

THE EFFECT OF EXPERIENTIAL LEARNING ON ATTITUDES AND INTENTION: AN EXPERIMENTAL DESIGN

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Abstract: In this study, we examined the effect of an entrepreneurship program based on experiential learning on attitudes and intentions. We used a quasi-experimental design. Data were collected by questionnaire from a sample of 200 students attending in an entrepreneurship program and another sample of 200 students as a control group. Our results indicate that the entrepreneurship program significantly improved students' innovativeness, entrepreneurial self-efficacy, and entrepreneurial intention. Furthermore, the students in an entrepreneurship program have a higher (average) innovativeness, entrepreneurial self-efficacy, and entrepreneurial intention, at the end of the entrepreneurship program, than a control group of students".

Keywords: experiential learning, quasi-experimental design, innovativeness, entrepreneurial self-efficacy, entrepreneurial intention



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Entrepreneurship plays a crucial element in economy and well-being (e.g., Sánchez, 2013; Karimi et al., 2016; Murwani, 2016). Entrepreneurship can be taught and entrepreneurship educa-

tion can be recommended for improving entrepreneurial outcomes (e.g., Sánchez, 2013; Karimi et al., 2016; Murwani, 2016). Further, a learner can be considered as one of the key elements of entrepreneurship education (Murwani, 2016). In the context of a learner who carries out the role of an entrepreneur or who runs the entrepreneurial process

is inseparable from the learner's characteristics (cf. Murwani, 2016). The relevant learner's characteristics for entrepreneurship education are entrepreneurial characteristics (cf. Murwani, 2016).

Referring to Murwani (2016, p. 43), entrepreneurial characteristics include a set of personality traits of an entrepreneur. The existence of entrepreneurial characteristics is needed in relation to the role of an entrepreneur or the role of running the entrepreneurial process (cf. Murwani, 2016). The entrepreneurial characteristics of learners contribute to the learner in learning entrepreneurship successfully (cf. Murwani, 2016). The researchers agree on a set of personality traits such as innovativeness (Murwani, 2016) as well as entrepreneurial self-efficacy (Sánchez, 2013). Therefore, this study focuses on innovativeness and entrepreneurial self-efficacy as entrepreneurial characteristics. Referring to the theory of planned behavior (Ajzen, 1991), entrepreneurial characteristics can be categorized as attitudes.

On the other hand, entrepreneurial characteristics are a key factor of entrepreneurial intention (Sánchez, 2013). Entrepreneurial intention is a determinant of behavior (Ajzen, 1991), in this context entrepreneurial action, which is able to act as an entrepreneur or to play a role in the entrepreneurial process (cf. Murwani, 2016). The entrepreneurial characteristics of the learner and entrepreneurial intention are prerequisites for achieving entrepreneurial competency (cf. Murwani, 2016). Referring to the theory of planned behavior (Ajzen, 1991), entrepreneurial characteristics (or attitudes) and entrepreneurial intention are generally known as 'the attitude-intention link' (Souitaris et al., 2007).

Further, Souitaris et al. (2007, p. 586) examined 'the attitude-intention link' "by testing the effect of an 'exogenous influence' (education) on attitudes and intention". Therefore, the study is intended to examine the effect of an entrepreneurship program on students' attitudes (in terms of innovativeness and entrepreneurial self-efficacy) and intention (in terms of entrepreneurial intention). In this context, the research questions are "Do students improve significantly in innovativeness, entrepreneurial self-efficacy, and entrepreneurial inten-

tion before and after following an entrepreneurship program?"

Several studies (e.g., Hansemark, 1998; Souitaris et al., 2007; Sánchez, 2013; Karimi et al., 2016) found a positive effect of entrepreneurship program on attitudes and intention. Further, Karimi et al. (2016) confirmed that the recent meta-analysis successfully confirmed the positive effect. Thus, we propose a hypothesis that "At the end of an entrepreneurship program, students will have a higher (average) innovativeness, entrepreneurial self-efficacy, and entrepreneurial intention than at the beginning of the entrepreneurship program". Consistent with several studies (e.g., Hansemark, 1998; Souitaris et al., 2007; Sánchez, 2013), we also propose another hypothesis that "The participants (students) in an entrepreneurship program will have a higher (average) innovativeness, entrepreneurial self-efficacy, and entrepreneurial intention, at the end of the entrepreneurship program, than a control group of students".

METHOD

Pretest-posttest with control group design (quasi-experimental design) was conducted by implementing the treatment to the subjects only in a treatment group, whereas no-treatment in a control group (Tuckman & Harper, 2012; Babbie, 2014). The design involved the administration of a pretest to measure the outcome variables or dependent variables; the next step was the treatment; and finally, the posttest was administered to measure the outcome variables again (Hatten & Ruhland, 1995; Tuckman & Harper, 2012; Babbie, 2014).

The subjects consist of 200 college students of Universitas Ciputra Surabaya and also 200 college students of Universitas Negeri Malang, both in East Java, Indonesia. Participants of Universitas Ciputra Surabaya received an entrepreneurship program based on experiential learning, namely the Entrepreneurship-2 program (or usually called by *Reboan E-2*). Another sample of 200 college students of Universitas Negeri Malang was selected as a control group.

The focus of the Entrepreneurship-2 program is the ability of a student to create a business model

for a venture or ability of a student to become a business model creator (Murwani, 2016). The Entrepreneurship-2 program was based on the four key elements of David A. Kolb's experiential learning (Kolb, 1984) and was also conducted by using a guidebook composed by Bernardus et al. (2018) as follows:

- Week 1 to week 3: concrete experience (e.g., students implemented field work to find entrepreneurial opportunities).
- Week 4: reflective observation (e.g., students implemented class discussions based on field work to describe what experiences were gained).
- Week 5 to week 7: abstract conceptualization (e.g., students associated field work experiences with relevant theories or concepts to formulate the best entrepreneurial opportunity and to create a business model design based on Business Model Canvas or BMC).
- Week 8 to week 14: active experimentation (e.g., students tried out new concepts by implementing field work again such as market trials).

A Likert scale questionnaire was used as a measurement instrument for the outcome variables. Innovativeness was assessed by using eight items adapted from Mueller and Thomas (2001). Entre-

preneurial self-efficacy was measured by using ten items of the Indonesian version questionnaire from Murwani et al. (2017), which originally came from Kickul et al. (2009). Measurement of entrepreneurial intention used six items adapted from Liñán and Chen (2009).

RESULTS

The two tests conducted for assessing the normality were the Shapiro-Wilk and Kolmogorov-Smirnov tests (e.g., Kim, 2013). The result of the normality test is presented in Table 1 and Table 2. All the significant values (or *p* values) of two tests were found to be lower than 0.05. If a significant value is lower than 0.05, it interprets that the data is not normally distributed (e.g., Kim, 2013). As the normally distributed of the data sets were not met, the Wilcoxon Signed Ranks Test was used to analyze the data (Siegal, 1956; Roscoe, 1969; McClave et al.

Table 3 and Table 4 present the results of the Wilcoxon Signed Ranks Test. From Table 2 and Table 4 that all *z* values are based on negative ranks. The *z* value based on negative ranks shows that the differences (posttest scores minus pretest scores) are positive, and the sum of positive ranks is greater than the sum of negative ranks (Siegal, 1956; Roscoe, 1969; McClave et al., 2014). The Wilcoxon

Table 1 Descriptive Statistics and Test of Normality of Treatment Group

Outcome Variables	Pretest scores (pre) or posttest scores (post)	n	Mean	Std. Dev.	Min.	Max.	Kolmogorov-Smirnov Test of Normality		Shapiro-Wilk Test of Normality	
							Statistic	Sig.	Statistic	Sig.
Innovativeness (INV)	preINV	200	25.77	.422	25	26	.477	.000	.520	.000
Innovativeness (INV)	postINV	200	30.92	1.055	29	32	.332	.000	.756	.000
Entrepreneurial Self-Efficacy (ESE)	preESE	200	34.42	4.282	29	40	.222	.000	.834	.000
Entrepreneurial Self-Efficacy (ESE)	postESE	200	41.80	4.687	37	48	.316	.000	.759	.000
Entrepreneurial Intention (EI)	preEI	200	21.52	2.751	18	25	.291	.000	.798	.000
Entrepreneurial Intention (EI)	postEI	200	23.23	3.458	19	28	.226	.000	.836	.000

Table 2 Descriptive Statistics and Test of Normality of Control Group

Outcome Variables	Pretest scores (pre) or posttest scores (post)	n	Mean	Std. Dev.	Min.	Max.	Kolmogorov-Smirnov Test of Normality		Shapiro-Wilk Test of Normality	
							Statistic	Sig.	Statistic	Sig.
Innovativeness (INV)	preINV	200	23.37	3.426	16	26	.428	.000	.666	.000
Innovativeness (INV)	postINV	200	23.86	4.306	16	30	.273	.000	.818	.000
Entrepreneurial Self-Efficacy (ESE)	preESE	200	32.94	4.062	28	40	.206	.000	.852	.000
Entrepreneurial Self-Efficacy (ESE)	postESE	200	33.76	4.198	28	40	.177	.000	.883	.000
Entrepreneurial Intention (EI)	preEI	200	19.47	1.840	18	23	.356	.000	.716	.000
Entrepreneurial Intention (EI)	postEI	200	20.65	1.872	18	24	.292	.000	.827	.000

Table 3 Wilcoxon Signed Ranks Test of Field Testing of Treatment Group

Outcome Variables	Posttest scores (post) minus pretest scores (pre)	Subjects with		Mean of Negative Ranks	Mean of Positive Ranks	Sum of Negative Ranks	Sum of Positive Ranks	z value
		Negative Ranks	Positive Ranks					
Innovativeness (INV)	postINV - preINV	0	200	0	100.5	0	20100	-12.434***
Entrepreneurial Self-Efficacy (ESE)	postESE - preESE	21	174	21	107.29	441	18669	-11.581***
Entrepreneurial Intention (EI)	postEI - preEI	56	116	77.61	90.79	4346	10532	-4.749***

*** p < 0.001

Table 4 Wilcoxon Signed Ranks Test of Field Testing of Control Group

Outcome Variables	Posttest scores (post) minus pretest scores (pre)	Subjects with		Mean of Negative Ranks	Mean of Positive Ranks	Sum of Negative Ranks	Sum of Positive Ranks	z value
		Negative Ranks	Positive Ranks					
Innovativeness (INV)	postINV - preINV	41	66	55.37	53.15	2270	3508	-1.940 n.s.
Entrepreneurial Self-Efficacy (ESE)	postESE - preESE	60	83	69.28	73.96	4157	6139	-2.000*
Entrepreneurial Intention (EI)	postEI - preEI	26	127	93.25	73.67	2424	9356	-6.378***

*** p < 0.001; * p < 0.05; n.s. = not significant

Signed Ranks Test refers to the smaller sum (Siegal, 1956; Roscoe, 1969; McClave et al., 2014), in this context the sum of negative ranks.

In the treatment group, a comparison of the

pretest scores and the posttest scores indicated that the three outcome variables were statistically significant at the .001 level (Table 3). Inconsistency was found in a control group that a comparison of

the pretest scores and the posttest scores indicated that the entrepreneurial self-efficacy and entrepreneurial intention were statistically significant, whereas innovativeness was not (Table 4).

At the end of the entrepreneurship program, a statistically significant difference was found as the effect of the entrepreneurship program on the innovativeness of students, $z = -12.434$, $p < 0.001$ (Table 3). While the mean of innovativeness of students was 25.77 at the beginning of the entrepreneurship program, it has been increased to 30.92 at the end of the entrepreneurship program (Table 1).

At the end of the entrepreneurship program, it was seen that the effect of the entrepreneurship program on entrepreneurial self-efficacy of students had a statistically significant difference, $z = -11.581$, $p < 0.001$ (Table 3). While the mean of entrepreneurial self-efficacy of students has been increased from 34.42 at the beginning of the entrepreneurship program to 41.80 at the end of the entrepreneurship program (Table 1).

At the end of the entrepreneurship program, a statistically meaningful difference was found as the effect of the entrepreneurship program on entrepreneurial intention of students, $z = -4.749$, $p < 0.001$ (Table 3). While the mean of the entrepreneurial intention of students was 21.52 at the beginning of the entrepreneurship program, it has been increased to 23.23 at the end of the entrepreneurship program (Table 1).

The results above show that there has been an increase in innovativeness, entrepreneurial self-efficacy, and entrepreneurial intention scores before and after the field testing. In other words, field testing has a significant effect on positive changes in innovativeness, entrepreneurial self-efficacy, and entrepreneurial intention. After participating in the entrepreneurship program, the participants perceive themselves to be stronger in innovativeness, entrepreneurial self-efficacy, and entrepreneurial intention than before joining the entrepreneurship program.

Referring to Babbie (2014), we used a comparison of posttest scores to verify whether the students in an entrepreneurship program have higher innovativeness, entrepreneurial self-efficacy, and entrepreneurial intention, at the end of the entrepreneurship program than a control group of students. As the normally distributed of the data sets were not met (Table 1 and Table 2), the Mann-Whitney-U test was used to compare the posttest scores between a treatment group and a control group (Siegal, 1956; Roscoe, 1969; McClave et al., 2014). The Mann-Whitney-U test shows that z-values were statistically significant at the .001 level (Table 5). The results show that comparing with the students in a control group, the participants in an entrepreneurship program have higher innovativeness, entrepreneurial self-efficacy, and entrepreneurial intention.

Table 5 Mann-Whitney-U Test for Comparison of Posttest Scores

Outcome Variables (based on posttest scores)	Group	n	Mean Rank	Sum of Ranks	Mann-Whitney-U	z-value
Innovativeness (INV)	Treatment	200	295.70	59140.00	960	-16.684***
Innovativeness (INV)	Control	200	105.30	21060.00		
Entrepreneurial Self-Efficacy (ESE)	Treatment	200	272.82	54565.00	5.535E3	-12.598***
Entrepreneurial Self-Efficacy (ESE)	Control	200	128.18	25635.00		
Entrepreneurial Intention (EI)	Treatment	200	243.90	48780.00	1.132E4	-7.616***
Entrepreneurial Intention (EI)	Control	200	157.10	31420.00		

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Entrepreneurial Intention (EI)	Control	200	157.10	31420.00		

DISCUSSION

The results are consistent with a lot of similar studies examining the effect of entrepreneurship education on a set of outcome variables (e.g., Hatten & Ruhland, 1995; Hansemark, 1998; Hindle & Cutting, 2002; Souitaris et al., 2007; Sánchez, 2013; Karimi et al., 2016), in which entrepreneurship education has had an effect (change) on a set of outcome variables; in this context innovativeness, entrepreneurial self-efficacy, and entrepreneurial intention. Robinson et al. (1991) argue that entrepreneurship education is dynamic so that it can produce the effect (or change) to a set of outcome variables.

The subjects were students participating in the Entrepreneurship-2 program who had undertaken the Entrepreneurship-1 program. The Entrepreneurship-1 program is designed to build an entrepreneurship mindset, while the Entrepreneurship-2 program focuses on designing a business model (Murwani, 2016). The mindset of entrepreneurship may have been embedded in the participants as a result of the Entrepreneurship-1 program. The contribution of the mindset of entrepreneurship is believed to be a reinforcement for participants in designing a business model.

As found by Souitaris et al. (2007) and also by several studies that have followed them (e.g., Sánchez, 2013; Karimi et al., 2016), the results of this study confirm 'the attitude-intention link' by

examining the effect of the entrepreneurship program on attitudes and intention. Hence, the study contributes to the theory of planned behavior (Ajzen, 1991) in the context of entrepreneurship education by offering insights into how an entrepreneurship program affects attitudes and intention. The theory of planned behavior states that the more positive attitudes, the more positive intention (Ajzen, 1991). This study found that an entrepreneurship program positively affects attitudes and also affects intention in the same direction.

Referring to Robinson and Doueck (1994), the results of this study indicate the benefit of the one-group pretest-posttest design for testing the Entrepreneurship-2 program with significant evidence in enhancing a set of outcome variables. The design is also relatively inexpensive and easy to implement (Robinson & Doueck, 1994). However, the design cannot substitute for other complex designs such as factorial design and randomized design (e.g., Robinson & Doueck, 1994; Tuckman & Harper, 2012).

Again, the participants have been achieved improvement in innovativeness, entrepreneurial self-efficacy, and entrepreneurial intention after they participated in the Entrepreneurship-2 program. Referring to Hatten and Ruhland (1995), the stakeholders of the Entrepreneurship-2 program (e.g., the management board of university and curriculum developer of the university as well as researchers,

lecturers, and students) should recognize that students are likely to develop more positive attitudes and intention.

CONCLUSION

Entrepreneurial program significantly improve students innovativeness and have a higher innovativeness. Field testing has a significant effect on positive self-efficacy and entrepreneurial intention.

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