles in educational practice, a praxiological orientation needs to be translated into learning activities that enable students to make decisions, test alternative courses of action, and reflect on their consequences. In this context, interactive case studies, collaborative projects, and simulations can provide learning experiences that foster active student engagement (Pramesti et al., 2024). These activities not only offer concrete ways to apply praxiological principles but also emphasize meaningful interaction between instructors and students. Rather than serving primarily as transmitters of knowledge, instructors act as facilitators who guide students in constructing knowledge through authentic experiences and reflection on their actions. The relevance of this orientation to the broader aims of higher education is also supported by previous research.

A growing body of research indicates that university graduates need competencies aligned with changing labor market demands to remain competitive (Maulika et al., 2022; Mustomi et al., 2021; Puspasari et al., 2024; Umami et al., 2024; Wati et al., 2023; Wijayati, 2019). However, persistent gaps between higher education and workforce needs may contribute to unemployment among educated graduates and weaken their productive capacity. In this context, fostering entrepreneurial interest while developing practical entrepreneurial skills represents a strategic means of strengthening graduate competitiveness and responding to a changing world of work. Integrating praxiological principles into the learning process may further strengthen action-based learning and reflective practice by placing purposeful action at the center of learning.

Although previous studies have frequently reported that entrepreneurship education contributes to students' entrepreneurial intentions and motivation, much of this literature remains concentrated on cognitive and affective outcomes. Entrepreneurship education is often approached primarily as a process of knowledge acquisition and attitude formation rather than as a learning process grounded in reflection and authentic experience through which students apply entrepreneurial reasoning in practice. Yet entrepreneurship involves not only what individuals know or feel, but also how they act deliberately and purposefully when responding to opportunities and risks. Entrepreneurship education also has broader social relevance because it can prepare students to address community challenges through opportunity creation, innovation, and local economic development. Accordingly, entrepreneurship learning should cultivate not only technical skills but also students' sense of responsibility and their capacity to respond to real needs in their surrounding communities.

Against this background, the present study draws on praxiological principles to guide the development of learning media for an undergraduate Entrepreneurship course. This approach is

intended to bridge the gap between knowledge and action while creating opportunities for students to reflect on the goals, choices, and consequences associated with entrepreneurial action. The developed learning environment includes instructional materials, self-assessment activities designed to help students identify their potential, and structured tasks that support reflection and action planning (Celuch et al., 2017).

The implementation of a praxiological orientation requires a learning environment in which action and reflection can occur repeatedly, be documented, and be revisited. In this context, a Learning Management System (LMS) offers pedagogical potential beyond the distribution of learning materials. An LMS can integrate self-assessment, mapping of the relationship between ideas and actions, documentation of decisions, reflective activities, feedback, and exposure to authentic entrepreneurial experiences within a single learning environment. These features enable students not only to access information but also to record the reasons behind their choices, evaluate the consequences of their actions, compare their personal development, and revise their action orientation. Although digital learning technologies have been widely used in higher education, their use as a space for organizing the goal–action–consequence–reflection cycle in entrepreneurial value internalization still requires stronger empirical elaboration. Therefore, this study developed Praxiedu as an LMS-based learning medium that integrates entrepreneurship materials, self-assessment, idea–action–consequence mapping, reflective activities, and video podcasts based on authentic entrepreneurial experiences.

Based on this review, the research gap lies not merely in the limited number of studies on digital entrepreneurship education, but in the lack of sufficient explanation of how digital learning environments can systematically connect goal-directed action and reflection with the process of entrepreneurial value internalization. Previous studies have extensively discussed knowledge, intention, motivation, self-efficacy, learning experience, and entrepreneurial identity as learning outcomes or mechanisms (Aini et al., 2024; Biesta, 2015; Jonsdottir & Einarsdóttir, 2024; Kuo et al., 2024; Lelo, 2024; Rickey et al., 2023). However, the action dimension, that is, how students interpret and consciously enact entrepreneurial behavior through reflection, remains relatively underexplored. A framework is therefore needed to explain how students connect their chosen goals, actions taken, observed consequences, and resulting reflections as a recurring process in entrepreneurial value formation. This gap is particularly relevant in LMS-based learning because traces of action, self-assessment, reflective activities, and exposure to authentic experiences can be integrated into a single pedagogical ecosystem. Accordingly, this study seeks to address this gap by integrating praxiological principles into entrepreneurship education through an educational action research approach (Jensen & Dikilitas, 2025; Townsend, 2019).

To address this gap, this study aims to develop and evaluate Praxiedu as a praxiology-based entrepreneurship learning medium designed to support the internalization of entrepreneurial values among university students. Specifically, the study examines how the LMS-based intervention was implemented through educational action cycles, how changes occurred in the dimensions of self-confidence, self-motivation, creativity, risk-taking, and leadership, and how reflection from each cycle was used to refine the media design. This process was informed by Elliott and Dweck (1988) goal-orientation framework, particularly in interpreting changes in students' motivation and achievement-related behaviors. The study contributes in three ways. Conceptually, it positions praxiology as a complementary framework that connects goals, actions, consequences, and reflection in entrepreneurial value formation. Pedagogically, it translates this relationship into digital learning features that can be used repeatedly and documented systematically. Empirically, it shows that entrepreneurial value internalization does not develop uniformly, suggesting that learning design should respond to differences in development across value dimensions. Thus, this study extends the orientation of entrepreneurship education from merely knowing toward an integrated process of reasoning, acting, and reflecting.

2. METHOD

This study employed an educational action research design with an embedded pretest-posttest evaluation to develop, implement, evaluate, and refine a praxiology-based entrepreneurship learning medium. Action research was selected because the study aimed not only to assess changes following the intervention but also to improve instructional practice iteratively based on evidence generated during implementation (Charleer et al., 2018). The cyclical logic of the study drew on the stages of planning, action, observation, and reflection commonly used in educational action research (Kemmis et al., 2014). These stages were operationalized across three cycles of Praxiedu development and evaluation.

The quantitative component was used to assess changes in students' entrepreneurial values through pretest and posttest measurements, while qualitative evidence and process data were collected through observations, LMS activity logs, online surveys, and student reflective journals. These sources of evidence served complementary purposes. The quantitative data captured patterns of change across the entrepreneurial value dimensions, whereas the qualitative and process data were used to examine students' responses to the intervention and identify aspects of the learning medium that required refinement in subsequent cycles. The study did not include a control or non-intervention group. Accordingly, the quantitative evaluation focused on within-group changes among the same participants before and after the intervention.

The participants were 50 undergraduate students ($N = 50$) enrolled in an Entrepreneurship course at the Faculty of Economics and Business, Universitas Negeri Malang, during the fall semester of the 2025/2026 academic year. Participants were selected through purposive sampling based on the following inclusion criteria: (1) active enrollment in an undergraduate program; (2) enrollment in the Entrepreneurship course during the study period; (3) completion of at least 100 credit units; (4) an expressed interest in entrepreneurship; and (5) provision of written informed consent to participate in the study. Participant characteristics were used to contextualize the interpretation of the findings and were not intended to support claims of representativeness beyond the study sample.

Entrepreneurial values were measured using an instrument adapted from Winarno (2025). In this study, the instrument covered five dimensions: self-confidence, self-motivation, creativity, risk-taking, and leadership. Each item was rated on a five-point Likert scale ranging from 1 to 5. The original instrument was reported to have a reliability coefficient of $\alpha = .87$ (Winarno, 2025). In addition to the questionnaire, Praxiedu activity logs, online surveys, and student reflective journals were used as sources of process and qualitative data. The LMS logs recorded access frequency and feature use, while the reflective journals captured how students interpreted their experiences, decisions, and shifts in entrepreneurial orientation.

Before formal data collection, the instrument was pilot-tested to assess its validity. Data were then collected progressively across the three action cycles. Prior to the implementation of Praxiedu, all participants completed a pretest to establish baseline profiles across the five entrepreneurial value dimensions. Quantitative analyses were conducted using pretest and posttest scores from participants with complete paired observations. Qualitative data from reflective journals, observation notes, and open-ended responses were analyzed thematically to identify recurring patterns in students' responses to the intervention. The qualitative findings were then used to complement the quantitative results and inform the refinement of Praxiedu in subsequent cycles.

3. RESULTS AND DISCUSSION

3.1. Results

The study was conducted through three cycles of educational action, consisting of initial condition identification, intervention implementation and monitoring, and media refinement based on reflective findings. The results are presented according to four main aspects: the initial learning conditions, students' engagement with Praxiedu, descriptive changes in entrepreneurial values, and students' reflective responses. The findings from each cycle are described below.

Cycle 1: Reconnaissance and Planning

The initial cycle focused on identifying the condition of entrepreneurship learning before the implementation of Praxiedu. Based on an initial assessment of 50 students, 70% of the participants were able to explain the entrepreneurship concepts used in the course, including the Business Model Canvas. However, the baseline data also indicated a gap between conceptual understanding and students' ability to connect entrepreneurial decisions with the values underlying those decisions. Only 28% of the students consistently linked business decisions to entrepreneurial values such as initiative, accountability, and proactivity.

These initial findings served as the basis for developing Praxiedu. The media was designed to facilitate the connection between ideas, actions, and consequences through interactive activities, self-assessment, learning materials, and reflection. At this stage, the baseline findings were not treated as evidence of intervention effectiveness, but as an empirical basis for identifying media development needs and determining the focus of action in the next cycle. Praxiedu was developed as an interactive learning platform accessible to both students and course instructors in the Entrepreneurship course. It provides features that support online learning, including drag-and-drop elements for mapping the sequence of "idea-action-consequence" and assessment modules that allow students' praxiological reasoning development to be tracked. The LMS interface is presented in Figure 1.

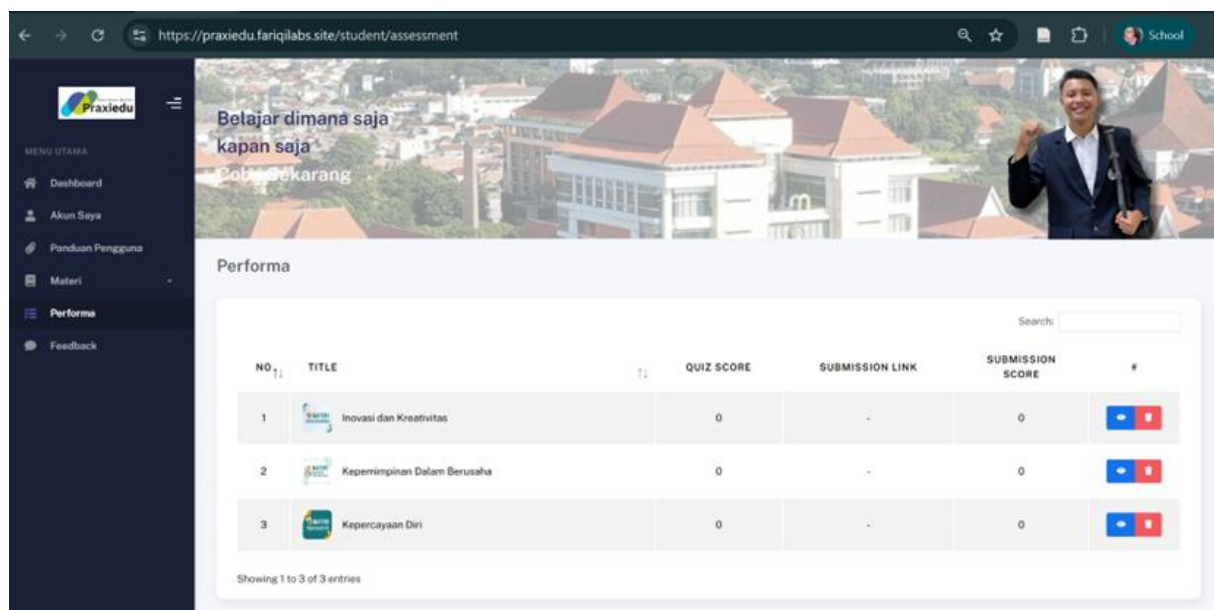


Figure 1. LMS Praxiedu

Cycle 2: Initial Intervention Implementation and Monitoring

The second cycle involved the initial implementation and monitoring of the interactive learning media. This cycle produced several findings related to students' engagement during the early stage of implementation.

- 1) LMS usage data, as shown in Figure 1, indicated a high level of engagement during the initial implementation. A total of 94% of students met the active-user criterion established in this study, namely accessing Praxiedu more than twice per week. Among the available features, learning materials were the most frequently accessed, with a usage rate of 87%. These data indicate frequent use of Praxiedu during the initial implementation period.
- 2) process data showed that 65% of students actively participated in analytical discussions during the implementation. The observed discussion activities included asking questions, providing reasons for selected actions, and linking ideas to the consequences of entrepreneurial decisions. This finding is reported as a change in participation patterns during implementation and is not used as direct evidence of changes in entrepreneurial values.
- 3) Students' reflective responses indicated that some students began to connect learning materials and self-assessment results with their plans to engage in entrepreneurial activities. This finding was then used as one basis for examining students' responses to the intervention. The observed change emerged after students reviewed the available videos and reading materials in Praxiedu and completed self-assessment activities on the website. These reflective responses suggested an emerging interest among some students in moving toward entrepreneurial activity, supported by personal reflection and self-assessment results. This finding is reported as a change in participation patterns during implementation and is not used as direct evidence of changes in entrepreneurial values.

Figure 2 presents the comparison of pre-test and post-test scores across five entrepreneurial value indicators. The results show increases in all indicators after the use of Praxiedu, with the most pronounced gains observed in self-confidence and self-motivation.

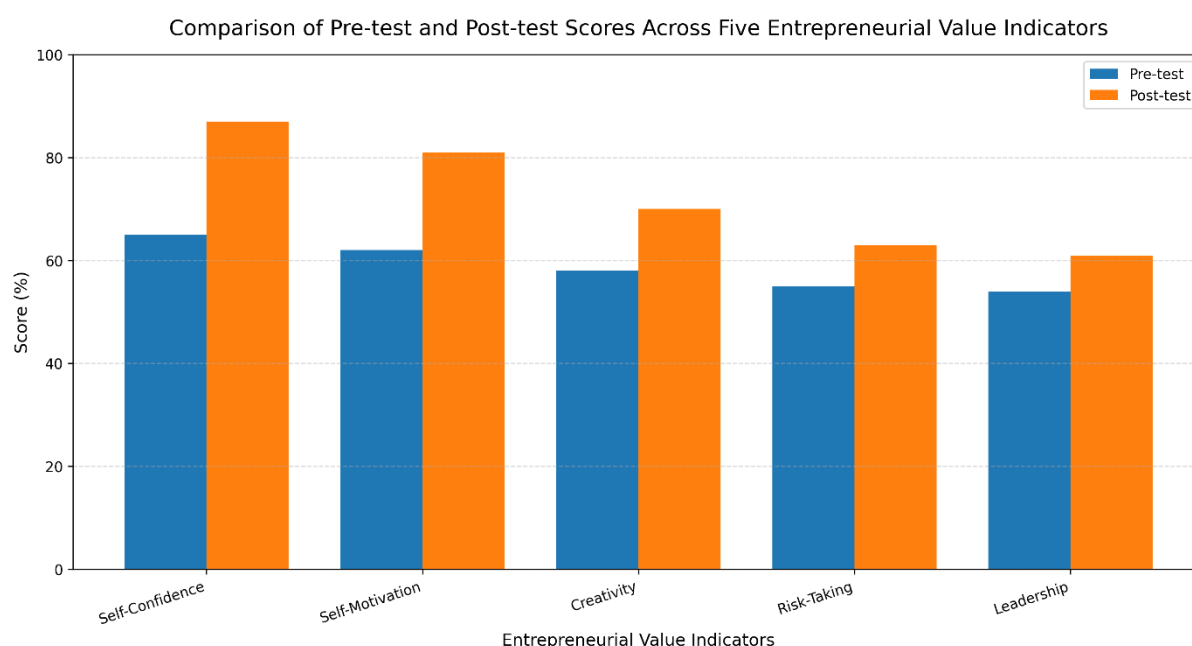


Figure 2. Comparison of Pre-test and Post-test Scores Across Five Entrepreneurial Value Indicators

Cycle 3: Refinement and Second Intervention

During Cycle 3, the intervention was monitored through an online survey administered via Google Forms. The findings indicated that 40% of the students still experienced difficulty generating inspiration for new ideas following the initial implementation of Praxiedu. This result pointed to a limitation in the existing content, particularly its limited exposure to authentic

entrepreneurial experiences, and therefore identified an area requiring further refinement. In response, Praxiedu was enhanced with a video podcast feature presenting speakers with entrepreneurial experience. The podcast content addressed real-world experiences related to decision-making, responses to risk, motivation development, and the process of formulating entrepreneurial actions. Students accessed the feature over a two-week period and subsequently documented their reflections through the Self-Assessment module.

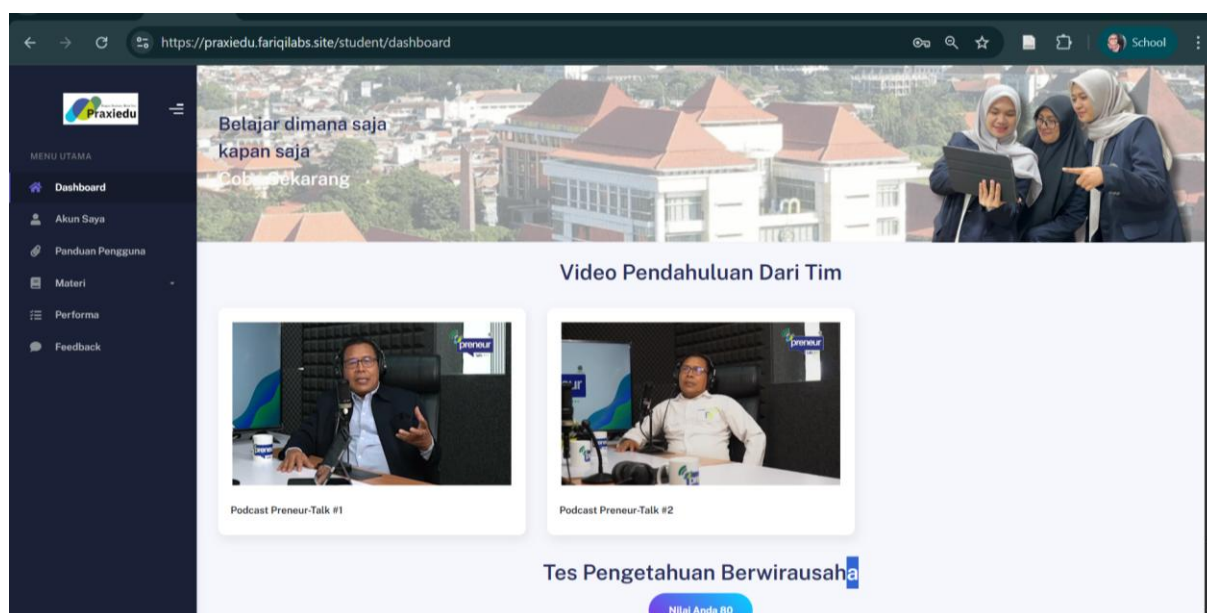


Figure 3. The Preneur-Talk Podcast Feature

Figure 3 presents Preneur-Talk, a video podcast feature that includes entrepreneurship education experts and young entrepreneurs as guest speakers. Each episode lasts approximately 30 minutes and explores experiences related to decision-making, responses to risk, motivation, and the process of formulating entrepreneurial actions. Following the addition of the video podcast feature, 60% of the students reported in their reflective responses that they had generated or developed new business ideas after engaging with the content. This percentage reflects students' self-reported responses and does not represent an independent assessment of the originality, feasibility, or contextual relevance of their business ideas. During the same period, creativity scores showed a descriptive increase of 12 percentage points compared with the measurement from the preceding cycle. This finding is reported to describe the change observed following the refinement of the intervention and should not be interpreted as causal evidence that the podcast feature independently led to increased creativity.

Table 1. Intervention Refinements and Follow-Up Actions

Area Identified for Improvement	Follow-Up Action	Quantitative Result	Qualitative Result
Limited inspiration for business ideas (40%)	Addition of a video podcast feature featuring entrepreneurs as guest speakers	12-percentage-point increase in creativity scores	60% of students reported generating new business ideas

3.2. Discussion

The findings indicate that changes across the five dimensions of entrepreneurial values were uneven. More pronounced changes were observed in self-confidence and self-motivation, whereas creativity, risk-taking, and leadership showed more modest improvement. This variation suggests that different entrepreneurial values may require different types of learning experiences. In Praxiedu, activities such as self-assessment, reflection, mapping relationships among ideas, actions, and consequences, and analytical discussion provided students with greater opportunities to recognize their own capabilities, evaluate their choices, and understand the reasons underlying their actions. These activities were more closely aligned with the development of personal dimensions, particularly self-confidence and self-motivation. The greater changes observed in these two dimensions can therefore be understood as a pattern consistent with the nature of the intervention provided (Lelo, 2024). However, the findings do not indicate that all dimensions of entrepreneurial values developed to the same extent. This pattern is consistent with Winarno (2016) finding that entrepreneurship education emphasizing theoretical knowledge alone may be insufficient to develop entrepreneurial values and skills. His study further showed that structured case-based learning and motivational guidance could particularly strengthen students' self-confidence and entrepreneurial motivation.

From a praxiological perspective, Praxiedu helps students more clearly understand the relationships among goals, choices of action, and consequences. This feature distinguishes Praxiedu from LMS environments used primarily to store learning materials, collect assignments, or facilitate communication. In this study, students did more than access learning content; they also assessed their own potential, connected ideas with actions, anticipated possible consequences, and reconsidered the reasons underlying their entrepreneurial choices. Conceptually, this process may support the development of entrepreneurial reasoning, defined here as students' ability to articulate the reasons for their actions, evaluate whether those actions align with their intended goals, and use observed consequences to inform subsequent decisions (Tavares, 2016). However, because this study did not compare Praxiedu with a conventional LMS, the specific contribution of its praxiological design cannot be empirically isolated. Accordingly, the praxiological mechanism proposed in this study is more appropriately understood as a theoretical explanation consistent with the observed pattern of findings rather than as evidence of an established causal relationship.

Greater improvement in self-confidence can be interpreted through the concept of entrepreneurial self-efficacy (Muzakki et al., 2022), which refers to students' beliefs in their ability to undertake entrepreneurial actions. Self-confidence may develop not only through understanding course content but also through opportunities to assess one's own capabilities, formulate choices, and recognize that actions can be planned and subsequently reevaluated. In Praxiedu, self-assessment and reflective activities provide students with opportunities to identify their capabilities, set goals, and articulate the reasoning behind their actions (Jonsdottir & Einarsdóttir, 2024). From a praxiological perspective, this process may help students see themselves as active agents capable of choosing, explaining, and evaluating entrepreneurial actions rather than merely receiving entrepreneurial concepts. Nevertheless, the increase in self-confidence scores should be interpreted with caution. Because the data were derived primarily from student self-reports, the observed change is more appropriately understood as an increase in perceived capability rather than direct evidence of improvement in actual entrepreneurial competence or the quality of students' business decisions.

Changes in self-motivation may be explained by a stronger connection between students' personal goals and their learning activities. In Praxiedu, students were asked to assess their potential, explain the reasoning behind entrepreneurial choices, and reflect on the consequences of their intended actions. These activities may have made the learning process more personally relevant by allowing students to connect course tasks with goals they considered meaningful. In

this way, students were given greater scope to engage with the learning process, exercise a sense of control over their learning, and relate learning activities to personally valued goals (Shaw, 2025).

From the perspective of entrepreneurial identity, entrepreneurial development is shaped not only by knowledge, motivation, or self-confidence but also by how individuals perceive and present themselves as entrepreneurial actors. Aslam et al. (2024) showed that entrepreneurs use social media both to promote their ventures and to construct a public image of themselves. This process involves the strategic selection of content, the use of visual and textual elements, and storytelling about entrepreneurial activities. Audience interaction also plays an important role because responses from others may influence how entrepreneurs construct and present their identities. In the context of Praxiedu, reflection on goals, choices, actions, and consequences may help students begin to see themselves as prospective entrepreneurial actors. However, this process needs to be complemented by more authentic activities, such as presenting business ideas, articulating the value of a product or venture, developing entrepreneurial narratives, and receiving feedback from others. Such experiences may enable students not only to understand entrepreneurship as a body of knowledge but also to begin positioning themselves as individuals capable of undertaking and communicating entrepreneurial action.

Unlike self-confidence and self-motivation, creativity showed more limited change. This dimension received additional support only after video podcasts were incorporated into Praxiedu, suggesting that self-reflection alone may not be sufficient to help students generate a wider range of entrepreneurial ideas. Entrepreneurial creativity requires more than introspection; students also need exposure to real-world problems, user needs, environmental changes, diverse knowledge sources, and opportunities to recognize potential opportunities. Video podcasts featuring entrepreneurs provided examples of authentic experience that may have broadened students' understanding of possible courses of action. However, the finding that 60% of students reported generating or formulating new business ideas after accessing the podcasts should not be interpreted as evidence that these ideas were necessarily more original, feasible, or relevant to market conditions. The study did not employ an independent rubric to assess the quality of students' business ideas. Accordingly, this finding is more appropriately interpreted as students' self-reported generation of new ideas rather than robust evidence of validated improvement in *opportunity recognition* or entrepreneurial creativity.

The relatively modest change in risk-taking suggests that reflective learning through an LMS has inherent limitations. In entrepreneurship, the willingness to take risks often develops when students are directly exposed to uncertainty, the possibility of resource loss, market responses, and the consequences of their decisions. Praxiedu can help students understand risk, evaluate alternative courses of action, and reflect on the consequences of their choices. However, a relatively safe digital environment cannot fully reproduce the pressure and uncertainty of real-world entrepreneurial situations. Therefore, the limited change in this dimension should not necessarily be interpreted as a failure of the learning medium. Rather, the findings suggest that developing a willingness to take risks requires more authentic and challenging learning experiences. Such experiences may include small-scale market experiments, prototype testing, interactions with prospective customers, management of limited resources, and decision-making with direct consequences.

A similar pattern was observed for leadership. The modest change in this dimension may be related to a learning design that placed greater emphasis on individual reflection and digitally mediated interaction. Entrepreneurial leadership, by contrast, develops through experiences that require students to work with others, allocate roles, coordinate tasks, manage disagreements, and make collective decisions (Branca et al., 2025). Praxiedu can help students develop an initial awareness of responsibility and the consequences of their actions, but it does not yet fully provide situations that require direct leadership practice. Strengthening this dimension therefore

requires more collaborative activities, such as team-based entrepreneurial projects, clearly defined responsibilities, shared business challenges, and interaction with external partners or stakeholders.

Overall, the more pronounced changes in self-confidence and self-motivation suggest that Praxiedu is more closely aligned with the development of personal dimensions supported through self-assessment and reflection on action. By contrast, the more modest changes in creativity, risk-taking, and leadership indicate that these dimensions require learning experiences that are more contextualized, collaborative, and directly connected to entrepreneurial situations. From a praxiological perspective, this pattern may be understood as an early stage in the development of entrepreneurial reasoning, defined here as students' capacity to connect goals, choices of action, and consequences more consciously. This interpretation is consistent with the work of Charleer et al. (2018) and Winarno (2025), which highlights the role of value-oriented reflection and interactive learning media in strengthening affective and motivational dimensions in entrepreneurship education. Accordingly, the findings of this study should be understood as preliminary evidence of the potential of LMS-based praxiological learning to support the development of entrepreneurial values among university students.

4. CONCLUSIONS AND SUGGESTION

This study provides preliminary evidence that LMS-based learning integrating a praxiological approach through Praxiedu may support the development of entrepreneurial values among university students. The most pronounced changes were observed in self-confidence and self-motivation, whereas creativity, risk-taking, and leadership showed more modest changes. This pattern suggests that self-assessment, reflection, and mapping the relationships among ideas, actions, and consequences may be more directly aligned with the development of students' personal capacities. By contrast, entrepreneurial values that depend more strongly on engagement with uncertainty, market conditions, and teamwork may not be fully developed through reflective LMS-based learning alone. Praxiedu is therefore more appropriately positioned as an early-stage intervention that helps students assess their capabilities, understand the reasoning behind their choices, and connect personal goals with entrepreneurial action.

The findings should be interpreted in light of several limitations. First, participants were not randomly assigned, and the study did not include a documented comparison group. Therefore, the observed changes cannot be attributed solely to Praxiedu or the praxiological approach. Second, participants were selected purposively, raising the possibility that some students entered the study with preexisting interest in or readiness for entrepreneurship, which may have influenced their responses to the intervention. Additional limitations concern the evidence supporting instrument validity in the present sample, the relatively short intervention period, and the single-institution setting. The observed changes may also have been influenced by repeated exposure to entrepreneurship content, interest generated by the use of a new learning medium, and the role of the instructor or facilitator during the learning process. Given these limitations, the findings should be interpreted as preliminary evidence of Praxiedu's potential rather than as conclusive evidence of its effectiveness.

Future development of Praxiedu should provide students with more opportunities to engage in entrepreneurial experiences that more closely reflect real-world conditions. To strengthen creativity, students could participate in activities involving problem identification, exploration of prospective users' needs, development of alternative solutions, and preliminary testing of business idea feasibility. Risk-taking could be developed through small-scale market experiments, prototype testing, pitch simulations, and decision-making under constraints of time and resources. Future studies should also employ more rigorous research designs to examine Praxiedu's contribution more convincingly. Such studies should include a comparison group,

extend the intervention period, and conduct measurements at multiple time points to determine whether observed changes are sustained over time.

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REFERENCES

- Aini, D. N., Iqbal Ikhsani, M., Damayanti, E. A., & Sobara, I. (2024). Fostering Edupreneurship Among Students as a Social and Cultural Practice: A Case Study in the German Department at Universitas Negeri Malang. *Pertanika Journal of Social Sciences and Humanities*, 32(4), 1477–1506. <https://doi.org/10.47836/pjssh.32.4.12>
- Anjum, T., Farrukh, M., Heidler, P., & Díaz Tautiva, J. A. (2021). Entrepreneurial Intention: Creativity, Entrepreneurship, and University Support. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(1), 11. <https://doi.org/10.3390/joitmc7010011>
- Aslam, S., Hussain, B., & Hussain, Dr. S. (2024). The Influence of Social Media on Entrepreneurial Identity and Self-Presentation. *Journal of Media and Entrepreneurial Studies*, 4, 97–106. <https://doi.org/10.56536/jmes.v4i.37>
- Batoebara, M. U. (2016). Dampak Moral Ilmu Pengetahuan Dan Teknologi Bagi Manusia. *Jurnal Warta Edisi*, 49. <https://doi.org/10.46576/wdw.v0i49.161>
- Biesta, G. (2015). On The Two Cultures of Educational Research, and How We Might Move Ahead: Reconsidering The Ontology, Axiology and Praxeology of Education. *European Educational Research Journal*, 14(1), 11–22. <https://doi.org/10.1177/1474904114565162>
- Branca, E., Vanderstraeten, J., Slabbinck, H., & Maes, I. M. R. (2025). The impact of entrepreneurial education on key entrepreneurial competencies: A systematic review of learning strategies and tools. *The International Journal of Management Education*, 23(2), 101144. <https://doi.org/10.1016/j.ijme.2025.101144>
- Celuch, K., Bourdeau, B., & Winkel, D. (2017). Entrepreneurial Identity: The Missing Link for Entrepreneurship Education. *Journal of Entrepreneurship Education*, 20(2), 1–20. <https://www.abacademies.org/articles/entrepreneurial-identity-the-missing-link-for-entrepreneurship-education-6657.html>
- Charleer, S., Moere, A. V., Klerkx, J., Verbert, K., & De Laet, T. (2018). Learning Analytics Dashboards to Support Adviser-Student Dialogue. *IEEE Transactions on Learning Technologies*, 11(3), 389–399. <https://doi.org/10.1109/TLT.2017.2720670>
- Elliott, E. S., & Dweck, C. S. (1988). Goals: An approach to motivation and achievement. *Journal of Personality and Social Psychology*, 54(1), 5–12. <https://doi.org/10.1037/0022-3514.54.1.5>
- Jensen, I. B., & Dikilitas, K. (2025). A Scoping Review of Action Research in Higher Education: Implications for Research-Based Teaching. *Teaching in Higher Education*, 30(1), 84–101. <https://doi.org/10.1080/13562517.2023.2222066>
- Jonsdottir, F., & Einarsdóttir, J. (2024). Pedagogical Challenges and Practices in Multicultural Classrooms: A Praxiological Study. *Educational Action Research*, 32(1), 127–143. <https://doi.org/10.1080/09650792.2022.2064891>

- Kemmis, S., McTaggart, R., & Nixon, R. (2014). *The Action Research Planner: Doing Critical Participatory Action Research*. Springer Singapore. <https://doi.org/10.1007/978-981-4560-67-2>
- Kuo, Y.-K., Batool, S., Devi, S., Tahir, T., & Yu, J. (2024). Exploring the impact of emotionalized learning experiences on the affective domain: A comprehensive analysis. *Heliyon*, 10(1), e23263. <https://doi.org/10.1016/j.heliyon.2023.e23263>
- Lelo, T. (2024). Introducing A Praxiological Framework for Studying Disinformation. *Communication Theory*, 34(1), 18–28. <https://doi.org/10.1093/ct/qtad017>
- Maulika, E., Jimad, H., & Karim, M. (2022). View of Pengaruh Pembelajaran Kewirausahaan dan Perencanaan Karir terhadap Niat Berwirausaha pada Mahasiswa. *E-Journal Field of Economics, Business, and Entrepreneurship (EFEBE)*, 1(3), 299–306. <https://doi.org/10.23960/efebe.v1i3.49>
- Mustomi, D., Ulum, K., Puspasari, A., & Azizah, A. (2021). Faktor Penghambat Minat Berwirausaha dikalangan Mahasiswa (Studi Survei) *Jurnal Administrasi Bisnis. J-Adbis: Jurnal Administrasi Bisnis*, 1(2), 69–74. <https://doi.org/10.31294/jab.v1i2.404>
- Muzakki, Y., Winarno, A., & Siswanto, E. (2022). The Influence of Knowledge of Entrepreneurship, Self-Efficacy Towards Interests Entrepreneurship Through Motivation Entrepreneurship to Santri at Pondok Pesantren Bahrul Maghfiroh Malang. *International Journal of Economy, Education and Entrepreneurship*, 2(1), 9–18. <https://doi.org/10.53067/ije3.v2i1>
- Nurbudiyani, I., Suyati, E. S., & Vewawati, V. (2023). Model Pembelajaran Kewirausahaan Berbasis Karakter dan Digital Meyongsong Perang Dagang Internasional. *Jurnal Perspektif Penelitian Pendidikan*, 1(2), 64–72. <https://doi.org/10.33084/jppp.v1i2.6237>
- Pramesti, K. D., Meisya, N. I., & Amrillah, R. (2024). Relevansi Lulusan Perguruan Tinggi dengan Dunia Kerja. *An Najah (Jurnal Pendidikan Islam Dan Sosial Keagamaan)*, 3(4), 236–243. <https://journal.nabest.id/index.php/annajah/article/view/304/216>
- Puspasari, E., Rizani, A., Anggraeni, O., Nasori, A., & Aslindar, D. A. (2024). The Determinant Of Students Entrepreneurial Interest. *Jurnal Pendidikan Administrasi Perkantoran (JPAP)*, 12(1), 247–256. <https://doi.org/10.26740/jpap.v12n1.p247-256>
- Rickey, N., DeLuca, C., & Beach, P. (2023). Towards a New Theory of Student Self-Assessment: Tracing Learners' Cognitive and Affective Processes. *Metacognition and Learning*, 18(3), 945–981. <https://doi.org/10.1007/s11409-023-09359-6>
- Shaw, J.D. (2025). A Cautionary Tale: On the Adoption of Self-Determination Theory Principles for Practice. *J. Manage. Stud.*, 62: 2125-2134. <https://doi.org/10.1111/joms.13112>
- Tavares, C. (2016). Human Rights Education and The Research Process: Action Research as a Tool for Reflection and Change. *Educational Action Research*, 24(4), 617–634. <https://doi.org/10.1080/09650792.2015.1124045>
- Townsend, A. (2019). Who Does Action Research and What Responsibilities Do They Have to Others? *Educational Action Research*, 27(2), 149–151. <https://doi.org/10.1080/09650792.2019.1582184>
- Umami, N., Pratikto, H., & Winarno, A. (2024). Beyond Profit: A Pedagogical Model for Integrating Philosophy into Economic Education for Value-Based Entrepreneurship in Indonesia. *Enigma in Education*, 2(2), 100–113. <https://doi.org/10.61996/edu.v2i2.81>
- Wahyudi, B. (2022). Analisis Rencana Pelaksanaan Pembelajaran (RPP) dengan Praxiologi | Jurnal Indonesia Sosial Teknologi. *Jurnal Indonesia Sosial Teknologi*, 3(6), 764–771. <https://doi.org/10.59141/jist.v3i06.452>
- Wati, H., Nagara, P., Rahayu, S., & Hendra, M. (2023). Pengaruh Pendidikan Entrepreneurship dan Lingkungan Sosial terhadap Minat Berwirausaha. *Jurnal Informatika Ekonomi Bisnis*, 5(3), 1020–1025. <https://doi.org/10.37034/infv5i3.547>

-
- Wijayati, H. (2019). Panduan Analisis SWOT untuk Kesuksesan Bisnis: Jangan Buat Strategi Bisnis Sebelum Baca Buku Ini. Anak Hebat Indonesia.
- Winarno, A. (2016). Entrepreneurship Education in Vocational Schools: Characteristics of Teachers, Schools and Risk Implementation of the Curriculum 2013 in Indonesia. *Journal of Education and Practice*, 7(9), 122–127. <https://www.iiste.org/Journals/index.php/JEP/article/view/29630>
- Winarno, A., Aini, D. N., Fuad, M., & Salleh, N. H. M. (2025). The Relationship of Entrepreneurial Education, Social Institutions and Business Experience to the Growth of Small and Medium Industries (Malang Regency Case, Indonesia). *Journal of Lifestyle and SDGs Review*, 5(5), e06432–e06432. <https://doi.org/10.47172/2965-730X.SDGsReview.v5.n05.pe06432>
- Zuhrinal, & Siagian, M. (2023). Pentingnya Kewirausahaan bagi Perekonomian Bangsa. *OPTIMAL Jurnal Ekonomi Dan Manajemen*, 3(1), 184–190. <https://doi.org/10.55606/optimal.v3i1.966>