

The effectiveness of case method in developing intrapreneurship among business students

Khairuddin E. Tambunan¹, Ali Fikri Hasibuan², Rangga Restu Prayogo², Faisal Rahman Dongoran³, Dedy Husrizal Syah⁴, Gaffar Hafiz Sagala⁴

¹Department of Economics Education, Faculty of Economics, Universitas Negeri Medan, Medan, Indonesia

²Department of Entrepreneurship, Faculty of Economics, Universitas Negeri Medan, Medan, Indonesia

³Department of Accounting Education, Faculty of Teacher Training and Education, Universitas Muhammadiyah Sumatera Utara, Medan, Indonesia

⁴Department of Digital Business, Faculty of Economics, Universitas Negeri Medan, Medan, Indonesia

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ABSTRACT

Intrapreneurship skill has considered as the alternative learning outcomes of entrepreneurship education. However, entrepreneurship teachers need a complex learning program to develop intrapreneurship among business students. At the same time, The Ministry of Education and Culture of The Republic of Indonesia recommends university teachers implement case methods to deliver complex learning environments and build critical skills among students. Therefore, this study aims to i) examine the effect of micro small medium enterprise (MSME) cases on the intrapreneurship of business students, ii) investigate the influence of MSME cases on flow experience in entrepreneurship education and iii) investigate the effect of flow experience during entrepreneurship education on intrapreneurship skill. We used field experiments on entrepreneurship and digital business student in business development courses. The result indicates that the case method effectively developed student intrapreneurship skill and flow experience during the course positively impacting student intrapreneurship skill.

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Corresponding Author:

Khairuddin E. Tambunan

Department of Economics Education, Faculty of Economics, Universitas Negeri Medan

Universitas Negeri Medan

Willem Iskandar Pasar V Street, Medan Estate, North Sumatra, Indonesia

Email: pagaraji@unimed.ac.id

1. INTRODUCTION

Entrepreneurship education in higher education has become a strategic program in preparing students to be new entrepreneurs and professionals with an entrepreneurial mindset [1]–[5]. Various developed and developing countries in the world believe that entrepreneurship education in tertiary institutions can instil a sense of innovation, which is essential for students to face the world of business and the world of work [6]–[10]. However, the achievement of entrepreneurship learning is still not standardized. Studies related to learning outcomes in Entrepreneurship Education still generate lengthy discussions [11]. Some researchers require students to establish new businesses as learning outcomes, while other studies limit this to forming an entrepreneurial mindset in students. Støren [9] categorizes variations in entrepreneurship learning outcomes into four, namely: i) generating transformative experiences in creating an entrepreneurial mindset in students; ii) producing students who can develop new businesses/start-ups or impart skills for this purpose; ii) generate students' abilities and knowledge in any field to commercialize their intellectual property; and iv) generate additional insights given to business school students. Of the four

variations, Støren [9] prefer the third option to be applied to entrepreneurship education carried out in non-entrepreneurship undergraduate programs such as arts, science, engineering, education and business. In this case, commercializing intellectual assets still boils down to two things: producing new products that are sold through new start-ups or creating new knowledge that is implemented in existing businesses [7], [12]–[17].

Related to this context, the Faculty of Economics at Universitas Negeri Medan organizes entrepreneurship education in all business and economics study programs, specifically in the entrepreneurship study program. However, in the entrepreneurship and digital business study program, entrepreneurial content is taught with a large amount of credit and distributed in several courses. In this case, it cannot be denied that even though the formulation of learning outcomes is intended to establish new businesses, not all entrepreneurship education is truly capable of producing new entrepreneurs [3]. Several business schools that have set entrepreneurship learning outcomes to give birth to new entrepreneurs have not been able to guide most of their alums to set up new businesses, meaning that most of their alumni are still looking for work in existing companies or corporations [1], [2], [4], [5]. At the same time, various developed and developing countries in the world believe that entrepreneurship education in higher education functions to instil a sense of innovation in individuals [2], [3], [6]–[10]. Thus, besides targeting the realization of new entrepreneurs, entrepreneurship education must also target learning outcomes in individual innovation power manifested in entrepreneurial attitudes or spirit.

According to the ability to innovate within the individual, previous researchers have formulated the concept of intrapreneurship as an entrepreneurial spirit embedded within the individual [18]–[21]. In the previous study, Tambunan *et al.* [22] argue that the entrepreneurship education process aims to internalize the entrepreneurial spirit within students. This internalized entrepreneurial spirit is referred to as intrapreneurship [18], [22]. Intrapreneurship is believed to be an individual value capable of encouraging the rise of innovation, which is an essential antecedent of the success of a business or entrepreneur [7], [12], [23], [24]. Intrapreneurship in individuals is shown by having the skills of creative thinking, critical thinking, collaborative thinking, initiative, decision-making, and leadership [7], [25], [26]. Intrapreneurship matters in individuals has been empirically proven to be able to innovate existing businesses [7], [12], [23] and is also a necessary condition for the birth of an entrepreneurial attitude [12]. Therefore, researchers believe that intrapreneurship is a skill that is more critical and appropriate for the learning outcomes of entrepreneurship education in economics and business students. Intrapreneurship development helps prepare students to be competitive in working in existing companies, developing existing micro small medium enterprises (MSMEs), or building new start-ups. Instead of creating a new business, this research chooses intrapreneurship as a personal value that alums can use to support their desired career direction as business professionals or entrepreneurs.

However, developing student intrapreneurship is not an easy job. Students need to experience a complex learning process to construct intrapreneurship within themselves [7], [8], [27]. Intrapreneurship cultivation must involve cognitive, affective, and psychomotor experiences throughout learning [18], [28], [29]. Related to this, the Ministry of Education and Culture [30] recommends case methods and team-based learning to accommodate complex and deep learning experiences. The Ministry of Education and Culture [30] believes that the case method and team-based learning are beneficial in helping scholars develop their critical skills. These goals are, of course, in line with the dynamics and learning experiences needed in entrepreneurship education. Empirically, the Case method involved learners in complex and contextual experiences in their learning activities [31], [32]. Thus, it can be assumed that implementing the Case Method will contribute to producing meaningful entrepreneurial learning and foster intrapreneurship within students. Based on this view, this study aims to i) examine the effect of MSME cases on intrapreneurship of business students; ii) investigate the influence of MSME cases on flow experience in entrepreneurship education; and iii) investigate the effect of flow experience during entrepreneurship education on intrapreneurship skill.

This research investigates flow experience because Buzady [33] argues that the case method is effective in generating flow experience in business education programs. In terms of learning, flow experience can place students in full involvement throughout the learning process [34]–[36]. Case studies can make students learn from cases instead of learning with cases [33]. Solving cases makes students enter into a zone where they have to master the problem, identify its causes, formulate alternative solutions to problems and discuss to determine the best alternative to make it flow. The flow experience is, of course, necessary for producing meaningful learning experiences or deep learning experiences [33].

This research seeks to implement the case method and team-based learning in entrepreneurship education. The case studies method gained popularity when the Harvard Graduate School of Business used this method in lectures [37]. This method has become popular because of its high level of adaptation, which also contains problem-based learning and improves analytical skills [38], [39]. These analytical skills are stimulated by narrative material accompanied by questions and activities that encourage group discussion

and complex problem-solving [40]–[42]. In addition, case studies also facilitate the achievement of relatively high cognitive domains, namely analysis, evaluation and application [40], [41].

Furthermore, the effectiveness of the case method and team-based learning in this study was reviewed based on students' mastery of intrapreneurship and flow experience. The case used is the micro small medium enterprise (MSME) case. MSME cases are operationalized by placing students in problems related to business development that require them to solve their own business problems or other existing business (MSME). A constructive learning process takes place in the process of solving the problem. This learning approach stands on the theory of constructivism in learning [43]–[45]. Furthermore, the case method concept used in this study is the ill-structured case method. In practice, students are given cases to develop existing businesses and analyze their feasibility empirically, referring to Porter's five forces approach, politic, economy, sociocultural, technology, law and environment (PESTLE) and strength, weakness, opportunity, threat (SWOT). Case assignments will be implemented throughout the semester so that students will report their learning progress at each meeting and be evaluated by colleagues. This learning design is expected to be able to provide learning experiences that are complex, rich, dynamic, actual and contextual to build intrapreneurship in students.

2. METHOD

2.1. Research approach

Knoop [46] recommends implementing a "pragmatic problem-solving model" in the case method. This model is divided into five stages, namely: i) problem identification; ii) distinguishing the problem from its underlying causes and obvious symptoms; iii) creating alternative problem-solving strategies; iv) evaluate every available alternative and choose the best alternative and v) develop a plan to implement the selected alternative strategy. These stages are relevant to business development planning taught in entrepreneurship and digital business study programs. Thus, the phases of the case study in this study were adapted from Knoop [46].

Implementation of the case study is applied and analyzed with an experimental design. Experimental studies were chosen because they were seen as the most capable of demonstrating a causal relationship in behavioural research [47]. This is because experimental studies capture phenomena through actual behaviour demonstrated by students when experimental manipulation is tried out. The experimental design in this study is a field experiment with the treatment applied to actual learning in the field, namely courses in business development strategy courses [48], [49]. The subjects in this study consisted of two groups, namely the experimental group and the control group. The experimental group consisted of entrepreneurship and digital business study programs with the same subject. At the same time, the control group consisted of one class from the digital business study program with the same course. Data collection in this study was carried out at the end of the treatment (post-test) in both groups [49]. Post-test testing in the experimental and control groups was carried out to observe differences in behaviour between samples (between samples) [49], [50]. The post-test instrument consisted of intrapreneurship and flow experience variables. The intrapreneurship instrument was adapted from Støren [9], while the flow experience instrument was adapted from Csikszentmihalyi and Rathunde [35], and Wang and Scheepers [51].

2.2. Experimental procedure

The experimental procedure in this study has several stages, which are described as follows:

- Sample selection and matching. Sample selection and matching were done to ensure that the experimental and control groups had the same initial abilities. Classes with the same academic level are included in the sample, while outliers are removed to control that the subject has similar characteristics. This suitability indicator is reviewed from the average academic achievement of the previous semester.
- Orientation (narration) of learning: Explanation of cases that students must do during the course and discussion of basic concepts and strategies in the growth of entrepreneurial businesses and their implementation in business life;
- Group preparation: At this stage, students form study groups or business groups. Students independently arrange business groups according to their interests in certain businesses. Furthermore, students are given a series of tasks to help them solve cases and develop business growth ideas.
- Case solving: In this phase, students identify problems from existing businesses, review the literature on textbooks and journal articles (literature review), observe secondary data from similar companies and related business trends (mini-research), carry out an analysis of Porter's five forces, PESTLE, SWOT, and make papers recommending solutions to the cases. At each stage of solving a case, students are asked to present it in front of the class to get feedback from colleagues in other groups. Furthermore, students are also given the task of adjusting the format of the paper to be included in the student creativity program

- competition.
- Post Test: At the end of the course, experimental and control subjects are asked to fill out the intrapreneurship skills and flow experience instruments. The instrument was designed anonymously to maintain the honesty of the research subjects in giving their perceptions.

2.3. Data analysis

The collected data were analyzed in three stages. Firstly, descriptive statistical analysis was used to observe the level of intrapreneurship skills and flow experience of the research subjects. Secondly, the Mann-Whitney U Test was used to observe differences in student intrapreneurship skills and flow experience. We use a non-parametric test because the data collected does not meet the normal distribution [52]. Finally, partial least square (PLS) was used to analyze the effect of flow experience on student intrapreneurship skills [52], [53].

3. RESULTS AND DISCUSSION

3.1. Demography of sample and descriptive statistics

The subject of this study contains two classes of experimental group and one class of control group. According to Cresswell [50] experimental data was collected from experimental unit which could be of individuals, groups, or entire organizations. The ideal experiment consists of at least one experimental group and one control group [50]. However, if the researcher wants to improve external validity, the researcher can involve multiple experiments for different participants from the population [50]. Therefore, we assumed that two experimental groups and one control group, consisting of 49 experimental participants and 23 control group participants, already fulfilled the sample size requirement of the experimental study and a minimum number of participants for the Mann-Whitney U test [50], [52]. The experimental group consists of entrepreneurship and digital business study program, while the control group is represented by one class of digital business study programs. All subjects are engaged in the “strategy of business development” course that was used to implement the MSME case method. According to Table 1, both experimental and control have relatively equal distribution samples according to gender and study program. Furthermore, the result of the t-test between gender and study program showed that there are no differences among the subject group. It indicates that there are no gender biases or knowledge background biases. Furthermore, compared to the control group, the experimental group had a higher score of flow experience and intrapreneurship. However, we cannot conclude that the MSME case method effectively delivers a better flow experience nor improves intrapreneurship skills before testing means differences.

Table 1. Demography of sample and descriptive statistics

No.	Criteria	n	%	Avg Score		t-test	
				FE	Int	FE	Int
Experimental group							
1.	Gender						
	Male	23	49.25%	4.29	4.25	0.309	0.691
	Female	26	50.75%	4.08	3.98		
2.	Study program						
	Entrepreneurship	24	48.97%	4.07	3.95	0.328	0.103
	Digital business	25	51.03%	4.29	4.26		
	Total	49	100.00%	4.18	4.11		
Control group							
1.	Gender						
	Male	12	52.17%	4.29	3.33		
	Female	11	47.83%	3.55	3.60		
	Total	23	100.00%	3.93	3.46		

3.2. Experimental result

The effectiveness of the MSME case method was investigated using experimental design. The result was analyzed using Mann-Withney U Test because the data did not fulfil the normality assumption. Mann-Whitney U Test was applied both to intrapreneurship and flow experience scores. According to the result, which is presented in Table 2, the MSME case method is effective in improving student intrapreneurship skills with Asymptotic Sig 0.005, which is under the critical value (< 0.05). However, the MSME case method found that it did not significantly affect flow experience among students with Asymptotic Sig equal to 0.133 (> 0.005). Therefore, the first research objective is supported, while the second research objective is not supported.

Table 2. Result of mann-whitney u test

No.	Mann-whitney u test summary	Intrapreneurship	Flow experience
1.	Total n	72	72
2.	Mann-whitney u	325.000	439.500
3.	Wilcoxon w	601.000	715.500
4.	Test statistic	325.000	439.500
5.	Standard error	82.009	82.460
6.	Standardized test statistic	-2.908	-1.504
7.	Asymptotic sig.(2-sided test)	0.004	0.133

3.3. PLS result

In this step, we used partial-least square structural equation modelling (PLS-SEM) to analyze the ascotiation of flow experience and intrapreneurship. Although the model is not a structural model, the variables' characteristics, which are latent variables, are required to use the PLS-SEM technique [53]. Therefore, we applied PLS-SEM in this phase. Before testing the hypothesis, this study first analyzes the outer model to fulfil construct validity. The result of construct validity is presented in Table 3. The result shows that after omitting the invalid item (FE8 and I1), all items fulfil convergent validity criteria with a loading factor higher than 0.7 [53]. Furthermore, according to Cronbach's Alpha and Composite Reliability value, flow experience (CA: 0.928; CR: 0.942) and intrapreneurship (CA: 0.955; CR: 0.964) constructs fulfilled the reliability test. Finally, the heterotrait-monotrait ratio of correlations (HTMT) value (0.385) indicates that flow experience and intrapreneurship were the different constructs then met the discriminant validity criterion (< 0.8) [53].

Table 3. Construct validity

Variable	Loading factor	AVE	CA	CR	HTMT
Flow experience					
FE1	0.804				
FE2	0.829				
FE3	0.891				
FE4	0.838	0.698	0.928	0.942	
FE5	0.867				
FE6	0.851				
FE7	0.763				0.385
Intrapreneurship					
I2	0.856				
I3	0.918				
I4	0.949				
I5	0.929	0.815	0.955	0.964	
I6	0.879				
I7	0.883				

Furthermore, the result of PLS-SEM is observable in Table 4. The result was concluded based on P-Value with the significance level in α : 5% [54]. The result shows that flow experience positively affects intrapreneurship with a path coefficient equal to 0.379 and a p-value equal to 0.000 (< 0.05 , α : 5%). It indicates that the more students experience flow, the more they can develop their intrapreneurship skills. This result supports the third research objective.

Table 4. PLS result

Path	Coef.	T-stat	P-Value	Result
Flow experience \rightarrow intrapreneurship	0.379	4.058	0.000	Supported

3.4. Discussion

This study found that the MSME case method significantly affects student intrapreneurship skills. That finding has enriched Farrukh *et al.* [7] and Kuratko *et al.* [8] who argue that intrapreneurship should be trained by complex learning experience which engages students series of activity tightly similar to actual business activities. It happens because the case study facilitates students with contextual experience and real business cases so they can experience real business or entrepreneur experience during learning [31], [32].

By implementing the MSME case method, students are expected to propose a synthesis or business development alternatives based on practical problems, theoretical and research-based literature, market expectation and appropriate business approach in their business team. In that complex task, students learn to develop not only their cognitive component but also their behaviour and affective components, as Rahman *et al.* [18] mentioned. In general, the case method is suitable for teaching entrepreneurship education, specifically in terms of intrapreneurship skills. These findings also support The Ministry of Education and Culture's [30] recommendation to use the case method to develop critical skills among higher education graduates.

However, this study found that case methods are ineffective in delivering student flow experience during entrepreneurship education. This finding contrasts with Buzady's [33] and Marer *et al.* [34] view, which argues that a case study is a participant-centred teaching that helps the students get in the flow during learning. When student experience flows, it indicates the student is fully engaged in learning [33]. These unexpected findings happen probably due to a lack of considering student relative aspects, developing positive psychological conditions, and research into learning dynamics [33]. However, further research was needed to identify the exact problem of flow experience during learning for business students, what kind of learning style and characteristics each student has, how is the student's psychological state and how the appropriate learning dynamics that students expected. After a series of research, we can develop a more suitable case design to improve student flow experience during entrepreneurship education.

Finally, this result found that flow experience during entrepreneurship education positively affects student intrapreneurship skills. This finding is in line with Buzady's [33] and Marer *et al.* [34] view that flow can help the student to internalize new insight and integrate it into existing knowledge, then generate new concepts and actual skills. Students who flow in their group tasks, dialogues and learning make every student realize that learning is primarily their responsibility instead of the teacher's [33]. Therefore, students who experience flow would intensely engage during the learning process, making them practice deep learning instead of surface learning. Furthermore, that complex learning experience in solving a series of cases would help students develop innovative thinking as an individual value, which is the critical antecedent of intrapreneurship skill [7], [12], [23], [24]. Students flowing in their MSME case-solving also would be demanded to think creatively, critically and collaboratively to generate ideas and make decisions [7] which is a crucial requirement in intrapreneurship skill [12]. Therefore, this finding adds insight into the importance of flow experience during entrepreneurship education, specifically in the context of a method that demands high-load tasks during the learning process.

4. CONCLUSION

This study aims to i) examine the effect of MSME cases on intrapreneurship business students, ii) investigate the influence of MSME cases on flow experience in entrepreneurship education and (iii) investigate the effect of flow experience during entrepreneurship education on intrapreneurship skills. The result shows that MSME cases were influential in developing student intrapreneurship skills. In contrast, we have not found evidence that MSME cases could improve student flow experience during entrepreneurship education. However, the results prove that flow experience positively affects student intrapreneurship skills. These findings indicate that the case-based method is a valuable strategy to apply in business development courses as part of entrepreneurship education. Therefore, entrepreneurship teachers should consider implementing the case method in their teaching agenda. In designing the cases, entrepreneurship teachers should identify appropriate cases for their specific targeted learning outcomes to maintain the alignment between the learning process and outcomes. The constructive knowledge gained during case-solving should be relevant to the learning outcome expected by the entrepreneurship program.

Furthermore, for better application, to improve student flow experience during learning, university teachers need to further research about the participant learning style, characteristics, psychological state and their expected learning program. In this case, classroom action research would benefit further research agenda. Entrepreneurship teachers could refine and improve the existing case method based on their own empirical data from their own classrooms. Through continuous and trustworthy action research, entrepreneurship teachers can develop more suitable case designs that can improve student flow experience. The flow experience still should be considered as this research found that it is essential to enhance intrapreneurship among students. Therefore, entrepreneurship teachers should be given attention to improving student flow experience by enhancing their teaching design.

This study has limitations in the teaching design in improving flow experiences. Therefore we suggest that further research should consider doing action research further to refine the design continuously. Furthermore, as characteristic of experimental research, this study probably lacks external validity. Further research that replicates or modifies the MSME case and then implements it in entrepreneurship education

in the non-business study program could generate the external validity or generalizability of the MSME case method.

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BIOGRAPHIES OF AUTHORS






Khairuddin E. Tambunan     is an assistant professor at the Faculty of Economics, Universitas Negeri Medan. He earned a Doctorate in Economics from the State University of Malang (UM), Malang, Indonesia and a Masters from the Faculty of Economics, Syiah Kuala University (Unsyiah), Banda Aceh, Indonesia. He currently serves as Head of the Economic Education Study Program, Faculty of Economics, Universitas Negeri Medan. His interest is in education, economics, economic education, learning innovation and entrepreneurship. His research focuses on economics education, entrepreneurship education, economic development, social and social studies, multimedia, and the development of learning tools. He can be contacted at email: pagaraji@unimed.ac.id.






Ali Fikri Hasibuan     is a student at the Doctoral program of Educational Technology at Universitas Negeri Medan. Previously, He achieved his Master's in Accounting at the University of North Sumatra. He joined the Faculty of Economics at Universitas Negeri Medan in 2009, with a home base in the Department of Entrepreneurship. His research studies are in entrepreneurship education, accounting education and tracer study. His research also focuses on developing entrepreneurial learning models, students' entrepreneurial interests and developing learning tools. He can be contacted at email: hasibuanalifikri@gmail.com






Rangga Restu Prayogo    is an assistant professor in Department of Entrepreneurship, Faculty of Economics, Universitas Negeri Medan. He received his master's degree in Business Administration from Diponegoro University and bachelor's degree in business administration at the Universitas Sumatera Utara. Rangga Restu Prayogo has conducted various research on entrepreneurship and tourism marketing in various reputable Scopus indexed publishers and written books on tourism marketing. He can be contacted at email: rangga-restu-prayogo@gmail.com






Faisal Rahman Dongoran    is an associate professor at the Department of Accounting Education, Faculty of Teacher Training and Educational Science, Universitas Muhammadiyah Sumatera Utara, Indonesia. He is an expert in professional teacher training and was head of the teacher professional training program from 2018 to 2022 at the University. His research area is teacher education, educational management and teaching and learning in higher education. He can be contacted at email: faisalrahman@umsu.ac.id.



Dedy Husrizal Syah    is a lecturer at the Department of Digital Business, Faculty of Economics, Universitas Negeri Medan, Indonesia. Currently, He is a Ph.D., candidate at the Doctoral School of Accounting, Universitas Sumatera Utara, Indonesia. His research interest includes accounting information systems and business information systems. He can be contacted at email: desra@unimed.ac.id.



Gaffar Hafiz Sagala    is a member of the Department of Digital Business, Faculty of Economics, Universitas Negeri Medan, Indonesia. Currently, he is a Ph.D. student in Business and Informatics at the Corvinus University of Budapest, Hungary. His research interest includes information systems, human-computer interaction, enterprises digital transformation, behavioral accounting, accounting education and business ethics. He can be contacted at email: hafizsagala@unimed.ac.id.