Jurnal Penelitian dan Evaluasi Pendidikan
Volume 26, No 1, June 2022 (47-58)
Online: http://journal.uny.ac.id/index.php/jpep

An evaluation of e-learning of entrepreneurship course: Learning alternative during Covid-19 pandemic for university students

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ARTICLE INFO

Article History
Submitted:
28 September 2021
Revised:
17 March 2022
Accepted:
24 March 2022

Keywords
entrepreneurship; e-learning; pandemic covid-19; Kirkpatrick; evaluation

Scan Me:

ABSTRACT

This research was conducted to present recommendations on the implementation of e-learning courses Entrepreneurship during the Covid-19 pandemic. The evaluation refers to model Kirkpatrick's with Level 1: Satisfaction, Level 2: Learning, Level 3: Behavior, and Level 4: Impact. The research used a quantitative method with data analysis using percentage techniques. The sample was 307 students who had attended Entrepreneurship courses using e-learning. Data were collected using a questionnaire distributed via Google Form. The results show that the evaluation level 1: student satisfaction in learning, on average of 67% and 33% of the other feeling dissatisfied and less able to accept entrepreneurship learning optimally. Level 2 evaluation: learning outcomes, data cognitive, affective, and psychomotor have an average improvement. Evaluation level 3: there was an average improvement of only 18 points on entrepreneurial behavior. Evaluation level 4: 53% of students respond that e-learning is suitable for sustainable use, 59% give the opinion that e-learning is effective in increasing the ability to be an entrepreneurial, and 52% undertake entrepreneurial activities after participating in e-learning. The recommendation of this study's results is to continue learning by using e-learning by paying attention to process factors and combining it with learning, which refers more to implementing entrepreneurial projects to improve psychomotor competence and entrepreneurial behavior in the future.

How to cite:
Ernawati, E., Dewi, M., Rosalina, L., Ferdian, F., & Andres, F. (2022). An evaluation of e-learning of entrepreneurship course: Learning alternative during Covid-19 pandemic for university students. *Jurnal Penelitian dan Evaluasi Pendidikan, 26*(1), 47-58. doi:https://doi.org/10.21831/pep.v26i1.44073

INTRODUCTION

The emergence of the Novel Coronavirus in Indonesia since February 2020 has caused the Indonesian government to start imposing a social restriction policy on its people. One sector that has an impact on this policy is education (Hadiwardoyo, 2020). Almost all schools at all education levels are closed for face-to-face processes and replaced by policies to teach students from home. Universitas Negeri Padang, West Sumatra, Indonesia, is no exception to be the first university to implement learning from home policy since March 2020. The Faculty of Tourism and Hospitality seeks to carry out various educational patterns using-based means online. Web-based learning, commonly called e-learning, is carried out to provide an alternative learning process using a distance-learning model (Nurbudiyani, 2013). Initially, by implementing learning through social media with a simple application, with the efforts of higher education leaders who maximize the learning process to take place as well as possible, e-learning through the official learning website is enforced.

E-learning is developed based on the constructivism learning theory. 'Constructivism' represents a cognitive point of view of psychological theory, where e-learning is the active involvement of students. Students are assisted in constructing the meaning of what they learn relevantly (Azlan et al., 2020). The limited conditions of circumstances that cause learning to

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be carried out using alternatives that align learning activities, the place of learning and the opportunities provided, the instructional approach used, and the learning environment created, will allow students to develop meaning or learn well in every situation (Tan & Wong, 2020). Empirical results show that the effect of increasing performance expectations and individual beliefs is a strong predictor in influencing learning motivation through an e-learning model (Mehta et al., 2019). E-learning innovations are successfully used to equip students with activities through projects especially for young learners who have the opportunity to travel to Mars and/or serve as future astronauts; therefore, it is important to provide them with a fun and rewarding learning experience about space travel (Barry et al., 2019). Further, e-learning is designed to take advantage of the ever-evolving and essential learning process in this rapidly changing world. To improve the student experience, through gamifying e-learning which is carried out aimed at increasing the motivation, attendance and progress of students through cyberspace (Bennani et al., 2020). Online learning can help increase student learning motivation; conducting online-based guidance is a strategy in learning (Al-Okaily et al., 2020). This strategy relies on communication phenomena to build knowledge, using technological tools to provide effective feedback. E-learning program to achieve better learning outcomes through educational factors which include the quality of educators, media and increased student learning motivation (Dewi et al., 2020). Online tutoring can affect student progress. The role of educators as online learning tutors is more complex than the face-to-face learning process; they are more of a facilitator for students. All a facilitator has to do is use all of her abilities to create a secure and trusting virtual environment that promotes motivated behavior.

E-learning model is also applicated for entrepreneurship subject. The formation of entrepreneurial character is an important effort that becomes the goal of entrepreneurship learning; therefore this course is taught to students in all faculties as a general course. Entrepreneurship is a subject that is provided to form practical abilities and character formation of students, especially for vocational students (Sefriani et al., 2020). Economists state that entrepreneurship currently plays a critical role in the economic movement (Frederick et al., 2016). In crisis and uncertain economic conditions, entrepreneurship becomes the hope of a country to be able to exist to save the economic function. There will be no strong economic movement of a country without the role of entrepreneurship. The economic movement will not be healthy without the role of entrepreneurship in it (Frederick et al., 2016). The ideas and innovations made by an entrepreneur can change the situation. This role must be carried out by people who have main characters and considered as important generators of economic development (Dewi, 2020). Even in the Covid-19 pandemic situation, the e-learning process for entrepreneurship courses must be a concern.

However, the problem that occurs in Entrepreneurship learning during e-learning is the level of student satisfaction as e-learning users is still low. In some cases, based on student responses, there are still weaknesses in terms of the professionalism of the lecturer as a material deliverer in e-learning. Users feel that the level of knowledge achievement expected is still low compared to face-to-face learning. At the level of behavior that is expected from the entrepreneurial practice process, it has not yet achieved the ability to practice entrepreneurship motoric. Meanwhile, at the level of impact, e-learning still requires stronger efforts to achieve the professional impact of students to become entrepreneurs.

For this reason, it is necessary to carry out an evaluation of the implementation of learning programs using e-learning, especially in the Entrepreneurship subject of Universitas Negeri Padang students to present recommendations and policies for the sustainability of the learning program. The evaluation model is carried out at Level 1: Satisfaction, Level 2: Learning, Level 3: Behavior and Level 4: Impact (Mullins et al., 2010). The purpose of the evaluation is to present recommendations on improving the quality of e-learning carried out (Stufflebeam, 2001).

ISSN (print) 2685-7111 | ISSN (online) 2338-6061

10.21831/pep.v26i1.44073

RESEARCH METHOD

The method used in this research is quantitative that describes the data through a representative number-based approach to assess an event. This research was evaluation research on the e-learning program implemented at the Universitas Negeri Padang. The evaluation was carried out at four levels with the assessment dimensions referring to the Kirkpatrick evaluation model developed by Mullins as presented in Figure 1.

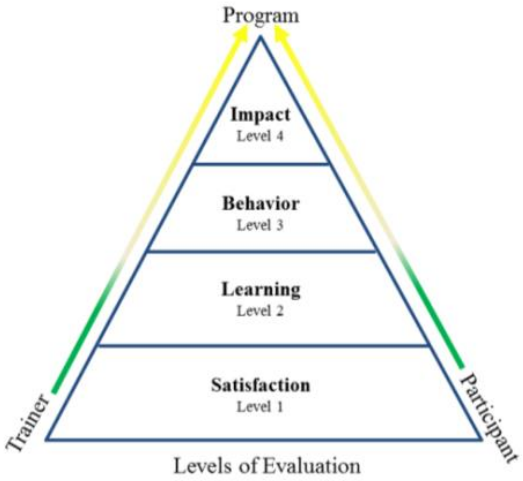

Figure 1. Evaluation Level Ohio ABLE Professional Development Evaluation Framework (Mullins et al., 2010)

Kirkpatrick's evaluation model is a popular approach to evaluating training programs. However, in the principle, this evaluation model can be used for all practical purposes. Educational practitioners use this model to evaluate educational programs according to instructional design. The reason Kirkpatrick's model is used is that the model has complete stages and includes an assessment of all learning elements.

The research population is all Universitas Negeri Padang tudents who take Entrepreneurship courses. The sample of this study was 307 odd semester 2019-2020 students who used e-learning with a purposive random sampling technique. The sample is students aged between 17 to 19 years, from 307 samples 172 are women and 135 are men. Data collection was done by online data collection via Google Form.

The instrument was developed based on the evaluation theory of the Ohio ABLE Professional Development Evaluation Framework. The instrument in the form of a questionnaire used in this study has gone through the process of testing the instrument to 30 respondents who were not the research sample. The analysis was carried out using the Pearson Correlation Product Moment formula with the statistical application of SPSS version 20 which aims to analyze items that have validity by the provisions of the standard r table score (0.361) for N = 30. Based on the result validity test, 3 items were not valid for the level of satisfaction indicator, two items were not valid for the learning level indicator, two items were not valid for the behavior level and all items are valid for the impact indicator. The reliability analysis results for valid items were carried out to determine the level of reliability of the instrument used and obtained a score of 0.910 with the interpretation of the instrument having a very high level of reliability. Table 1 and Table 2 describe the types of questionnaires, the number of statements and the research indicators.

The analysis was done using percentage techniques. Each data was filled in the sample on the instrument through the data tabulation process and averaged. The data description was done according to the assessment indicators described in Table 1.

ISSN (print) 2685-7111 | ISSN (online) 2338-6061

10.21831/pep.v26i1.44073

Table 1. Research Instruments

Level of Evaluation	Element	Instrument Type	Number of Items
Level 1: Satisfaction	Content	Questionnaire	6
	Process		7
	Context		4
	Awareness		4
Level 2: Learning	Cognitive	Questionnaire	13
	Affective		11
	Psychomotor		5
Level 3: Behavior	Application of knowledge and skills	Questionnaire	22
Level 4: Impact	Effect programs	Questionnaire	9

Table 2. Variables and Assessment Indicators

Variable	Indicator	Dimensions
Level 1: Satisfaction	Evaluation of participants' initial reaction to professional development	• Content: Relevance, usefulness, clarity, value, difficulty, and importance of the material presented • Process: Quality of instruction, activities, materials, and learning technology and quality of facilitators • Context: Conformity of arrangements, facilities, and professional development • Awareness: The extent to which participants are aware of the aims and objectives of learning
Level 2: Learning	Evaluation of the knowledge and skills that participants acquire through professional development	• Confirming the effectiveness of learning based on the objectives of the curriculum
Level 3: Behavior	Evaluation of participants' application of knowledge and skills learned acquired through professional development	• Confirming the effectiveness of learning based on entrepreneurial abilities from identifying special entrepreneurial characters has the 21st century. • Offer evidence whether participants have a desire for professional career development as an entrepreneur.
Level 4: Impact	Evaluation of the effect that professional development has had upon students and program performance	• To what extent do learners have direct action to carry out entrepreneurial activities after carrying out the e-learning process.

FINDINGS AND DISCUSSION

Level 1

Level 1 of the evaluation is to assess the response to student satisfaction in attending entrepreneurship subject using e-learning. Assessment is done by measuring student responses to the learning content, learning process, learning context, as well as awareness that appears in learning. Each assessment result is described in Table 3.

From the 307 students at Universitas Negeri Padang who participated in entrepreneurship subject using e-learning state that 72% of students feel satisfaction in using e-learning in terms of content and the purpose of implementing e-learning, students admit that e-learning is a learning model that is appropriately used in the conditions of Covid-19. Literature reveals the perception of optimism about e-Learning. This study investigated and assessed the impact of perceptions that e-learning has on psychological distress among college students during the Covid-19 pandemic.

ISSN (print) 2685-7111 | ISSN (online) 2338-6061

10.21831/pep.v26i1.44073

Table 3. Level 1: Satisfaction of E-Learning Entrepreneurship

Component	Sub-Component	Score (%)
Content	The relevance of learning needs, the usefulness of e-learning, the purpose of doing e-learning, and the value of benefits from doing activities.	72
Process	Related to the quality of instruction carried out during e-learning, the process of learning activities (opening, core, and closing), the quality of the material provided in terms of appearance and adequacy of theory as well as conformity with the e-learning media used, methods of work assignments, quality of lecturers in delivering learning through e-learning	71
Context	Related to the suitability of the rules of learning carried out with the facilities obtained in learning	63
Awareness	Student awareness of the aims and objectives of learning through e-learning	60
	On average	67

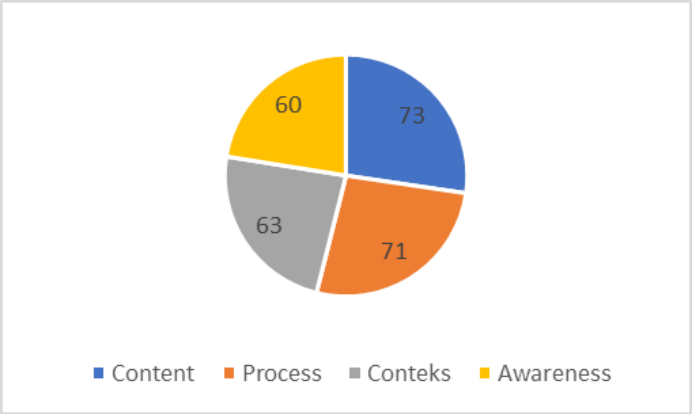

Figure 2. Evaluation of E-learning Level 1: Satisfaction

Student satisfaction in the learning process that is provided by the e-learning feature, downloadable materials, how to do assignments, and the quality of lecturers show that 71% of them feel satisfied. The limitations of the e-learning are on the social aspects and the closeness between educators and students related to how the readiness and ability of lecturers in carrying out the online-based learning (Noesgaard & Ørngreen, 2015). Satisfaction related to the suitability of the rules with the learning facilities provided is felt only by 63% of students. Meanwhile, 60% of students have awareness that e-learning intends to continue to teach students during the pandemic. The result of this study states that the evaluation on student satisfaction in learning entrepreneurship using e-learning shows that, on average, only 67% of students stated that they were satisfied with using e-learning and the other 33% felt dissatisfied and could not accept learning optimally. The implementation of science learning was categorized fair (57%), and this is unconformitted with learning processing implementation standard (Lukum, 2015). The level of satisfaction in entrepreneurship learning with e-learning can be briefly seen in Figure 2.

Level 2

Evaluation of learning is intended to determine the extent to which learning using e-learning media as an alternative to learning in the Covid-19 pandemic improves student abilities in cognitive, affective, and psychomotor aspects. Table 4 describes knowledge competencies that are indicators of entrepreneurship learning outcomes at Universitas Negeri Padang.

Based on the learning outcomes from the cognitive aspect, it is known that there is an increase in students' knowledge about entrepreneurship theory, with a score from 43 to 72. It means that students' knowledge improves after attending the e-learning courses.

ISSN (print) 2685-7111 | ISSN (online) 2338-6061

10.21831/pep.v26i1.44073

Table 4. Level 2: Student Knowledge Evaluation

Knowledge Competence	Before	After
Understanding the basic principles of entrepreneurship	44	73
Understanding entrepreneurship development models	41	71
Understanding entrepreneurial strategies	44	74
Understanding business ethics in entrepreneurship	45	75
Understanding the analysis of business opportunities	43	73
Understanding the feasibility study	40	70
Understanding the management of businesses	40	70
Applying the principles of self-employment as a personal tenacious	46	74
Applying the principles of independent entrepreneurs to plan, implement, build, and develop business	45	73
Understanding organizational principles in business	37	66
Implementing the principles of legal legality in business	44	73
Applying the use of technology in the business development process	44	72
Average	43	72

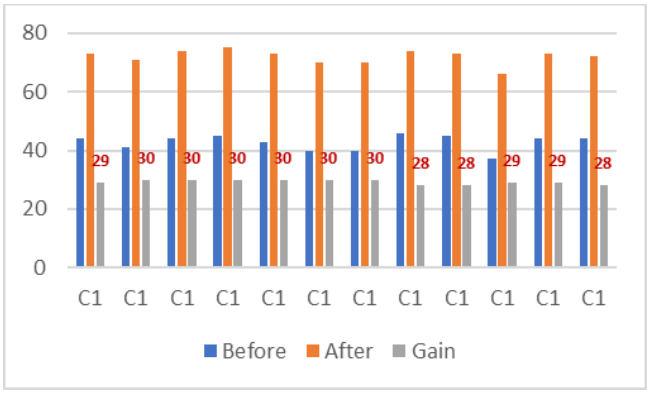

Figure 3. Increasing the ability of Cognitive Entrepreneurship with E-learning

The analysis of learning outcomes in the affective aspect was done to determine the description of students' abilities before and after learning entrepreneurship using e-learning (see Figure 3). The problem oftenly encountered in web-based learning is that educators cannot adapt each method to students' relatively different abilities. The results of system testing in the real environment show that considering the preferences of students to improve the quality of learning and to satisfy students (Bourkoukou & El Bachari, 2018). The practical ability is the domain of attitudes in the form of changes in student learning behavior because of the success of learning. Table 5 shows the description of the competence of affective attitude that comes before and after attending Enterprise.

Based on learning outcomes from the affective aspect (Figure 4), there is an increase in entrepreneurial attitudes with a score before 55, increasing to 79. It means students have higher entrepreneurial attitudes after attending e-learning courses. The achievement of entrepreneurial abilities is related to the character and ability to control the business due to entrepreneurship's uncertain conditions (Kerr et al., 2018; Taleghani et al., 2013). The entrepreneurial character is an important factor that determines students' success in entrepreneurship. Specifically, in the 21st century entrepreneurial approach, there is a special character that must be applied. Thus, conducting entrepreneurial training by paying attention to the 21st century entrepreneurial character is important for universities, as Li and Jia (2015) said that entrepreneurship has becoming a popular term currently, not all of entrepreneurs can succeed in entrepreneurial business, they need specific characteristics to enable them to success. Entrepreneur characteristics extensively studied, with mixed results on his impact on small business result.

ISSN (print) 2685-7111 | ISSN (online) 2338-6061

10.21831/pep.v26i1.44073

Table 5. Level 2: Evaluation of Students Affective

Outcomes Affective Education	Before	After
Internalize the values and attitudes of independence	51	78
Internalize the values and attitudes of creativity	53	77
Internalize the values and attitudes of decision-making skills	54	77
Internalize values and attitudes, skills to capture and take advantage of business opportunities	51	75
Have a spirit of creativity and innovation in finding new ideas	51	76
Have a commitment attitude	57	80
Have the ability to work together	59	82
Implement effective communication	55	80
Build social entrepreneurial attitudes (*social entrepreneurship*)	51	76
Have an awareness of change technology(*technology change*)	57	82
Have ethics and norms in entrepreneurship	59	82
Average	55	79

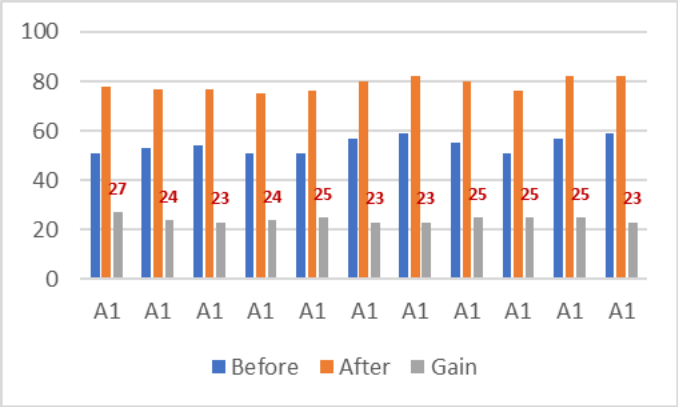

Figure 4. Increasing the Affective Ability of Entrepreneurship with E-learning

Table 6. Evaluation of Students Psychomotor

Learning Outcomes Affective	Before	After
Developing practical communication skills in the organization of small businesses as the forerunner of a business organization that will be developed	50	74
Prepare a business organization plan by implementing the principles of the "Business Plan" as a shared responsibility in the business organization	50	75
Cooperating in planning, running, and developing the business	53	77
Planning and managing business cash flow	46	70
Building effective communication and relationships in business	50	75
Average	50	74

Psychomotor aspects as entrepreneurial learning outcomes are measured by knowing students' ability to carry out entrepreneurial activities. Description of data about students' ability in psychomotor before and after studying entrepreneurship using e-learning during the pandemic Covid-19 can be seen in Table 6.

Related to Table 6, there is an increase in students' abilities regarding entrepreneurial skills, with a score from 50 to 74 (Figure 5). It means students have a higher achievement of entrepreneurial skills after attending e-learning courses with an average increase of 25 points. The low increase in student psychomotor learning outcomes in entrepreneurship courses is not comparable to the entrepreneurship course's expectations, which aims to provide technical

ISSN (print) 2685-7111 | ISSN (online) 2338-6061

10.21831/pep.v26i1.44073

skills in entrepreneurship. This course should be practically done on a project-based to construct students' abilities in doing the entrepreneurial process (Ganefri et al., 2018). The combination of learning abilities is a joint effort with industry, in vocational education in tertiary institutions that collaboration can help efforts to improve students' practical competence, especially in dealing with problems in information technology developments (Ghareb et al., 2019; Gunung & Darma, 2019). Thus, recommendations for improving the e-learning process need to consider the ways to improve practical skills and student involvement in entrepreneurship, especially businesses related to meeting the needs in the Covid-19 pandemic situation.

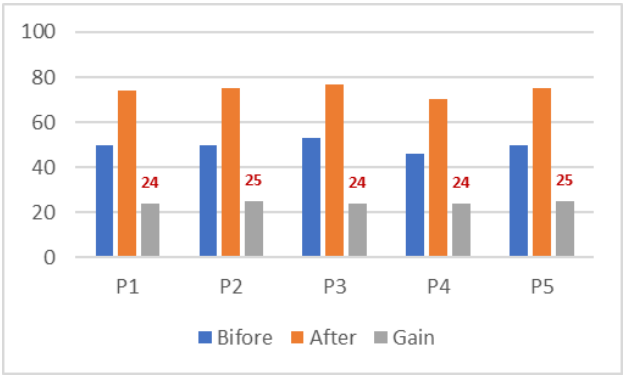

Figure 5. Increasing Psychomotor Ability of Entrepreneurship with E-learning

Level 3

Table 7. Evaluation of Students Behaviors

	Behavior	Before	After
B1	Considering risks	53	77
B2	Need for achievement	55	78
B3	Innovation	55	78
B4	Responsible	62	83
B5	Likes freedom	62	81
B6	Confidence	58	79
B7	Goal orientation	57	79
B8	Reading opportunities	53	78
B9	Persistence	58	80
B10	Tolerance to ambiguity	55	76
B11	Visionary	53	75
B12	Self-efficacy	54	75
B13	Confidence	58	79
B14	Initiative	57	79
B15	Sympathy	64	84
B16	Communicative	59	80
B17	Flexible	66	79
B18	Honest	71	86
B19	Able to withstand pressure	59	78
B20	Make wise decisions	60	80
B21	Thinking Creative	60	79
B22	Be creative	62	82
B23	Commitment	65	82
B24	Hard work	65	84
B25	Friendliness	70	86
	Average	59	80

ISSN (print) 2685-7111 | ISSN (online) 2338-6061

10.21831/pep.v26i1.44073

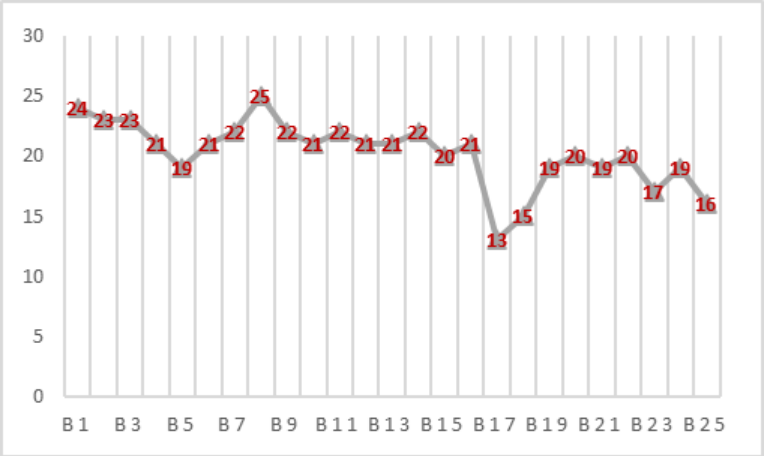

Figure 6. The Average Score of Student Entrepreneurial Behavior Improvement after Learning with E-learning

Evaluation at level 3 was for measure and present recommendations on student entrepreneurial behavior that appears after learning with e-learning. There are 25 entrepreneurial behaviors in 21st century designed based on technology-based entrepreneurial behaviors in related theoretical. Table 7 presents the results of the evaluation of behaviors.

Table 7 states that the average entrepreneurial behavior increases by only 18 points. Entrepreneurial character is the basis for the realization of entrepreneurial behavior (Dewi et al., 2020). Entrepreneurship education is one of the keys to the successful inculcation of young generation entrepreneurial attitudes and behaviors (Dewy et al., 2016; Ernawati et al., 2019; Firmansyah et al., 2020). This means that the superior character of the younger generation can be trained through coaching in entrepreneurship courses, because it is appropriate to use a character-building-based learning method in entrepreneurship courses.

The histogram in Figure 6 explains how much increase in student entrepreneurial behavior after participating in entrepreneurship learning with e-learning. The assessment of students' independent perceptions of increasing entrepreneurial behavior states that students' average behavior increases by 20%.

Level 4

The impact assessment was carried out to determine the extent of the perspective on future program development was assessed through e-learning users' opinions in the entrepreneurship subject. The intended response is the perception of e-learning users in entrepreneurship subject, as presented in Table 8.

Table 8. Level 4: Impact of E-Learning Evaluation

Component	Yes	No
Right e-learning is the best way to learn distance	89	11
E-learning in entrepreneurship learning is suitable for the learning objectives described	91	9
E-learning can still be implemented in the future	74	26
Entrepreneurship learning through e-learning is feasible to be continued	53	47
Learning entrepreneurship using e-learning increases interest in entrepreneurship	62	38
Students in entrepreneurship after attending lectures with e-learning	52	48
E-learning effectively makes students become entrepreneurs	59	41
E-learning can form the ability to carry out entrepreneurial activities	67	33
Students' perceptions of entrepreneurship are better after learning with e-learning	80	20
Average	70	30

ISSN (print) 2685-7111 | ISSN (online) 2338-6061

10.21831/pep.v26i1.44073

Based on the impact evaluation described in Table 8, students have a response to the sustainability of the implementation of e-learning in the future at a score of 53%, only 59% have the response that e-learning is effective in increasing the ability to be entrepreneurial, while 52% undertaking entrepreneurial activities after participating in e-learning. There of 70% positive impact on the implementation of entrepreneurial e-learning in the future. Covid-19 causes the need for web-based learning to increase, as the goal of limiting social e-learning has succeeded in keeping students learning during a pandemic. In the planning step, the recommendations were given to the principals, teachers, and head of educational districts to make socialization and workshop on developing assessment grid first, and then writing items not the other way around, and make a rubric first when writing the essay items (Setiadi, 2016). The benefits of e-learning are not limiting social movements but rather on efficient work in the educational process (Tan & Wong, 2020). Furthermore, the key factor influencing many organizations to switch to the cloud and other computing in e-learning is because it saves money and provides better education (Ullah et al., 2017). This study recommends that e-learning can still be implemented in the future, even though the pandemic ends.

CONCLUSION

Based on the research findings, it can be concluded that the evaluation of level 1 on student satisfaction in learning shows an average score of 67% students who are satisfied using e learning and 33% are dissatisfied and less able to accept entrepreneurship learning optimally. From the level 2 evaluations, it was obtained that cognitive, affective and psychomotor learning outcomes had an average increase. Evaluation of level 3 on entrepreneurial behavior obtained data that there was an average increase of only 18 points. Evaluation of level 4 on the impact of e-learning obtained data that 53% of students have a response that e-learning is suitable for continuous use, and 59% have a response that e-learning is effective in increasing the ability to become entrepreneurs, and 52% carry out entrepreneurial activities after attending e-learning. The results of this study recommend that continuing learning using e-learning by paying attention to process factors and combining it with learning that refers more to the implementation of entrepreneurial projects to improve psychomotor competence and entrepreneurial behavior in the future. Even though the Covid-19 pandemic is over, e-learning model can be continued because it is effective in a more practical and efficient learning process.

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ISSN (print) 2685-7111 | ISSN (online) 2338-6061

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ISSN (print) 2685-7111 | ISSN (online) 2338-6061