Entrepreneurship Learning Online: Effective or Not?

Ali Fikri Hasibuan[1*], Ramdhansyah[2], Tri Andri Hutapea[3]

{hasibuanalifikri@gmail.com[1], ramdhan@unimed.ac.id[2], triandrihutapea@unimed.ac.id[3]}

Universitas Negeri Medan, Medan, Indonesia

Abstract: The transition from the pandemic to the post-pandemic period does not necessarily change the learning process that has been used to it before. Therefore, the purpose of this study is to evaluate online entrepreneurship learning from the point of view of the teaching team. Research that uses a logical model approach in evaluating the implementation of online entrepreneurship learning. In its implementation, this logic model has four main components, namely input, activity, output and outcome. The data collected were analyzed quantitatively and qualitatively. The results showed that entrepreneurship teachers had low acceptance of online learning. There are several contributing factors, including the lack of social presence and a sense of teaching during the learning process. The absence of standard entrepreneurship curriculum standards in institutions is one of the obstacles faced. The findings of this study could be a solution for the entrepreneurial learning process in the post-pandemic era. This study recommended that policy makers in an educational institution needed to consider social presence and a sense of teaching to be things that need to be developed. In addition, entrepreneurship learning must also be able to touch the sense of empathy from humans themselves as an entry point for the formation of a validated business plan.

Keywords: entrepreneurship learning, online, social presence, empathy

1 Introduction

There is a strong interest in designing educational programs that support entrepreneurship [1], given the important role entrepreneurs play in driving economic growth and the significant potential for entrepreneurial development [2,3]). Universities, which are often seen as business centers [4], are increasingly being used as incubators for entrepreneurship, recognizing the relevance of the university as a hub of activity and a strategy for commercializing knowledge, leading to an increase in entrepreneurial activity emanating from academia [21].

Universitas Negeri Medan (UNIMED) has implemented entrepreneurship courses in all of its undergraduate and D3 programs, with the goal of instilling an entrepreneurial spirit in all of its students regardless of their major. This is intended to ensure that when students graduate, they are able to create job opportunities in their respective fields of knowledge. This aligns with the belief of Iscaro, Castaldi, and Sepe that the university system can effectively promote entrepreneurship, especially in a competitive environment [5]. However, the current entrepreneurship course at UNIMED lacks a standardized curriculum that meets the needs of the university [6].

It has been suggested by [6[that providing students with entrepreneurship training and access to a strong network can help turn a business idea into a successful start-up [7].

Matricano   also states that the use of a laboratory as a learning environment for entrepreneurship can improve individual competencies and help students develop their own businesses [8]. The entrepreneurship laboratory can serve as a hub for business networks, entrepreneurship research centers, business partners, and incubators, creating a supportive ecosystem for entrepreneurship [9]. Additionally, Castaldi dan Sepe describe that the entrepreneurship laboratory can inspire students and help them transform their ideas into market-ready products [10].

Based on the phenomenon that occurs, it is considered necessary to have a learning strategy that can encourage the effectiveness of entrepreneurship learning.[11,12] Learning during the COVID-19 pandemic is ideally carried out in a blended learning method because learning that relies on social interaction cannot be completely replaced by technology [25]. In line with constructivism and social cognitive theory, the essence of education is based on social interaction, social presence and social environment. In addition, [26] indicate that there are limitations to the quality of interaction in digital platform learning. These limitations will certainly have an impact on the quality of the learning experience which in turn will affect the achievement of learning objectives.

2 Research Method
2.1 Research Approach

This research was designed as development research. The specific development in this study was an evaluation instrument that embodies the design of group work evaluation[13-15]. To test the content validity of the developed textbooks, this study invited two experts with the composition of one learning and learning expert and one educational technology expert. Furthermore, the students who were the subjects of this research in testing the effectiveness of the teaching materials developed were fourth semester students who were taking courses in lesson planning and teaching and learning strategies [16-18]. The development of teaching materials would be carried out on the topic of Learning and Learning. This material would be the main reference and support for the Lesson Planning and Teaching and Learning Strategies courses. Likewise, this book was designed not rigidly to achieve certain learning outcomes so that it could be used for a wider audience such as in-service teachers, education practitioners, education observers, and education researchers.[19,20]

2.2 Research Procedure

The research procedure for the development of evaluation instruments in this study followed the development procedures of Borg & Gall and Plomp & Nieveen, but was only implemented up to the validation and effectiveness testing stages due to time constraints [22-24]. The final prototype that was developed and subjected to validation and testing was then implemented and evaluated to assess its effectiveness as a reliable teaching tool for students. The activities carried out during the development process included:
   a. Needs Analysis: The activity began with an analysis of the situation and problems that occur in the lesson planning course and teaching and learning strategies. Needs analysis was carried out by FGD with experts and mastery of competencies possessed by prospective teacher students. Situation analysis on students was done by survey by

reviewing the readiness of prospective teacher students in integrating IT in learning. The results of the situation analysis were then analyzed theoretically based on the latest theory and research [27].

b. Development: The results of the Needs Analysis were then used as the basis for developing the content and structure of the textbook. Needs analysis also determined the style of delivery of material in textbooks. The developed teaching materials referred to the principle of relevance. The relevance in this context was the suitability of the problem with the theory used to build 21st century pedagogic abilities. The teaching materials were designed to have a strong rationale. The rationale was built with a literature review of the major literature, fundamentals, and current research findings. Furthermore, the literature review would be connected in the practice of developing instructional design and developing learning strategies. Drafts of teaching materials that have been built at this stage were categorized as prototype_1 [28].

c. Product Testing: Prototype 1 that has been produced was then tested for validity by two experts who had been assigned. Based on the results of the validation test, then improvements were made to produce prototype 2 [29].

d. Effectiveness Testing: After obtaining this prototype 2, then the effectiveness testing was carried out on students. Field trial activities were divided into two aspects, namely 1) review of student readability related to teaching materials that have been built; and 2) reviewing the level of student satisfaction with the teaching materials used. The test results would be an indicator of the effectiveness of teaching materials. The results of the effectiveness test were input for further improvement [30].

Table 1. Research Procedures

Goals	Research Activities	Analysis Techniques	Result
Problem Identification and Need Analysis	●Literature Study ●FGD Need Analysis ●Survey	● Qualitative ● Quantitative	Theoretical and Practical Justification
Conceptual Framework Development	FGD Conceptual Framework	Focus Group Discussion (FGD)/ Qualitative	Conceptual Framework
Teaching Materials Development	FGD Teaching Materials	Focus Group Discussion (FGD)	Draft of Teaching Materials (*Prototype 1*)
Content Validation	Content Validation of Teaching Materials Draft by Experts	*Expert Judgement*/ Qualitative	
Revision of Teaching Materials	FGD Revision of Teaching Materials	Focus Group Discussion (FGD) /Qualitative	
Effectiveness Testing of Teaching Materials at Accounting Education Study Program	FGD and *Brainstorming*	Limited Testing to Students/ Qualitative	Draft of Teaching Materials (*Prototype 2*)
Second Revision of Teaching Materials	FGD Revision of Teaching Materials *Prototype 1*	Focus Group Discussion (FGD) /Qualitative	

2.3 Validation

Validation was carried out by two experts consisting of teaching and learning experts and educational technology experts. Validation was done with instruments that measured aspects of content, readability, and presentation. The assessment data obtained from the validators were analyzed both quantitatively and qualitatively which were then used to revise the teaching materials. In quantitative measurement, the scale used to measure validation was the Likert scale according to the scale indicator in table 4. While qualitative data was taken from FGD with experts in discussing the results of the review that had been carried out.

Tabel 2. Indikator Skala Kelayakan

Scale	Description
5	Very good/ Very suitable/ Very eligible/ Very clear
4	Good/ Suitable/ Eligible/ Clear
3	Less good/ Less suitable/ Less eligible/ Less clear
2	Bad/ Unsuitable/ Ineligible/ Unclear
1	Very bad/ Very unsuitable/ Very ineligible/ Very unclear

To review the weight of the validator's responses by calculating the average score with the following formula: [31]

Total Score Average = total score / numbers of reviewers

Then the formula for the percentage of results can be calculated by the following formula.

$$Result = \frac{Total\ Score\ Average}{Maximum\ Score} \times 100\%$$

Eligibility categories were based on the following criteria:

Table 3. Eligibility Categories of Products/ Teaching Materials/ Media

No	Score (%)	Eligibility Categories
1	< 21 %	Veri ineligible
2	21 – 40 %	Ineligible
3	41 – 60 %	Eligible enough
4	61 – 80 %	Eligible
5	81 – 100 %	Very Eligible

2.4 Effectiveness Testing

The effectiveness testing was carried out by students when prototype 2 teaching materials. It was tested on a limited basis to accounting education students. This practicality test evaluated the ease of use (learnability), efficiency, and effectiveness of the draft learning materials in terms of time. The data obtained was then converted to specific criteria to determine the practicality of using the teaching materials. The practicality of the product in the

questionnaire was analyzed using the following formula [32]:
Note:

Vp = Practicality Validation
TSEp = Total Score of Empirical Practicality
S-max = Expected Maximum Score

After knowing the value of practicality, the figure is then consulted with the following categories.

Tabel 4. Practical Criteria for Academic Draft

%	Category	Description
75,01% - 100%	Very Practical	Could be used without revision
50,01% - 75,00%	Practical	Could be used with minor revision
25,01% - 50,00%	Less Practical	Suggested not to use
00,00% - 25,00%	Impractical	Could not be used

3 Result and Discussion
3.1 Research Result

In the result of this study, the data was presented based on the pattern of the 4-D model development, namely (1) the define stage, (2) the design stage, (3) the development stage, and (4) disseminate stage. However, in the disseminate stage, it was carried out in a limited way, namely by providing the product developed only to a few classes of entrepreneurship courses that were sampled in this study. Furthermore, after the results of the finished product, a eligibility test was carried out as a form of development research.

3.1.1 Define Stage

The define stage aimed to collect various information related to the product to be developed and identify problems in learning that underlie the importance of developing learning strategies for entrepreneurship courses at Universitas Negeri Medan. There are five stages in for this part, they are:
a. Preliminary Analysis
   At this stage, information was collected about learning activities in the field through classroom observation activities by lecturers in entrepreneurship courses. From the results of the initial analysis, it could be concluded that the entrepreneurship course has the characteristics of being a subject that has a greater practical content than theoretical content. Learning outcomes emphasized the formation of a validated business plan.
b. Student Analysis
   Characteristics of students based on observations were described as follows, students who got online lectures needed a discussion approach in finding ideas and business ideas. Problems raised when learning online, so there were limitations to direct discussions in two directions. So, the use of learning strategies using a Massive Open

Online Courses (MOOCs) was considered necessary. Technically, the learning strategy designed using the Mural application is accessible to everyone and allows for two-way interaction in constructing an idea about a business plan.

c. Task Analysis

The entrepreneurial learning strategy was developed based on the Curriculum Based on the Independent Learning Curriculum. The assigned tasks to students were 6 tasks

d. Concept Analysis

Concept analysis was an activity to identify important concepts that must be mastered by students through learning as outlined in the form of concept maps. After the material in the module was determined, a concrete concept was made regarding the learning later. This concept analysis was to determine a list of student activities during the learning process. In this case, a concept map had been prepared and would be used as a basis for setting learning objectives.

e. Formulating Objectives

Learning objectives were prepared based on indicators that have been derived and adapted to the material and basic competencies in terms of skills. The learning objectives and development of entrepreneurship learning strategies are as follows:

Table 5. Module Learning Objectives

Learning Activities	Learning Objectives
1	Building entrepreneurial value in everyone (A4)
2	Get used to the attitude of independence in developing entrepreneurial ideas that were in accordance with the characteristics of the study in the field of science (A5)
3	Build a business prototype that was validated and in accordance with the characteristics of the field of science (C6)
4	Using an open, critical, innovative and confident attitude in developing entrepreneurial learning (P4)
5	Design, implement, analyze and follow up the evaluation of the process and results of a business prototype design that is validated and in accordance with the field of scientific study (P4)

3.1.2 Design Stage

The purpose of this stage was the learning strategy that packaged in the form of a module so that it was more effective and efficient. Module development also paid attention to the data obtained at the definition stage. In another way, the definition stage was obtained to develop module with simple language, design and color images to make it attractive. The stages that must be carried out at this design stage were as follows.

a. Reference Preparation

In order to create a learning module that is effective and able to fulfill its intended purpose, it is necessary to consider several key elements in its design and development, including: format, organization, attractiveness, font size, blank space, and consistency. This stage also included the design of content arrangement like in

title, table of content, content of each chapter and references. The design was not only about the structure but also appearance to attract the module user.

b. Media Selection

The media in this study is about the application that used to support this entrepreneurship learning strategy. This study focused on Mural.co which had been tested as an application that supports the learning process with the need for collaboration between students in online conditions. Murals that could be accessed by everyone for free and can be connected in one canvas facilitate the discussion process between students when expressing business ideas.
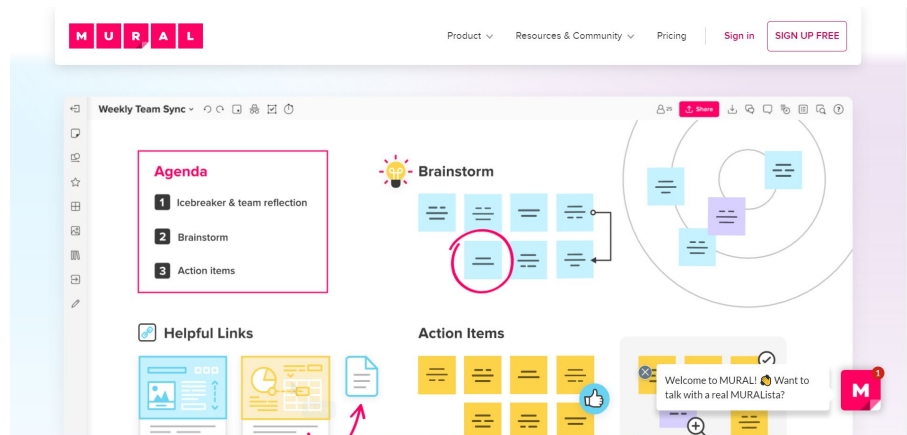

Fig. 1. Media System

To maximize the entrepreneurship learning strategy, a second application is needed, namely Trello as a medium for lecturers and students to report the results of their discussions and monitor the results of business projects that are being built.
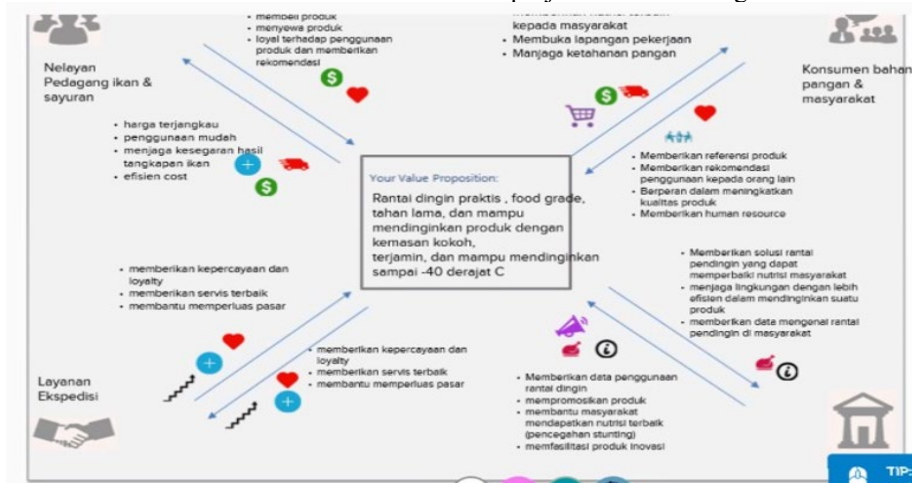

Fig. 2. Business project

3.1.3 Development Stage

This development stage is a stage that aimed to produce entrepreneurial learning strategies after going through a process of validation, revision, and field trials. Validation aimed to solicit expert development. Based on expert validation, data on product deficiencies or weaknesses were obtained. The deficiency or weakness of the product was then corrected according to the validator's suggestions. Next, the researcher asked the expert to assess or evaluate the module draft that had been made by filling out the module assessment sheet that had been made previously. In development stage. there were two stages of validation, namely expert validation and development testing that tested to students as respondents from Universitas Negeri Medan, specifically in the German Language Study Program, PKN Study Program and Accounting Education Study Program from to get input from potential users directly.

A. Expert Validation

Expert validation was divided into two categories, namely validation of learning material experts and learning media expert. The validation and assessment of the learning material expert were carried out by two people. Furthermore, the validation and assessment of learning media experts were carried out by two people, The validation and assessment of the learning material and media experts aimed to obtain information, criticism, suggestions about the draft learning strategy module that has been made. The module that had been validated was corrected according to each validator, then submitted again to determine the eligibility of the module.

1) Result Data of Learning Material Expert

After the design results were complete, the initial submission of the assessment by the material had several product revisions. After the revision has done, the learning material experts filled out a questionnaire as a basis for the eligibility of the product that has been made. The assessment carried out by material experts includes four aspects, namely the eligibility of content, language, presentation, and graphics. The results of the eligibility test by material experts can be seen in the following table:

Table 7. Result Data of Learning Material Experts

No	Learning Material Experts	Aspects			
		Content Eligibility	Language	Design	Layout
1	Expert 1	91%	90 %	88%	89%
2	Expert 2	90%	89%	90%	90%
	Average	90,5%	89,5%	89%	89,5%

Table 8. Overall Result Data of Learning Material Experts

No	Learning Material Experts	Percentage	Description
1	Expert 1	90%	Very Eligible
2	Expert 2	89%	Very Eligible
	Average	89 %	Very Eligible

Based on the data from the assessment results from the questionnaire given to the

material experts, the module product was declared very eligible to be used in learning.

2) Result Data of Learning Media Expert

After the design was completed and added to being declared as media based on material experts, the submission of an eligibility assessment was continued by media experts that got several product revisions. After the revision was done, the media expert filled out a questionnaire as a basis for the eligibility of the product that has been made. Media experts assessed aspects of design, easiness, consistency, format, usability, layout. Data on the results of the assessment provided by media experts can be seen in the following table:

Table 9. Result Data of Learning Media Experts

No	Experts	Aspects					
		Design	Easiness	Consistency	Format	Usability	Layout
1	Expert 1	90%	91%	89%	90%	89%	88%
2	Expert 2	90%	90%	90%	89%	89%	88%
Average		90%	90,5%	89,5%	89,5%	89%	88%

Table 10. Overall Data Result of Learning Media Expert

No	Learning Media Experts	Percentage	Description
1	Expert 1	89.5%	Very Eligible
2	Expert 2	89.33%	Very Eligible
Average		89,40%	Very Eligible

According to the results of the assessment questionnaire completed by material experts, the module was found to be very suitable for use in learning. Based on the assessment of the module by material and media experts, it can be concluded that the module is very suitable for use based on the material. Overall, the quality of the module is suitable for use in the learning process.

B. Development Testing

After being declared eligible to use by the experts, then the learning strategy module was tested to obtain students response data. The response of students would be used as reference material for improvement/revision and data supporting eligibility. The trial subjects were Class A students in the German Language Study Program, PKN Study Program and the Accounting Education Study Program randomly in batch 2020, the even semester of 2021-2022. Students as respondents provided assessment responses based on aspects of Material, Media, and Module Explanation

Table 11. Overall Result Data of Students Assessment

No	Aspects	Average Score	Percentage	Description
1	Material	25,25	90,17%	Very Eligible
2	Language	14,57	91,09%	Very Eligible
3	Design	29,97	85,62%	Very Eligible
4	Usability	18,10	90,50%	Very Eligible

Based on the results of the student response questionnaire to this module, it could be concluded that the quality of the module technically got a very eligible category, thus this entrepreneurship learning strategy module is eligible to be used as a learning medium.

3.2 Research Result Discussion

The discussion in this study was intended to answer the problems raised in the problem formulation. The followings were the discussion in accordance with the results obtained during the study. The results of this development research were two kinds, the first was the production of an entrepreneurship learning strategy module and the second result is that the eligibility level of the entrepreneurship learning strategy module was known.

3.2.1 Entrepreneurship Learning Strategy Module in UNIMED

The entrepreneurship learning strategy module was prepared and presented in printed form. Its contents included a title page, introduction, table of contents, list of diagrams/tables, course descriptions, and instructions for using the module. The main body of the module included activity titles, descriptions of learning materials, assignments/exercises, summaries, and bibliography. The module was divided into 3 main chapters with several discussions within each chapter. The start page of each learning subject listed the learning topics covered. Each module included a description of the material to serve as a guide for lecturers and students. The module also included complete instructions and exercises for students to prepare for and complete at the appropriate stage. The assessment of learning outcomes was based on the results of assignments/exercises, which were collected in a report format.

3.2.2 Eligibility Level of the Entrepreneurship Learning Strategy Module in UNIMED.

a. Eligibility Level from Learning Material Expert
   The results of the eligibility test by learning material experts were reviewed from four aspects, namely aspects of the content eligibility, language, design, and layout. Modules viewed from the aspect of content eligibility obtained 90.5% included in the very eligible category. In the linguistic aspect, the percentage of 89.5% included in the very eligible category. In the aspect of design, the percentage of 89% included in the very eligible category. In the layout aspect, the percentage is 89.50%. Overall the percentage of the eligible test by material experts obtained a percentage of 89% that included in the very eligible category.

b. The results of the eligibility test by media experts were reviewed from six aspects, namely aspects of design, easiness, consistency, format, usability, and layout. The module viewed from the aspect of the design display obtained a percentage of 90% included in the very eligible category. In the aspect of easiness obtained the percentage of 90.5% included the very eligible category. In the aspect of consistency, the percentage of 89.5% included in the very eligible category. In the aspect of

format, the percentage of 89.5% included in the very eligible category and in the aspect of usability, the percentage of 89% included in the very eligible category. In the Layout aspect, the percentage of 88% that included in the very eligible category.

Overall, the percentage of the total eligibility test by media experts obtained was 89.40% which was included in the very eligible category. The results of the eligibility test by respondents in terms of four aspects, namely, module material, language, layout, and usability. The module viewed from the aspect of material obtained a percentage of 90.17% in the very eligible category. In the linguistic aspect, the percentage of 91.09% included in the very eligible category. In the layout aspect, the percentage of 85.62% included in the very eligible category. Meanwhile, in the module usability aspect, 90.50% included in the very eligible category. Thus, it could be conclude that the module that has been produced fulfilled the requirements as an entrepreneurship learning strategy module. So, it could be interpreted that the module is suitable and eligible for students in entrepreneurship courses at Universitas Negeri Medan

4 Conclusion

Based on the research results and discussion, the following conclusions could be drawn:
a. The product of the entrepreneurship learning strategy module at UNIMED was developed using a 4-D models development model, namely (1) Definition, (2) Design, (3) Development (Develop), (4) Disseminate with has 7 themes of learning activities: (1) design thinking, (2) business model design, (3) market research, (4) problem validation, (5) solution validation, (6) business model canvas details, (7) pitching
b. The eligibility of the product in the form of an entrepreneurship learning strategy module at UNIMED that was developed has been declared eligible for use in learning

5 Suggestion

This study could not be separated from the limitations of the researcher, so the following suggestions were prepared:
a. The entrepreneurship learning design contained in this learning strategy module could be a recommendation and raw model for entrepreneurship learning at UNIMED
b. The establishment of an umbrella for entrepreneurship courses in order to set the same standards for each study program.

References

[1] Audretsch, D., (2014). From the entrepreneurial university to the university for the en-trepreneurial society. J. Technol. Transfer. 39 (3), 313–321
[2] Bezzina, F. (2010). Characteristics of the Maltese Entrepreneur. International Journal of Arts and Sience, (3(7), 292-312).

[3]   Covin, J.G., Green, K.M., Slevin, D.P., (2006). Strategic process effects on the entrepreneurial orientation–sales growth rate relationship. Enterpren. Theor. Pract. 30, 57–81. https://doi.org/10.1111/j.1540-6520.2006.00110.x.

[4]   Etzkowitz, H., Webster, A., Gebhardt, C., Terra, B.R.C. (2000). The future of the universityand the university of the future: evolution of ivory tower to entrepreneurial para-digm. Res. Policy 29 (2), 313–330

[5]   Formaida. (2018). PengaruhPercaya Diri dan Tekad yang Kuat terhadap Berwirausaha. Jurnal Administrasi Publik (Public Administration Journal), 8(2) Desember 2018.

[6]   Galuh Oktavia DS. dan Eny Trimeiningrum, (2018). Pengaruh Percaya Diri Dan Keberanian Mengambil Risiko Terhadap Keberhasilan Usaha Pada Umkm Makanan Ringan Di Kota Semarang. JEMAP : Jurnal Ekonomi, Manajemen, Akuntansi dan Perpajakan.

[7]   Guerrero, M., Urbano, D., Fayolle, A. (2016). Entrepreneurial activity and regional com-petitiveness: evidence from European entrepreneurial universities. J. Technol.Transfer. 41, 105–131

[8]   Jumaedi, H. (2001). Terhadap Keberhasilan Usaha (Studi Kasus pada Pengusaha Kecil di Pekalongan), 13–19.

[9]   Lindenfield, G. (1994). Mendidik anak agar percaya diri. Jakarta : Arcan

[10]   Lumpkin, G.T., Dess, G.G., (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. Acad. Manag. Rev. 21, 135–172. https://doi.org/10.2307/ 258632.

[11]   Mardiyatmo, (2004). Kewirausahaan SMK Kelas 1. Jakarta: Yudhistira.

[12]   Miller, D.,(1983). The correlates of entrepreneurship in three types of firms. Manag. Sci. 29, 770–791.

[13]   Moreno-Moya, M., Munuera-Aleman, J.-L., (2016). The differential effect of development speed and launching speed on new product performance: an analysis in SMEs. J. Small Bus. Manag. 54, 750–770. https://doi.org/10.1111/jsbm.12170.

[14]   Nurmi, J. E. (1994). The development of future ori-entation in life-span context. University Of Helsinki

[15]   Seginer, R., & Vermulst, A. D. (2002). Family envi-ronment, educational aspirations, and academic achievement in two cultural settings. Journal of Cross-Cultural Psychology, 33 (6), 540-558.

[16]   Siegel, D., Wright, M., Lockett, A. (2007). The rise of entrepreneurial activity at uni-versities: organizational and societal implications. Ind. Corp. Chang. 16 (4), 489–504.

[17]   Siegel, D., Wright, M. (2015). Academic entrepreneurship: time for a re-think? Br. J.Manag. 26 (4), 582–595

[18]   Siska, Sudardjo & Purnamaningsih E.H. (2003). Kepercayaan Diri dan Kecemasan Komunikasi Interpersonal pada Mahasiswa. Jurnal Psikologi, Tahun XXX No 2,

[19]   Suryana, (2013). Kewirausahaan-Kiat Dan Proses Menuju Sukses. Jakarta: Salemba Empat.

[20]   Trommsdoroff, G., & Lamm, H. (2005). An analysis of future orientation and some of its social de-terminants. International Journal of Psychology, 5 (2), 343-361.

[21]   Wright, M., Clarysse, B., Mustar, P., Lockett, A., (2007). Academic Entrepreneurship inEurope. Edward Elgar Publishing, Cheltenham.

[22]   Project Tomorrow. (2016). From print to pixel: The role of videos, games, animations and simulations within K–12 education. Speak Up 2015 national findings. Irving, CA: Project Tomorrow.

[23]   Roehl, A., Reddy, S. L., & Shannon, G. J. (2013). The flipped classroom: An opportunity to engage millennial students through active learning. Journal of Family and Consumer Sciences, 105(2), 44.

[24]   Rogers, E. M. (2010). Diffusion of innovations. Simon and Schuster.

[25]   Sagala, G.H. and Sumiyana (2010) 'The intersection of hedonic and utilitarian values on integrated- social media retailers', Int. J. Business Information Systems,

[26]   Sagala, G. H., Zainal, A., & Effiyanti, T. (2017). Attitude Toward Computer-Based Statistics Among Pre-Service Teacher Candidates. Proceedings of MAC, 366.

[27] Sambamurthy, V., & Zmud, R. W. (1997). At the heart of success: organizationwide management competencies. Steps to the Future: Fresh Thinking on the management of IT-Based Organizational transformation, 143-163.

[28] Schrum, Lynne. (1999) "Technology professional development for teachers." Educational technology research and development47.4 : 83-90.

[29] Sun, Y., Strobel, J., & Newby, T. J. (2017). The impact of student teaching experience on pre-service teachers' readiness for technology integration: A mixed methods study with growth curve modeling. Educational Technology Research and Development, 65(3), 597-629.

[30] Tallon, P. P., & Pinsonneault, A. (2011). Competing perspectives on the link between strategic information technology alignment and organizational agility: insights from a mediation model. Mis Quarterly, 463-486.

[31] Wu, J. and Lu, X. (2013) 'Effects of extrinsic and intrinsic motivators on using utilitarian, hedonic, and dual-purposed information systems: a meta-analysis', Journal of the Association for Information Systems, Vol. 14, No. 3, pp.153–191.

[32] Zahra, S., & G, G. (2002). Absorptive capacity: A review, reconceptualization, and extension. Academy of Management Review , 185-203.