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Implementation of Entrepreneurship Course in Maritime Higher Education

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Abstract: The entrepreneurship course is a special course designed to meet the needs of Emancipated Learning (MBKM). Cadets of Port and Shipping are the objects of the research. This study aims to evaluate and determine how to implement entrepreneurship education going forward. The four components of Mullins' Kirkpatrick in 2016 evaluation model—satisfaction, learning, behaviour, and impact—are used in the quantitative methodology. 140 cadets who had finished the entrepreneurship course represented the sample. Data was gathered using a survey instrument. The results showed that the level 1 evaluation of cadets' satisfaction in learning showed an average score of 71% satisfied learning entrepreneurship and 29% dissatisfied. The level 2 evaluation showed that the average cognitive, affective and psychomotor learning outcomes had increased. Level 3 evaluation of entrepreneurial behaviour obtained an average increase of 20 points. Level 4 evaluation of the impact of learning obtained 82% of cadets thinking it is suitable to continue, 75% think entrepreneurship learning is effective in making cadets become entrepreneurs, and 72% form cadets to carry out business activities. The results of this study should provide helpful recommendations for creating an entrepreneurship curriculum.

Keywords: entrepreneurship, evaluation, implementation

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INTRODUCTION

The pandemic events from 2019 through 2021 have brought the world to a drastic change. Many aspects have been affected (Alizadeh et al., 2023). One of the most affected aspects is the world economy. As one of the developing countries in Southeast Asia, Indonesia is also inseparable from this condition (Alizadeh et al., 2023). This economic aspect has an impact on the high number of unemployment due to the shutdown and losses of several companies around the world. Unemployment is one of the most severe problems in a country. According to data obtained from the Indonesian Monetary Fund (IMF) in 2022, South Africa became the country with the highest unemployment rate of 34.6%, followed by Sudan at 30.6%, Palestine at 25.7%, Georgia at 18.7%, and Bosnia and Herzegovina in fifth place at 17.3%. Meanwhile, Indonesia ranks 58th with a percentage of 5.5% (Isrososiawan, 2013). In the current situation, unemployment does not only occur among graduates with elementary to high school education levels but also graduates at the bachelor's level. According to the BPS data in 2023, the highest open unemployment rate is coming from vocational school background, with 13,55% in 2020, 11,13% in 2021, and 9,42% in 2022. The smallest number of open unemployment rates is coming from elementary school background, with 3,61% in 2020, 3,61% in 2021, and 3,59% in 2022, followed by open unemployment coming from junior high school with an average decrease per year (0,255%), senior high school (0,645%), bachelor degree (1,275%) and undergraduate (1,745%) (Badan Pusat Statistik, 2023).

It is found that the open unemployment rate for undergraduate graduates occurs at the Diploma III level and even up to the highest level, namely S3. In 2021-2022, unemployment at the Diploma IV, S1, S2, and S3 levels is higher than that of Diploma III graduates, namely 5.98% and 4.80% (Badan Pusat Statistik, 2023). The conditions faced will worsen with global competition, namely the implementation of the ASEAN Economic Community, which will confront Indonesian university graduates who compete freely with foreign university graduates (Purba, 2015). It is feared that the level of educated unemployment with undergraduate status will continue to increase if universities, as institutions that produce graduates, do not have the ability to direct their students and alums to create jobs after graduation (Huu et al., 2022). Recognizing this need, the Transportation Human Resources Development Agency also supports the creation of jobs, one of which is outlined in the regulation of the Head of BPSDM Transportation through curriculum number PK.07/BPSDMP-2016 concerning the institutional curriculum of diploma IV study programs majoring in Nautica, Technical, and KALK. The curriculum states that entrepreneurship course learning is carried out in semester VII for KALK majors. This applies to all KALK and Marine Transportation Management majors within the scope of the BPSDM Transportation Technical Implementation Unit. At STIP, entrepreneurship courses are taken in the seventh semester, with applications in the form of theory and practice of entrepreneurship. The Ministry of Education and Culture also tried to follow up on this condition after the issuance of Presidential Instruction No. 4, 1995,

concerning "National Movement to Socialize and Cultivate Entrepreneurship" by launching a new program, namely entrepreneurship development in the form of activity and education packages for students in Vocational High Schools and for university students and "Cultivate Entrepreneurship "by launching a new program, namely entrepreneurship development in the form of a package of activities and education for students attending Vocational High Schools and for university students (Ramadhani & Nurnida, 2020).

This study aims to determine the implementation of entrepreneurship courses to improve the competence and interest of cadets majoring in Port Management and Port at STIP. In addition, to find out whether the courses delivered directly affect entrepreneurial interest, including how to deliver the material following the results of previous research conducted by Ramadhani and Nurnida (2020). By the end of the course, students can put these ideas into practice by starting their own businesses. Students may begin by establishing a business in any sector, including food and drink, services, digital information, information technology, or even expanding their family enterprise. Some students have already had those experiences, and the entrepreneur course provides them with more comprehensive information and unique tips on developing and growing their firms. Within BPSDM Transportation itself, there is also minimal research on entrepreneurship. This statement also follows research on *entrepreneurship, which* has yet to become a *mature subject* despite an explosion in the number of *entrepreneurship* education programs (Adrianto et al., 2019)*. The* lack of data and low *entrepreneurship* research make *entrepreneurship* education ineffective. *Entrepreneurship* education is the content, methods and activities that support the creation of knowledge, competencies and experiences that enable learners to initiate and participate in creating entrepreneurial value (Lackéus, 2015). According to (Zimmerer, 2008) *["An entrepreneur* is *one* who *creates a new business* in the *face of risk and uncertainty for* the purpose of *achieving profit and growth by identifying* opportunities and *assembling the necessary resources* to *capitalize on those opportunities".*

There are six characteristics of entrepreneurship in education (Isrososiawan, 2013): (1) Entrepreneurship is a value embodied in behaviour that is used as a resource, driving force, goal, strategy, tips, process, and business results (Supriyadi et al., 2017), (2) Entrepreneurship is a value needed to start a business and grow a business (Wright & Stigliani, 2013), (3) Entrepreneurship is a process of doing something new (creative) and different (innovative) that is useful in providing more value (Diandra & Azmy, 2020), (4) Entrepreneurship is the ability to create something new and different (Ratten & Usmanij, 2021), (5) Entrepreneurship is a process of applying creativity and innovation in solving problems and finding opportunities to improve business life (Mehmood et al., 2021), (6) Entrepreneurship is an effort to create added value by combining resources in new and different ways to win the competition (Leppänen et al., 2023). According to (Meredith et al., 1982) it is stated that the characteristics and characteristics of entrepreneurship are as follows:

Table 1. Entrepreneurial traits and characteristics

Characteristics of	Disposition
Confident	Confidence, independence, individualism, optimism
Task- and result-oriented	The need for achievement, profit-oriented, perseverance and grit, determination, and hard work have a strong drive, energy and initiative
Risk taker and likes challenges	Ability to take reasonable risks
Leadership	Behaviour as a leader, getting along with others, responding to suggestions and criticism
Originality	Innovative, creative and flexible
Future-oriented	Foresight and perspective

A comprehensive gap analysis of entrepreneurship education implementation reveals several key findings. Firstly, there is a lack of alignment between educational programs and the specific requirements of industries such as the maritime cruise sector (Militaru et al., 2023). Secondly, integrating arts entrepreneurship education with fine arts training can significantly impact artists' labor market outcomes, emphasizing the need for a combined approach to education (Makridis & Kuuskoski., 2024). Additionally, research highlights the importance of understanding decision-making processes associated with implementing entrepreneurship education programs, indicating a gap in academic knowledge that requires further scientific exploration (Banha et al., 2022). Lastly, a study on entrepreneurial students' perceptions at a university in South Africa identified discrepancies between their expectations and actual experiences, particularly in terms of empathy and tangible dimensions of service quality within the Entrepreneurial Development Program (Conradie & Van Zyl., 2023). These insights underscore the need for tailored, industry-relevant, and quality-focused entrepreneurship education programs to bridge existing gaps effectively.

METHODS

In order to evaluate an event, this research used quantitative methodologies that characterize data using a representative number-based approach. Four evaluation stages were conducted, and the Kirkpatrick evaluation model, developed by Mullins, was utilized for the assessment dimension. The Kirkpatrick evaluation model is a commonly utilized method for assessing training initiatives (Kirkpatrick & Kirkpatrick., 2006). Educational practitioners use this methodology to assess educational programs based on the instructional design. The authors utilized the following data to assist in this study's information and data collection. To support the collection of information and data in this study, the authors used the following data. The data collection method was carried out using a questionnaire given to all cadets who had attended Entrepreneurship lectures for one semester in the odd semester. The respondents were all cadets majoring in KALK, as many as 140 people in the year. In addition, the author also conducts literature studies through sources such as books, previous research results, and published journals, which are also used as a basis for data collection. Data processing was carried out using a combination of quantitative and qualitative methods. Quantitative methods are used to measure data collection methods by questionnaire, while qualitative methods are used to process data from observations and literature studies. The instruments used in preparing the questionnaire have gone through the processing process, as shown in Table 2.

Table 2. Research instruments

Evaluation Level	Elements	Instrument Type	Number of Items
Level 1: Satisfaction	Contents	Question List	6
	Process		7
	Context		4
	Awareness		4
Level 2: Learning	Cognitive	Question List	8
	Affective		12
	Psychomotor		5
Level 3: Behaviour	Application of knowledge and skills	Question List	20
Level 4: Impact	Program Effects	Question List	7

Likewise, Table 3 shows the preparation of indicators and dimensions that describe the type of questionnaire and the number of statements.

Table 3. Assessment Variables and Indicators

Variables	Indicator	Dimensions
Level 1: Satisfaction	Evaluation of participants' initial reactions to professional development	Content: relevance, usefulness, clarity, value, difficulty, and importance of the material presented Process: quality of instruction, activities, materials, and learning technologies and quality of facilitators Context: appropriateness of arrangements, facilities, and professional development Awareness: the extent to which participants are aware of the purpose and objectives of the learning.
Level 2: Learning	Evaluation of the knowledge and skills acquired by participants through professional development	Adjusting learning effectiveness based on curriculum objectives
Level 3: Behaviour	Evaluation of the application of knowledge and skills learned by participants acquired through professional development	Confirm the effectiveness of learning based on entrepreneurial ability from the identification of entrepreneurial special characters Provides evidence of whether the participant has a desire for professional career development as an entrepreneur
Level 4: Impact	Evaluate the effects of professional development on students and program performance	The extent to which learners have direct action to carry out entrepreneurial activities after the entrepreneurship learning process.

The analysis technique used is qualitative descriptive analysis. The evaluation is carried out at four levels with the dimensions of the assessment referring to the model (Mullins, 2010) as presented in Figure 1, following research conducted by Tamsuri (2021).

Figure 1. Levels of evaluation of the OHIO Able Professional Development Evaluation Framework (Mullins, 2010)

RESULT AND DISCUSSION

The Level 1 result of the evaluation is to determine the cadets' satisfaction during the entrepreneurship lecture. The assessment is carried out by measuring the cadets' response to the learning content, learning process, learning context, and the awareness that arises in the learning process. The results of each assessment can be described in Table 4.

Table 4. Level 1: Satisfaction from Entrepreneurship Learning

Component	Sub-components	Score (%)
Content	Relevance of learning needs, usefulness, purpose, and value of benefits from learning activities	63,5
Process	Quality of instruction, learning process (opening, core, and closing), quality of learning materials and adequacy of theory, methods of assignment assessment, and quality of instructors in the learning process.	71,2
Context	Sustainability of learning rules through facilities obtained during learning	73,1
Awareness	Cadets' awareness of learning objectives and benefits	76,2

After surveying 140 cadets pursuing a major in Port Sea Transportation Management at STIP, it was determined that, on average, 71% of the cadets expressed satisfaction with their entrepreneurial learning. Level 2 assesses the acquired knowledge and skills of the cadets. This evaluation encompasses many capabilities. Gaining proficiency in a subject or skill has improved significantly, from 49 to 85. The number of types of entrepreneurship increased from 46 to 83. The level of business opportunity analysis comprehension has increased from 48 to 81. There has been a significant rise in business strategy comprehension, from 49 to 80. Using fundamental business concepts, including strategy, execution, growth, and business expansion, has significantly risen from 47 to 84. The use of entrepreneurial concepts has increased from 46 to 80. The utilization of legal practices in the company has risen from 47 to 84, while the incorporation of technology in the marketing process has increased from 48 to 82. Analysis of the cognitive learning outcomes of the cadets revealed a significant enhancement in their understanding of entrepreneurship theory. The average score increased from 48 to 82, showing a notable gain in the cadets' knowledge following their attendance of entrepreneurship lectures.

Table 5. Level 2: Evaluation of Cadets' Knowledge

Knowledge Competency	Before	After
Understanding the basics of Competency	49	85
Understanding the Types of Entrepreneurship	46	83
Understanding of business opportunity analysis	48	81
Business strategy understanding	49	80
Implementation of business principles, namely planning, implementation, development and business development.	47	84
Application of the principles of being an entrepreneur	46	80
Legal application in business	47	84
Application of technology in the marketing process	48	82
Average	48	82

Analysis of learning outcomes with cognitive aspects was conducted to determine the description of students' abilities before and after entrepreneurship learning. The results of the tests that have been carried out show that taking into account the reference of students improves the quality of learning and satisfies students (Bourkoukou & El Bachari, 2018). Success in learning can also be seen in changes in the attitude of cadets in carrying out practical activities. Based on the affective evaluation of cadets, there are 12 effective learning outcomes: Assimilating the importance and mindset of self-reliance; incorporating the importance and mindset of innovation; assimilating values and attitudes related to decision-making; absorbing values, attitudes, and abilities necessary to seize business chances; the execution of fundamental business concepts, namely including the processes of planning, implementation, growth, and expansion of the firm; cultivating a mindset of creativity and invention while generating new ideas, while also maintaining a strong sense of dedication and collaborative skills; proficient communication; cultivating a social entrepreneurial mindset; being cognizant of technology advancements; adhering to ethical principles and societal standards in entrepreneurship, as seen in Table 6.

Table 6. Level 2: Affective Evaluation of Cadets

Affective Learning Outputs	Before	After
Internalizing the value and attitude of independence	45	72
Internalize the value and attitude of creativity	55	83
Internalize decision-making values and attitudes	50	80
Internalize values, attitudes, and skills to capture business opportunities	47	79
Implementation of business principles, namely planning, implementation, development and business development.	52	78
Have a spirit of creativity and innovation in finding new ideas	55	80
Have an attitude of commitment	45	75
Ability to work together	58	83
Implement effective communication	57	76
Building a social entrepreneurial attitude	51	82
Have an awareness of technological change	55	77
Have ethics and norms in entrepreneurship	54	82
Average	52	79

The first effectual learning output, Internalizing the value and attitude of independence, increases from 45 to 72; continue with Internalize the value and attitude of creativity increases from 55 to 83; internalizing decision-making values and attitudes increase from 50 to 80; internalizing values, attitudes, and skills to capture business opportunities increase from 47 to 79; Implementation of business principles, namely planning, implementation, development and business development increase from 52 to 78; have a spirit of creativity and innovation in finding new ideas increase from 55 to 80; have an attitude of commitment increase from 45 to 75; ability to work together increase from 58 to 83; implement effective communication; building a social entrepreneurial attitude increase from 57 to 76; have an awareness of technological change increase from 55 to 77; and have ethics and norms in entrepreneurship increase from 54 to 82. Based on the learning outcomes of the affective aspect, there is an increase in entrepreneurial attitude, with an average score of 52, which increased to 79. This means that cadets have a higher entrepreneurial attitude after attending lectures. The psychomotor aspect of entrepreneurship learning is measured by cadets' ability to carry out entrepreneurial activities. Table 7 describes data on cadets' psychomotor abilities before and after learning entrepreneurship.

Table 7. Level 2: Psychomotor Evaluation of Cadets

Affective Learning Outputs	Before	After
Improve communication skills	47	77
Collaborate in planning, running and developing the business	50	72
Business Planning Preparation	52	71
Financial planning and management	50	78
Building effective communication and relationships in business	53	75
Average	50	75

Table 7 shows a notable improvement in cadets' entrepreneurial skills proficiency, as evidenced by a score rise from 50 to 75. Attending lectures significantly improves cadets' entrepreneurial abilities, with an average rise of 24 points. The minimal improvement in cadets' psychomotor learning outcomes in entrepreneurship courses falls short of the goals set by entrepreneurship courses that strive to develop technical skills in entrepreneurship. Entrepreneurship courses should be practical and project-based to build the ability of cadets to carry out the entrepreneurial process (Ganefri et al., 2018). The combination of learning abilities is a joint effort with the industry in vocational education and higher education; this collaboration can help improve students' practical competencies, especially in dealing with problems in the development of information technology (Ghareb, 2019). The evaluation at level 3 measures and presents recommendations for cadets' entrepreneurial behaviours that emerge after entrepreneurship learning. Twenty entrepreneurial behaviours are designed based on entrepreneurial behaviours in related theories. Table 8 presents the results of the behaviour evaluation.

Table 8. Level 3: Evaluation of Cadet Behaviour

	Behaviour	Before	After
P1	Risk considerations	55	82
P2	Innovative	54	78
P3	Responsibility	53	79
P4	Confident	58	70
P5	Creative	64	80
P6	Work hard	66	80
P7	Goal orientation	62	79
P8	Reading Opportunities	58	79
P9	Honest	53	80
P10	Visionary	57	78
P11	Initiative	62	76
P12	Sympathy	62	79
P13	Communicative	65	78
P14	Flexible	59	77
P15	Capable under pressure	60	78
P16	Able to make decisions	60	83
P17	Commitment	58	81
P18	Cooperate	55	79
P19	Persevere	58	79
P20	Tolerance of ambiguity	59	79
	Average	59	79

Table 8 states that the average entrepreneurial behaviour increased by only 20 points. Entrepreneurial character is the basis for realizing entrepreneurial behaviour (Dewi, 2020). Entrepreneurship education is one of the keys to the successful cultivation of entrepreneurial attitudes and behaviours of the younger generation (Dewy et al., 2016). This means that the superior character of the younger generation can be trained through coaching in entrepreneurship courses because it is appropriate to use learning methods based on character building in entrepreneurship courses (Ernawati, 2019). The achievement of entrepreneurial skills is related to the character and ability to control the business because of the uncertain conditions of entrepreneurship (Kerr et al., 2018). Entrepreneurial character is an essential factor that determines the success of cadets in entrepreneurship (Taleghani, 2013). In particular, in the 21st-century entrepreneurship approach, specific characteristics must be applied. Therefore, conducting entrepreneurship training considering 21st-century entrepreneurial characteristics is essential for universities (Li & Jia, 2015). Entrepreneurship has become a popular term nowadays; not all entrepreneurs can succeed in entrepreneurial business; they need unique characteristics. Entrepreneurial characteristics are extensively studied, with mixed results on their influence on

small business outcomes.

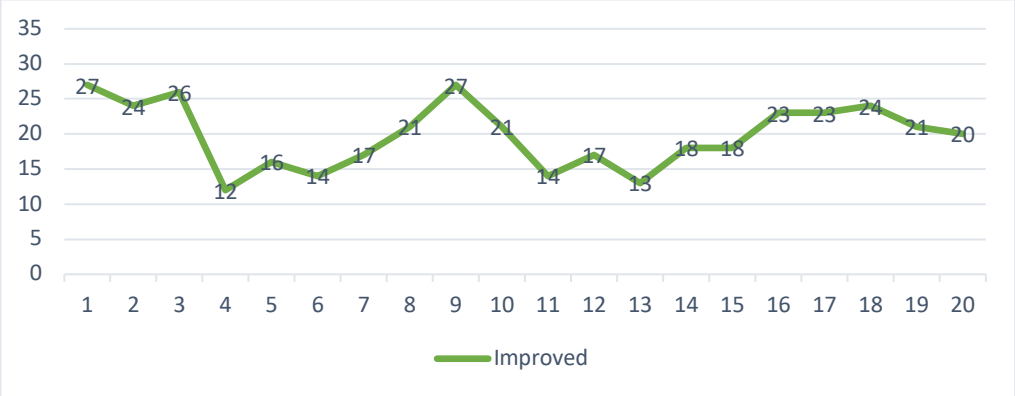

Figure 2. Average score of entrepreneurial attitude improvement after learning

The curve depicted in Figure 6 illustrates how the cadets' entrepreneurial behaviour improved following their involvement in entrepreneurship education. An evaluation of cadets' impression of independence about promoting entrepreneurial behaviour indicates that the average cadet behaviour has shown a 20% rise. The impact assessment was conducted to determine the extent to which the perspective of future program development was assessed through the opinions of cadets on entrepreneurship courses. The response in question is the perception of cadets on Entrepreneurship subjects, as presented in Table 9.

Table 9. Level 4: Impact of Learning Evaluation

Component	Yes	No
Entrepreneurship learning in line with learning objectives	88	12
Entrepreneurship can be applied in the future	86	14
Entrepreneurship learning can be continued	82	18
Entrepreneurship learning increases cadets' interest in entrepreneurship	80	20
Entrepreneurship learning is effective in turning cadets into entrepreneurs	75	25
Entrepreneurship learning shapes cadets to do business activities	72	28
Students' perceptions of entrepreneurship become better after learning	80	20
Average	80	20

The effect of learning evaluation comprises seven aspects, all aligning with the desired learning outcomes and incorporating entrepreneurial learning. These can be recognized in the subsequent elements: 88 students expressed their agreement regarding the potential application of entrepreneurship in the future. Similarly, 86 students agreed that entrepreneurship learning can be further pursued. Moreover, 82 students acknowledged that entrepreneurship learning enhances cadets' interest in entrepreneurship. Additionally, 75 students recognized the effectiveness of entrepreneurship learning in facilitating the transformation of cadets into entrepreneurs. Furthermore, 72 students acknowledged that entrepreneurship learning moulds cadets to engage in business activities. Lastly, 80 students agreed that their perceptions of entrepreneurship improved directly from their learning experience. From this evidence, we may deduce that 80 students agree that the entrepreneurship course has substantially influenced their lives.

The impact of learning evaluation encompasses various elements that align with entrepreneurial learning objectives. These elements include participants' perceptions and satisfaction, beliefs about teaching and learning, teaching performance, students' perceptions of teaching performance, students' learning, and effects on institutional culture (Kreber et al., 2001). Learning evaluation assesses students' abilities, determines educational program effectiveness, and guides students towards appropriate learning situations based on their abilities (Idrus, 2019). Additionally, the Learning Evaluation approach blends quality improvement and implementation research methods to study healthcare innovations, emphasizing the importance of real-time assessment of implementation processes, changes in context, and continuous quality improvement (Balasubramanian et al., 2015). As a form of learning evaluation, entrepreneurship education plays a crucial role in fostering entrepreneurial spirit, intentions towards starting businesses, employability, and societal contributions (Peterk et al., 2015). Implementing entrepreneurship courses in maritime higher education institutions, also known as "Blue Universities," is crucial in fostering entrepreneurial skills among students from diverse backgrounds and cultures, ultimately contributing to the maritime industry's growth and innovation (Özdemir, 2023). Entrepreneurship education models at universities focus on developing students' competencies

in entrepreneurial thinking, project creation, and interaction, forming entrepreneurial managers with a strong sense of responsibility for their activities (Voronina & Makhmutova, 2022). The implementation formula for entrepreneurship education involves curriculum reforms, extracurricular activities, faculty development, infrastructure enhancements, financial support, industry collaborations, alum engagement, and government support, all aimed at shaping students' characters, improving their habits, attitudes, and passions towards entrepreneurship, and addressing unemployment challenges (Lailatussaadah et al., 2020). By integrating entrepreneurship courses into maritime higher education, students can acquire the necessary skills and knowledge to thrive in the dynamic and innovative maritime industry, contributing to the country's economic development and competitiveness (Yafasov & Bugakova, 2023).

CONCLUSION

Based on the research findings, level 1 evaluation of cadets' satisfaction in learning shows that 71% are satisfied with learning entrepreneurship, and 29% are not satisfied and less able to accept entrepreneurship learning optimally. From the level 2 evaluation obtained, cognitive, affective, and psychomotor learning outcomes, on average, have increased. Level 3 evaluation on entrepreneurial behaviour obtained data on the average increase of only 20 points. Level 4 evaluation of the impact of entrepreneurship learning obtained data that 82% of cadets responded that entrepreneurship is suitable for continuous use, 75% responded that entrepreneurship learning is effective in making cadets become entrepreneurs, and 72% form cadets doing business activities. The results of this study recommend continuing entrepreneurship learning by paying attention to process factors and combining it with learning that refers more to the implementation of entrepreneurship projects to improve psychomotor competencies and entrepreneurial behavior in the future.

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