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**Effect of the effectiveness of entrepreneurship education programs on entrepreneurial competer and business performance**

*Elia Ardyan*, *Oscarius Yudhi Ari Wijaya*

12(4), pp. 393–408

Keywords: action-based approach, effectiveness of entrepreneurship education program, entrepreneurial capability, students' business performance

Abstract | PDF (338 KB)

# Effect of the effectiveness of entrepreneurship education programs on entrepreneurial competency and business performance

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**Abstract:** The aim of this paper is to examine the influence of action-based approach and the effectiveness of entrepreneurship education program on entrepreneurial competency and students' business performance. The analysis used is structural equation modelling (SEM) which is using AMOS version 21 to process the data. The result showed that action-based approach has significant positive influence to entrepreneurial competency. Entrepreneurial competency which grew in students' awareness was able to influenced business work that developed. The effectivity of entrepreneurship education program will give great impact to entrepreneurial competency growth and students' business performance.

**Keywords:** action-based approach; effectiveness of entrepreneurship education program; entrepreneurial capability; students' business performance.

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## 1 Introduction

Entrepreneurship is the main engine to increase the economic growth of a country (Gorman et al., 1997; Rasmussen and Sørheim, 2006). Yeng Kiat and Shuhymee (2012) stated that entrepreneurship can be a catalyst to transform a country from the middle income to high income economy. Many countries invested substantially in developing entrepreneurial education through higher education institutions (Katz, 2003; Walter and Block, 2016). The higher education institutions are represented as contributor to entrepreneurship activity growth in Indonesia.

Entrepreneurship education requires a blend of knowledge, skills and attitudes (Jones-Evans et al., 2000). Education of entrepreneurship is suggested to link between the theory and practice side. A strategy conducted through giving action-based approach. Action-based approach involves students not only to get knowledge but also to experience real problems that must be solved (Chan, 1994; Rimanoczy, 2007). Action-based approach has an impact on improving students' ability in solving real-world problems (Yam and Pun, 2005).

Entrepreneurship is a course suggested in business school since 1970 (Lewrick et al., 2010). It is not easy to apply entrepreneurship education. There are a lot of higher education institutions unsuccessfully apply the course. There are studies found that entrepreneurship education could not improve entrepreneurship skills and passion (Oosterbeek et al., 2010). The reason is ineffectiveness of applying entrepreneurship program. Gap of this research is very rarely researchers discuss about the impact of effectiveness of education programs on improving the competence and performance of business students. Many previous researchers discussed about the impact of the effectiveness of entrepreneurship education programs on entrepreneurship interests (Lekoko et al., 2012; Rengiah, 2013). Some explain its impact on the attitudes, motivations, and desires of a person to set up a new venture (Athayde, 2009; Fayolle, 2005; Pittaway and Cope, 2007). The case at Ciputra University is very unique, where students already have business since their college and the business will be developed after they finish college. Our study provides input for knowledge in the form if the entrepreneurship education program is effectively executed, it will greatly affect the increase of entrepreneurial competence. The effectiveness of educational programs will also have an impact on the business performance developed by students as they go to college. This study is aimed to test the influence of action-based approach and the effectiveness of entrepreneurship education program in entrepreneurial and students business work competencies.

## 2 Literature review

### *2.1 Action-based approach*

Entrepreneurship education literature that developed to explain the variety of learning environment is needed to support entrepreneurship education in university (Gibb, 2002). Traditional learning will result failure in graduating entrepreneur. Traditional learning only builds the knowledge of the entrepreneur (Jones and English, 2004) but not for attitude, mental, skill, and business character. It is needed action-based approach to give the real market experience to be entrepreneur. Furthermore, entrepreneurship education should focus in imagination, creativity, and risk taking in business; on the other hand, traditional business school tend to be focused in stressing quantitative techniques dan corporate but sacrificing creativity (Porter, 1994).

Action-based approach becomes a learning method in entrepreneurial education. The central aspect from this approach is the centralistic perception, and a complicated relationship between action and understanding (van Lier, 2007). Action-based learning could be done through giving experience through monitoring, coaching (Wijaya and Radianto, 2016), group discussion, trial, finding, peer learning with other students (Ravens, 1998) and give problem based learning about the latest issue in the real work environment (Zuber-Skerritt, 2002). Smith and O'Neil (2003) explained there are action-based approach program: participants solved real problems, participants discussed in smaller groups, solving real problems, supporting collaboration learning, and participants solved problem together with all students to get real condition to get experience. In this study, action-based approach followed by participants (Rimanoczy, 2007), those are the students.

### *2.2 Entrepreneurial education program effectiveness*

Our study proposed that entrepreneurial education effectiveness has three important aspects. First, entrepreneurial education must have a clear outcome and able to reach it; second, suitable curriculum; third, the program should be able to improve students confidence. Entrepreneurial education must have a clear target (Charney and Libecap, 2008; Harrison and Leitch, 2008). A well entrepreneurial education will develop students' passion to an entrepreneur (Rasmussen and Sørheim, 2006).

Basically, there is not a general agreement about what should be taught in entrepreneurial education (Brockhaus et al., 2001; Fiet, 2001). There are related literatures discussed what should be learned in entrepreneurial education. The mind-set is the key factor in entrepreneurial education (Laukkanen, 2000). Klofsten (2000) explained there are three main activities to stimulate entrepreneurship in a university. First, activity to create and manage the work hard atmosphere in the university, this is an integration of courses, research, and external activities. Second, the availability of separated entrepreneurial course to students. Third, special course training offered to those who are willing to begin their own business.

A lot of studies found that entrepreneurship education would influence to entrepreneurial passion through kinds of entrepreneurial activities (Kautonen et al., 2013; Rauch and Hulsink, 2014; Walter et al., 2013). The direct impact of entrepreneurial

education program through new starting process, participants could redo the entrepreneurial process many times in their career through starting new company, new business area, doing better business management, or helping other entrepreneurs.

### 2.3 Entrepreneurial competency

Simply, competency is defined as minimum standard of work (Strebler et al., 1997). Entrepreneurial competency is collective competency consist of knowledge, skills, and attitude (Kyndt and Baert, 2015) that relevant to successful entrepreneurial activity (Mitchelmore and Rowley, 2010). From some literatures, at least there are two key definitions or terminology of competency: (1) competency as individual behaviour; and (2) competency as work standard minimum (Strebler et al., 1997). Competency is considered as individual ability to do work or actions successfully (Cheng and Dainty, 2003). An understanding of the concept of competency and the usage in general is an important precursor in entrepreneurial competency discussion

Entrepreneurial competency is identified as a collective relevant ability or skill to successful entrepreneurial activity. Entrepreneurship is often correlated to small and/or new development of small business (Nuthall, 2006), even though there is an improvement in entrepreneurship company and intrapreneurship (Zahra and Garvin, 2000). In a research about learning behaviour, Chaston et al. (1999) saw a mode that influence to organisation and organisational learning, there are several efforts to build those through applying quantitative technique, especially in small company sector.

In a competitive business atmosphere, competence entrepreneurs need attitude, intellectual, behaviour, and well-management. Therefore, the role of entrepreneurs in business is believed as limitation which learned through competency approach. As a requirement of entrepreneurial characteristics, competency approach is popular (Bird, 1995; Chandler and Jansen, 1992). Bird (1995) defined that entrepreneurial competency is the main characteristics such as basic and specific knowledge, pattern, character, image, role, and skill to start business, survival, and/or growth.

### 2.4 Student's business performance

Understanding business work determinant is the main interest researcher and business practitioners (Takata, 2016). However, there are a few researchers who focus in students business work in entrepreneurship education context. There are researches in entrepreneurship education but they are not focus in what students do about their business and the process. In this study, Ciputra is a university that aimed to graduate young entrepreneurs since they were still in collage. The students' output is building business. To measure the work, the researcher focuses in Unit Kegiatan Mahasiswa (UKM) or Students' Activity Units (SAU) work based approach. The reason of researcher focused in this topic is most of students' businesses are small scale businesses. Therefore, the work used in this study is small and average business work.

There are sizes of UKM stated by experts. Ardyan (2016) defined SMEs performance is SMEs achievement to gain profitability and business target growth. Another researcher explained that the SMEs focus work is in monetary, such as gross profit and net and net sales revenue (Minchna, 2009), financial profitability, ROI (Bakar et al., 2014; Sok et al., 2013), cost control and cash flow (Carey, 2015).

## 3 Hypothesis

### *3.1 Action-based approach and entrepreneurial competency*

Explained by some writers that believed competency could be changed, learned, and achieved through experiencing, training, and tutoring (Man et al., 2002; Volery et al., 2015; Wagener et al., 2010). Johannisson et al. (1998) found that action-based approach (university training) influence to the ability of students to act. Yam and Pun (2005) action-based approach will motivate solving problem in open-minded manner which trained skills through action. Creativity is the basis of action-based approach (Yam and Pun, 2005). Those reactions are used to give solution to problems faced by students. Solution is important part in action-based approach. Furthermore, Yam and Pun (2005) explained that developing solution will impact to the improvement of skills in identifying and analysis experience, reflection, and feed-back.

*H1: Action-based approach has positive and significant influence to entrepreneurial competency.*

### *3.2 Effectiveness of entrepreneurship education program and entrepreneurial competency*

Linan (2004) tried to explain steps from the main goal that could be achieved through entrepreneurship education program. First, consciousness to entrepreneurship; second, how to start business; third, entrepreneurship education dynamics; fourth, entrepreneurship education advance. Hamidi et al. (2008) explained the main goal of entrepreneurship education is improving consciousness and understanding of entrepreneurship. Rengiah (2013) explained that university must provide learning model and the best training to ensure the graduates will acquire knowledge of entrepreneurship, skills, attribute, and behaviour needed. Lekoko et al. (2012) explained that the main goal of entrepreneurship education is to make students conscious that entrepreneurship could be an option as a career choice. Effectiveness means entrepreneurship education program able to reach its goals. Entrepreneurship education is effective when all steps and goals achieved. The result must be appropriate with the target.

A successful indicator of entrepreneurship education program is the core competence of entrepreneurship (Ben Nasr and Boujelbene, 2014). Karlan and Valdivia (2006) explained that training is very effective to improve individual performance in acquiring building business ability. Students are assumed to get confidence and motivation, proactive, creative, and to learn how to work in team (Junior Achievement Young Enterprise Europe, 2007). As well as many program, if the students think that the choice to do entrepreneurship could not be achieved, the impact of entrepreneurship education program would not effective to create skills (Oosterbeek et al., 2010).

*H2: Entrepreneurship education program effectiveness gives positive and significant influence to entrepreneurial competency.*

### *3.3 Entrepreneurial competency and students business performance*

Entrepreneur is an important part in business success (Man et al., 2002; Volery et al., 2015). Entrepreneur's role in business success could be indicated from the competency

(Wagener et al., 2010). Simply, competency is defined as standard minimum of performance (Strebler et al., 1997). Mitchelmore and Rowley (2010) concluded that entrepreneurial competency is important for business growth and success, and the understanding of competency's characteristics and roles could have important consequence in practice. Ardyan and Putri (2016) research concluded that entrepreneurial competency could improve business performance. Competency needed are able to identify business opportunities, able to develop network, and able to think innovatively (Ardyan and Putri, 2016).

*H3: Entrepreneurial competency has positive influence and significant to students' business performance.*

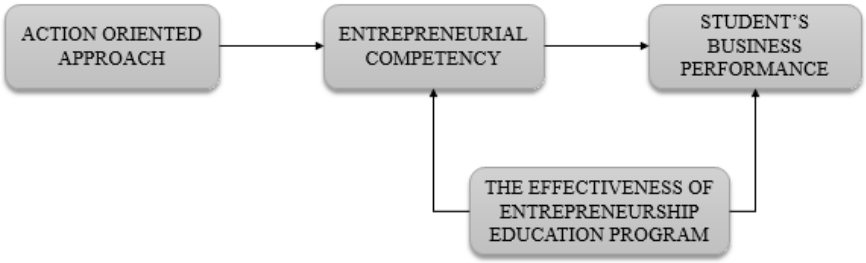
### *3.4 Entrepreneurship education program effectiveness and students' business performance*

Based on research conducted by van der Sluis and van Praag (2004), education will influence to entrepreneur's performance if measured from when students/entrepreneur is in college. A tough entrepreneur is prepared from accurate education and experience. Training approach is also effective to individual performance who build a business (Kuratko, 2005), which individual performance will influence to business performance. We believe that entrepreneurship education program effectiveness influence to students' business performance which will result better performance.

*H4: Entrepreneurship education program effectiveness has positive influence and significant to students' business performance.*

The empiric research model used in this study is shown in Figure 1.

**Figure 1** Empirical research model




## 4 Research method

### *4.1 Sample*

Data obtained from the questionnaire distribution. The data is collected during April–May 2017. There are approximately 300 students of Ciputra University, Indonesia who have business during college. The sampling technique in this research is simple random sampling. We took 160 respondents to study. One reason to use 160 respondents is that

the adequacy of samples for structural equation modelling is between 100 and 200 respondent (Hair et al., 2010). In 160 respondents, 40 respondents were female and 120 respondents were male.

### *4.2 Measurement*

Every question in this study is prepared in closed questions. The measurement scale for each question using 7 scales, in which scale 1 shows completely disagree and scale 7 shows completely agree.

There are 4 variables that are investigated in this study, those are action-based approach, the effectiveness of entrepreneurship education program, entrepreneurial competency, and students' business performance. Measuring variables needs indicators. Action-based approach indicators adopted from Jones and English (2004), Rimanoczy (2007) dan Smith and O'Neil (2003), which Entrepreneurship education based experience, Learn to solve real problem, and Entrepreneurship education based project. Indicators of effectiveness of entrepreneurship education program are the output of entrepreneurship program which set by Ciputra University, curriculum developed by Ciputra University is on target, program prepared by Ciputra University able to improve students' confidence. Entrepreneurial competency indicators are adopted from Izquierdo et al. (2005), those are ability to evaluate business opportunity, able to identify and solve problems, ability to invent creative idea and innovative product, and ability to arrange business plan. Students' business performance adopted from Acquaah (2012) those are students' business have customer growth, students' business have market growth, and students' business have profit growth.

### *4.3 Analysis*

Analysis in this research used Structural Equation Modelling. Amos version 21 is used to compute the data. Based on Anderson and Gerbing (1988) the process of data analysis SEM classified into two steps: (1) measurement model analysis, it is involved the beginning analysis and confirmatory factor analysis (CFA) to measure reliability and validly latent variable, and (2) structural model analysis, hypothesis is tested through observing line coefficient and the significance.

## 5 Result

### *5.1 Measurement model analysis*

Measurement model analysis conducted to test instrument's validity and reliability.

Validity test in this study used convergent validity (*loading factor* dan *Average Variance Extracted* (*AVE*)), and discriminant validity. Instrument which has good validity if loading factor and AVE score is above 0.50 (Hair et al., 2010). Table 1 explained about loading factor dan AVE score which is above 0.50; therefore it could be concluded that the developed instrument has good validity. Besides loading factor and AVE, validity could be tested using discriminant validity. Validity discriminant is tested through comparing AVE root and its correlation between variables. AVE root square score must be above correlation score of variables. Table 2 explained about discriminant

variable test result. The AVE root square score is above variables correlation score; therefore it could be concluded that instrument developed has good validity.

Reliability test in this study used Cronbach alpha and composite reliability. Instrument called reliable if Cronbach alpha score must be above 0.70 (Sekaran, 2003) and composite reliability score must be above 0.70 (Hair et al., 2010; Nunnally, 1978). Table 1 explained the result of reliability test. The Cronbach alpha and composite reliability scores are above the requirement; therefore it could be concluded that instrument developed has good reliability.

**Table 1** The result of validity and reliability

| *Reflective scale (measured on 1–7 point Likert Scale)* | *Standardised factor loading* |
|---|---|
| *Action Oriented Approach (Cronbach's α = 0.911; CR = 0.911; AVE = 0.774)* | |
| • Entrepreneurship education based experience | 0.884 |
| • Learn to solve real problem | 0.877 |
| • Entrepreneurship education based project | 0.878 |
| *Effectiveness of Entrepreneurship Education Program (Cronbach's α = 0.915; CR = 0.910; AVE = 0.772)* | |
| • The output of entrepreneurship education program set by Ciputra University is appropriate to the target outcome | 0.951 |
| • Curriculum developed by Ciputra University is on target | 0.825 |
| • Program set by Ciputra University is able to improve students confidence | 0.855 |
| *Entrepreneurial Competency (Cronbach's α = 0.911; CR = 0.909; AVE = 0.716)* | |
| • Ability to evaluate business opportunity | 0.781 |
| • Ability to identify and solve problems | 0.866 |
| • Ability to create creative idea and innovative product | 0.890 |
| • Ability to arrange business plan | 0.843 |
| *Student's Business performance (Cronbach's α = 0.894; CR = 0.905; AVE = 0.762)* | |
| • Students' business customer growth | 0.909 |
| • Students' business market growth | 0.925 |
| • Students' business profit growth | 0.608 |

**Table 2** Validity determination

| | *Effectiveness of entrepreneurship program* | *Action-based approach* | *Entrepreneurial capacity* | *Student venture performances* |
|---|---|---|---|---|
| Effectiveness of entrepreneurship education program | **0.879** | 0.334 | 0.545 | 0.386 |
| Action-based approach | 0.334 | **0.880** | 0.654 | 0.463 |
| Entrepreneurial capacity | 0.545 | 0.654 | **0.846** | 0.707 |
| Student's business performances | 0.386 | 0.463 | 0.707 | **0.873** |

### *5.2 Structural model analysis*

Goodness of fit could be explained as reference in measuring how well data observed appropriate to the assumed model (assumption). Goodness of fit agreed must be above the agreed score. This is the requirement of goodness of fit score: CMIN/DF must be under 2 (Ghozali, 2013); Root Mean Square Residual (RMR) must be < 0.05 (Ghozali, 2013); Goodness of Fit Index (GFI) must be ≥ 0.90 (Byrne, 1994; Cheung and Rensvold, 2002; Hu and Bentler, 1995); Normed Fit Index (NFI) must be ≥ 0.90 (Byrne, 1994); Incremental Fit Index (IFI) must be ≥ 0.90 (Hu and Bentler, 1995); Tucker Lewis Index (TLI) must be ≥ 0.90 (Arbuckle, 1997); Comparative fit index (CFI) must be ≥ 0.93 (Byrne, 1994); Root Mean Square Error Of Approximation (RMSEA) must be < 0.80 (Browne and Curdeck, 1993). The result of goodness of fit in this study is appropriate with the agreed requirement. This is the goodness of fit score: CMIN/DF= 1.404; RMR= 0.024; GFI= 0.925; NFI= 0.951; IFI= 0.985; TLI= 0.981; CFI= 0.955; and RMSEA= 0.050.

There are four hypotheses in this study. All hypotheses in this study are accepted (H1–H4). The results of hypothesis test are as follow: first, action-based approach has positive and significant influence to entrepreneurial competency ($\beta$ = 0.402; $\alpha$<0.05); second, the effectiveness of entrepreneurial program has positive and significant influence to entrepreneurial competency ($\beta$ = 0.303; α<0.05); third, entrepreneurial competency has positive and significant influence to student's business performance ($\beta$ = 0.658; α<0.05); fourth, effectiveness of entrepreneurship program has positive and significant influence student's business performance ($\beta$ = 0.244; α=0.002). Table 3 explained about the result of hypothesis test.

**Figure 2** Full model result

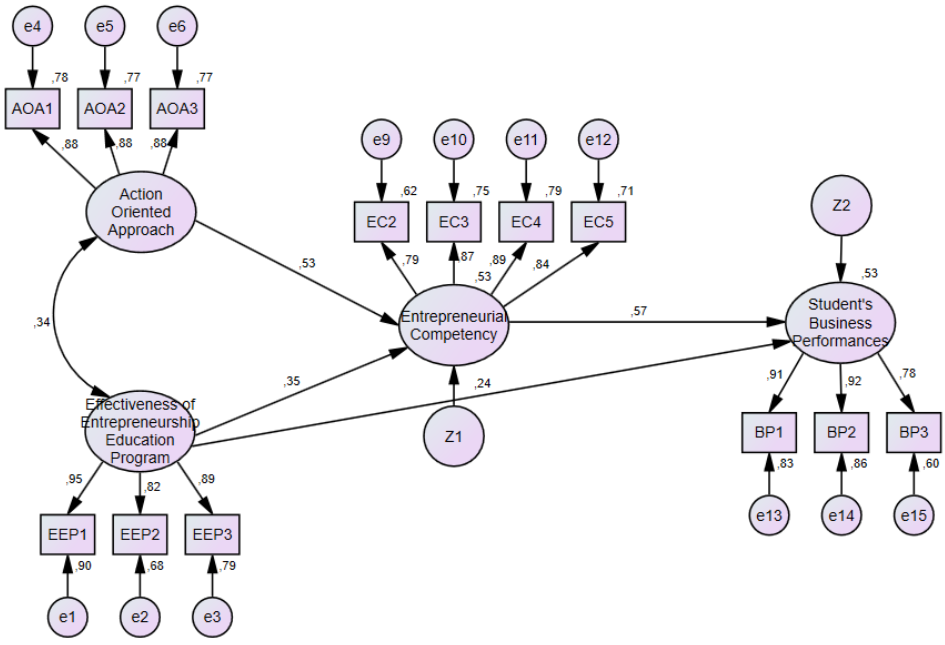


**Table 3** Hypothesis test result

| *Hypothesis* | *Result* | *Explanation* |
|---|---|---|
| H1 = Action based approach → entrepreneurial competency | $\beta = 0.402$* | H1 accepted |
| H2 = Effectiveness of Entrepreneurship Program → entrepreneurial competency | $\beta = 0.303$* | H2 accepted |
| H3 = Entrepreneurial competency → Student's business performance | $\beta = 0.658$* | H3 accepted |
| H4= Effectiveness of Entrepreneurship Program → Student's business performance | $\beta = 0.244$* | H4 accepted |

Note: * < 0.05.

## 6 Discussion

This study found action-based approach influenced positively and significantly to entrepreneurial competency. Learning process is the core point in entrepreneurship development process (Deakin et al., 2000). The way to do learning could be done through action-based approach. It is a learning approach to give as much as possible experience and solving reality problem on the field. Some researchers explained that competency could be changed, learned, and developed from experience, training, and coaching (Man et al., 2002; Volery et al., 2015; Wagener et al., 2010). Vance et al. (2011) studied about the successfulness of experience based approach which is very significant to help students in developing international business competence. Action-based approach is successfully applied in Ciputra University. This approach improves students' competency. Students who used it will acquire 4 competencies, those are competency to evaluate business opportunity, to identify and solve problems, to create creative ideas and innovative products, and to arrange business plan.

Entrepreneurship education effectiveness influenced positively and significantly to entrepreneurial competency and student business performance. The word "effective" means accurate. An accurate learning means that entrepreneurial education is appropriate to the vision of entrepreneurship education. A strategy to achieve accurate learning is through systematic learning process. A study explained that systematic learning process impacts to students' innovation and creativity (Secundo et al., 2017). Systematics means curriculum and learning system is well-managed. Starting from the beginning of semester to the end of semester, curriculums are prepared using competence based approach. Meaning, the curriculum and the learning process main goal is to upgrade students' competence in entrepreneurship. Entrepreneurship education effectiveness improves students' competence easily to learn course materials and business practices. Students who are able to learn will improve their entrepreneurial competency (Rae and Carswell, 2000). Entrepreneurship education successfulness will impact to students' skills, knowledge, and competency to develop their business (Man, 2006).

Besides competency, entrepreneurship education effectiveness also influences students' business performance. The aim of entrepreneurship education is to make students eligible to develop business since they study in collage. Their business must be growing and will be the first option career after they graduate from the university. Well learning process will impact to attitude, emotion, motivation, and personal factors; such

as, confidence, motivation to reach target, and determination (Bishop et al., 2001; Cope and Watts, 2000; Rae and Carswell, 2001). Those things will influence to business developed by students, especially to business performance.

Entrepreneurial competency could improve students'' business performance. Basically, entrepreneurial competency will impact to business development success (Rasmussen et al., 2014) and business performance (Chandler and Hanks, 1994; Chandler and Jansen, 1992). In this study, there are four dimensions of entrepreneurial competency proposed. Those are ability to evaluate business opportunities, ability to identify and solve problems, ability to produce creative ideas and innovative products, and ability to arrange business plan. Shane and Venkataraman (2000) explained that the core competency to master is ability to understand business opportunity. Understanding business opportunity will ignite students to build business (Shane, 2000). Another competency is ability to produce creative ideas and innovative products. Creativity could influence individual achievements (Dweck, 2000). Creativity is motivation to result business performance. Creativity drives individual to invent something new and innovation in products or services. Successfulness in innovation will impact to SMEs performance (Ardyan, 2016; Ardyan and Putri, 2016; Ardyan et al., 2016). Ability to arrange business plan is also important to students' business development success. Ability to plan the future involves ability to breakdown their vision to realistic plan to do which describe steps needed to achieve the goals (Brinckmann et al., 2010; Chwolka and Raith, 2012; Shane and Delmar, 2004).

The theoretical implication of this study is that entrepreneurship education effectiveness is not only build students' entrepreneurial competency but also success in building the business. An effective entrepreneurship education program will result to business built by students, one of them is business performance. Students who has entrepreneurial competency will be eligible to build successful business.

This study has managerial implication. First, the effectiveness of entrepreneurship education program is not only related to what they learn but also how the program become effective. Therefore, there must be close relationship in the system applied in the university. University's vision and mission, goals, students, the content of entrepreneurship education material, learning course, integration of pedagogy and assessment techniques must be in well-designed atmosphere to create growing entrepreneurship since students are in the collage. Second, the curriculum becomes an important part in action-based approach. Action-based learning can be done by providing experience through mentoring, coaching, group discussions, trials, discoveries, learning from one another and providing problem-based learning and issues in the actual workplace.

## 7 Conclusion and future research

The development of student competence is a very important part of entrepreneurship education. Successful entrepreneurship education programs greatly influence the improvement of entrepreneurial competence. In this study, students must have entrepreneurial competence such as ability to evaluate business opportunity, ability to identify and solve problems, ability to generate creative ideas and innovative products, and ability to write business planning. The entrepreneurial competence will enable the student to make a new business and the business will be successful in the future.

The entrepreneurial competence is also shaped from the right approach, the action-based review approach. Action-based approach is able to increase the competence of entrepreneurship.

The Present study has limitation. First, this study limits only 4 indicators of entrepreneurial competence, i.e. ability to evaluate business opportunities, able to identify and solve problems, ability to generate creative ideas and innovative products, and ability to write business planning. For future research is strived to further expand the entrepreneurial competence. Second, the definition of the effectiveness of entrepreneurship education programs in every university in Indonesia is different. For future research is expected to create the concept of the effectiveness of entrepreneurship education programs. The research is expected to be expanded so that it is not glued to only one university but various universities.

## Reference

Acquaah, M. (2012) 'Social networking relationship, firm-specific managerial experience and firm performance in a transititon economy: a comparative analysis of family owned and non family firms', *Strategic Managment Journal*, Vol. 33, pp.1215–1228.

Anderson, J.C. and Gerbing, D.W. (1988) 'Structural equation modeling in practice: a review and recommended two-step approach', *Psychological Bulletin*, Vol. 103, No. 3, pp.411–423.

Arbuckle, J. (1997) *Amos Users' Guide Version 4*, Smallwaters Corporation, Chicago, IL.

Ardyan, E. (2016) 'Market sensing capability and SMEs performance: the mediating role of product innovativeness success', *DLSU Business and Economics Review*, Vol. 25, No. 2, pp.1–18.

Ardyan, E. and Putri, T.O. (2016) 'Dampak positif seorang wirausaha yang memiliki kompetensi kewirausahaan pada kesuksesan inovasi produk dan kinerja bisnis', *Jurnal Kewirausahaan dan Usaha Kecil Menengah*, Vol. 1, No. 1, pp.11–19.

Ardyan, E., Rahmawan, G. and Isstianto, S. (2016) 'Building entrepreneurial networking quality to improve the success of innovation and Batik SMEs performance', *International Journal of Sociotechnology and Knowledge Development*, Vol. 8, No. 4, pp.37–54.

Athayde, R. (2009) 'Measuring enterprise potential in young people', *Entrepreneurship Theory and Practice*, Vol. 33, No. 2, pp.481–500.

Bakar, A.S., Sulaiman, M. and Osman, I. (2014) 'Exploring the relationship between busines factor and performance in the Malaysian halal biotechnology SMEs context', *Procedia-Social and Behavioral Sciences*, Vol. 121, pp.243–252.

Ben Nasr, K. and Boujelbene, Y. (2014) 'Assesing the impact of entrepreneurship education', *Procedia-Social and Behavioral Sciences*, Vol. 109, pp.712–715.

Bird, B. (1995) 'Toward a theory of entrepreneurial competency', *Advance in Entrepreneurship, Firm Emergence, and Growth*, Vol. 2, pp.51–72.

Bishop, K., Crown, D.F. and Weaver, K.M. (2001) 'Viewing entrepreneurs as learning individuals and related implications for entrepreneurial training', *Paper presented at the Midwest Academy of Management 2001 Annual Conference*, San Francisco, CA.

Brinckmann, J., Grichnik, D. and Kapsa, D. (2010) 'Should entrepreneurs plan or just storm the castle? A meta-analysis on contextual factors impacting the business planning–performance relationship in small firms', *Journal of Business Venturing*, Vol. 25, No. 1, pp.24–40.

Brockhaus, R.H., Hills, G.E., Klandt, H. and Welsch, H.P. (2001) *Entrepreneurship Education – a Global View*, Ashgate, Burlingto, VT.

Browne, M. and Curdeck, R. (1993) 'Alternative ways of assessing model fit', in Bollen, K.A. and Long, J.S. (Eds): *Testing Structural Equation Models*, Sage, Newbury Park, CA, pp.136–162.

Byrne, B.M. (1994) *Structural Equation Modeling with EQS and EQS/Windows*, Sage, Thousand Oaks, CA.

Carey, P.J. (2015) 'External accountants' business advice and SME performance', *Pacific Accounting Review*, Vol. 27, No. 2, pp.166–188.

Chan, K.C. (1994) 'Learning for total quality an action learning approach', *The Learning Organization*, Vol. 1, No. 1, pp.17–22.

Chandler, G.N. and Hanks, S.H. (1994) 'Founder competence, the environment and venture performance', *Entrepreneurship Theory and Practice*, Vol. 18, No. 3, pp.77–98.

Chandler, G.N. and Jansen, E. (1992) 'The founder's self-assessed competence and venture performance', *Journal of Business Venturing*, Vol. 7, No. 3, pp.77–98.

Charney, A. and Libecap, G.D. (2008) 'Impact of entrepeneurship education', *A Kauffman Research Series*, pp.1–8.

Chaston, I., Badger, B. and Sadler-Smith, E. (1999) 'Organisational learning: research issues and application in SME sector firms', *International Journal of Entrepreneurial Behavior & Research*, Vol. 5, No. 4, pp.191–203.

Cheng, M.I. and Dainty, A.R.J. (2003) 'The differing faces of managerial competency in Britain and America', *Journal of Management Development*, Vol. 22, No. 6, pp.526–537.

Cheung, G.W. and Rensvold, R.B. (2002) 'Evaluating goodness-of-fit indexes for testing measurement invariance', *Structural Equation Modeling*, Vol. 9, No. 2, pp.233–255.

Chwolka, A. and Raith, M.G. (2012) 'The value of business planning before start-up: a decision-theoretical perspective', *Journal of Business Venturing*, Vol. 27, No. 3, pp.385–399.

Cope, J. and Watts, G. (2000) 'Learning by doing – an exploration of experience, critical incidents and reflection in entrepreneurial learning', *International Journal of Entrepreneurial Behavior & Research*, Vol. 6, No. 3, pp.104–124.

Deakin, D., O'Niel, E. and Mileham, P. (2000) 'Executive learning in entrepreneurial firms and the role of external directors', *Education and Training*, Vol. 42, Nos. 4/5, pp.317–325.

Dweck, C.S. (2000) *Self-theories: Their role in motivation, personality and development*, Psychology Press, New York.

Fayolle, A. (2005) 'Evaluation of entrepreneurship education: behavior performing or intention increasing?' *International Journal of Entrepreneurship and Small Business*, Vol. 2, No. 1, pp.89–98.

Fiet, J.O. (2001) 'The theoretical side of teaching entrepreneurship', *Journal of Business Venturing*, Vol. 16, No. 1, pp.1–24.

Ghozali, I. (2013) *Model persamaan struktural: Konsep dan aplikasi dengan Program AMOS 21*, Universitas Diponegoro, Semarang.

Gibb, A. (2002) 'In pursuit of a new 'enterprise' and 'entrepreneurship' paradigm for learning: creative destruction, new values, new ways of doing things and new combinations of knowledge', *International Journal of Management Reviews*, Vol. 4, No. 3, pp.233–269.

Gorman, G., Hanlon, D. and King, W. (1997) 'Some research perspectives on entrepreneurship education, enterprise education and education for small business management: a ten-year literature review', *International Small Business Journal*, Vol. 15, No. 3, pp.56–79.

Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2010) *Multivariate Data Analysis*, 7th ed., A Global Perspective, New York.

Hamidi, D.Y., Wennberg, K. and Berglund, H. (2008) 'Creativity in entrepreneurship education', *Journal of Small Business and Enterprise Development*, Vol. 15, No. 2, pp.304–320.

Harrison, R. and Leitch, C. (2008) *Entrepreneurial Learning: Conceptual Frameworks and Application*, Routledge, London.

Hu, L.T. and Bentler, P.M. (1995) 'Evaluating model fit', in Hoyle, R.H. (Ed.): *Structural Equation Modeling: Concepts, Issues, and Applications*, Sage, Thousand Oaks, CA, pp.76–99.

Izquierdo, E., Deschoolmeester, D. and Salazar, D. (2005) 'The importance of competencies for entrepreneurship: A view from entrepreneur', *Paper presented at the International of Entrepreneurship 2005*, Spanyol.

Johannisson, B., Halvarsson, D. and Lovstal, E. (1998) 'University training for entrepreneurship: an action fram of reference', *European Journal of Engineering Education*, Vol. 23, No. 4, pp.477–496.

Jones-Evans, D., Williams, W. and Deacon, J. (2000) 'Developing entrepreneurial graduates: an action-learning approach', *Education + Learning*, Vol. 42, Nos. 4/5, pp.282–288.

Jones, C. and English, J. (2004) 'A contemporary approach to entrepreneurship education', *Education+Training*, Vol. 46, Nos. 8/9, pp.416–423.

Junior Achievement Young Enterprise Europe (2007) *Entrepreneurs are made, not born*.

Karlan, D. and Valdivia, M. (2006) *Teaching entrepreneurship: impact of business training on microfinance clients and institutions*, Working Paper.

Katz, J.A. (2003) 'The chronology and intellectual trajectory of American entrepreneurship education 1876–1999', *Journal of Business Venturing*, Vol. 18, No. 2, pp.76–97.

Kautonen, T., van Gelderen, M. and Fink, M. (2013) 'Robustness of the theory of planned behavior in predicting entrepreneurial intentions and actions', *Entrepreneurship Theory and Practice*, Vol. 39, No. 3, pp.655–674.

Klofsten, M. (2000) 'Training entrepreneurship at universities: a Swedish case', *Journal of European Industrial Training*, Vol. 24, No. 6, pp.337–344.

Kuratko, D.F. (2005) 'The emergency of entrepreneurship education: development, trends and challenges', *Entrepreneurship Practice and Theory*, Vol. 29, No. 3, pp.577–596.

Kyndt, E. and Baert, H. (2015) 'Entrepreneurial competencies: assessment and predictive value for entrepreneurship', *Journal of Vocational Behavior*, Vol. 90, October, pp.13–15.

Laukkanen, M. (2000) 'Exploring alternative approaches in high-level entrepreneurship education: creating micro-mechanisms for endogenous regional growth', *Entrepreneurship and Regional Development*, Vol. 12, pp.25–47.

Lekoko, M., Rankumise, E.M. and Ras, P. (2012) 'The effectiveness of entrepreneurship education: What matters most?' *African Journal of Business Management*, Vol. 6, No. 51, pp.12023–12033.

Lewrick, M., Omar, M., Raeside, R. and Sailer, K. (2010) 'Education for entrepreneurship and innovation: "Management capabilities for sustainable growth and success"', *World Journal of Entrepreneurship, Management and Sustainable Development*, Vol. 6, Nos. 1/2, pp.1–18.

Linan, F. (2004) 'Intention-based models of entrepreneurship education', *Paper presented at the 14th Annual International Entrerpeneurship Conference*, Napoly.

Man, T.W.Y. (2006) 'Exploring the behavioural patterns of entrepreneurial learning', *Education and Training*, Vol. 48, No. 5, pp.309–321.

Man, T.W.Y., Lau, T. and Chan, K.F. (2002) 'The competitiveness of small and medium enterprises: a conceptualization with focus on entrepreneurial competencies', *Journal of Business Venturing*, Vol. 17, No. 2, pp.123–142.

Minchna, A. (2009) 'The relationship between organizational learning and SME performance in Poland', *Journal of European Industrial Training*, Vol. 33, No. 4, pp.356–370.

Mitchelmore, S. and Rowley, J. (2010) 'Entrepreneurial competencies: a literature review and development agenda', *International Journal of Entrepreneurial Behavior & Research*, Vol. 16, No. 2, pp.92–111.

Nunnally, J.C. (1978) *Phsycometric*, McGraw-Hill, New York.

Nuthall, P.L. (2006) 'Determining the important management skill competencies: the case of family farm business in New Zealand', *Agricultural Systems*, Vol. 88, Nos. 2/3, pp.429–450.

Oosterbeek, H., van Praag, M. and Ijsselstein, A. (2010) 'The impact of entrepreneurship education on entrepreneurship skills and motivation', *European Economic Review*, Vol. 54, pp.442–454.

Pittaway, L. and Cope, J. (2007) 'Entrepreneurship education. A systematic review of the evidence', *International Small Business Journal*, Vol. 25, No. 5, pp.479–510.

Porter, L. (1994) 'The relation of entrepreneurship education to business education', *Simulation and Gaming*, Vol. 25, No. 3, pp.416–419.

Rae, D. and Carswell, M. (2000) 'Using a life-story approach in researching entrepreneurial learning: the development of a conceptual model and its implications in the design of learning experiences', *Education and Training*, Vol. 42, Nos. 4/5, pp.220–227.

Rae, D. and carswell, M. (2001) 'Towards a conceptual understanding of entrepreneurial learning', *Journal of Small Business and Enterprise Development*, Vol. 8, No. 2, pp.150–158.

Rasmussen, E.A., Mosey, S. and Wright, M. (2014) 'The influence of university departments on the evolution of entrepreneurial competencies in spin-off ventures', *Research Policy*, Vol. 43, pp.92–106.

Rasmussen, E.A. and Sørheim, R. (2006) 'Action-based entrepreneurship program', *Technovation*, Vol. 26, pp.185–194.

Rauch, A. and Hulsink, W. (2014) 'Putting entrepreneurship education where the intention to act lies: an investigation into the impact of entrepreneurship education on entrepreneurial behavior', *Academy of Management: Learning and Education*, Vol. 14, No. 2, pp.187–204.

Ravens, R. (1998) *ABC of Action Learning: Empowering Managers to Act to Learn from Action*, The Mike Pedler Library, London.

Rengiah, P. (2013) *Effectiveness of Entrepreneurship Education in Developing Entrepreneurial Intentions among Malaysian University Students*, Southern Cross University, Australia.

Rimanoczy, I. (2007) 'Action learning and action reflection learning: are they different?' *Industrial and Commercial Training*, Vol. 39, No. 5, pp.246–256.

Secundo, G., Del Veccjio, P., Schiuma, G. and Passiante, G. (2017) 'Activating entrepreneurial learning processes for transforming university students' idea into entrepreneurial practices', *International Journal of Entrepreneurial Behavior & Research*, Vol. 23, No. 3, pp.465–485.

Sekaran, U. (2003) *Research Method for Business: A Skill Building Approach*, Vol. 3, John Wiley & Son, Inc., New York.

Shane, S. (2000) 'Prior knowledge and the discovery of entrepreneurial opportunities', *Organization Science*, Vol. 4, No. 4, pp.448–469.

Shane, S. and Delmar, F. (2004) 'Planning for the market: business planning before marketing and the continuation of organizing efforts', *Journal of Business Venturing*, Vol. 19, pp.767–785.

Shane, S. and Venkataraman, S. (2000) 'The promise of entrepreneurship as a field of research', *The Academy of Management Review*, Vol. 25, No. 1, pp.217–226.

Smith, P.A.C. and O'Neil, J. (2003) 'A review of action learning literature 1994-2000: part 1-bibliography and comments', *Journal of Workplace Learning*, Vol. 15, No. 2, pp.63–69.

Sok, P., O'cass, A. and Sok, M.K. (2013) 'Achieving superior SME performance: overarching role of marketing, innovation, and learning capabilities', *Australasian Marketing Journal*, Vol. 21, No. 3, pp.161–167.

Strebler, M., Robinson, D. and Heron, P. (1997) *Getting the Best Out of Your Competencies*, Institute of Employment Studies, University of Sussex, Brighton.

Takata, H. (2016) 'Effects of industry forces, market orientation, and marketing capabilities on business performance: an empirical analysis of Japanese manufacturers from 2009 to 2011', *Journal of Business Research*, Vol. 69, No. 12, pp.5611–5619.

van der Sluis, J. and van Praag, M. (2004) 'Economic returns to education for entrepreneurs: the development of a neglected child in the family of economics of education?' *Swedish Economic Policy Review*, Vol. 11, No. 2, pp.183–226.

van Lier, L. (2007) 'Action-based teaching, autonomy and identity', *Innovation in Language Learning and Teaching*, Vol. 1, No. 1, pp.46–66.

Vance, C.M., Sibeck, G., McNulty, Y. and Hogenauer, A. (2011) 'Building global competencies through experiential coursework in international travel and tourism', *Journal of International Education in Business*, Vol. 4, No. 1, pp.30–41.

Volery, T., Mueller, S. and von Siemens, B. (2015) 'Entrepreneur ambidexterity: a study of entrepreneur behaviors and competencies in growth oriented small and medium-sized enterprises', *International Small Business Journal*, Vol. 33, No. 2, pp.109–129.

Wagener, S., Marjan, G. and Risjsdijs, S. (2010) 'Businessman or host? Individual differences between entrepreneurs and small business owners in the hospitality industry', *The Service of Industrial Journal*, Vol. 30, pp.1513–1527.

Walter, S.G. and Block, J.H. (2016) 'Outcome of entrepreneurship education: an institutional perspective', *Journal of Business Venturing*, Vol. 31, pp.216–233.

Walter, S.G., Parboteeah, K.P. and Walter, A. (2013) 'University departments and self-employment intentions of business students: a cross-level analysis', *Entrepreneurship Theory and Practice*, Vol. 37, No. 2, pp.175–200.

Wijaya, O.Y.A. and Radianto, W.E.D. (2016) 'Mentoring dan coaching sebagai strategi pengembangan pendidikan kewirausahaan: studi fenomenologi', *Jurnal Aplikasi Manajemen*, Vol. 14, No. 4, pp.675–682.

Yam, R.C.M. and Pun, K.F. (2005) 'Enhancing quality teaching in operations management: an action learning approach', *Asian Journal on Quality*, Vol. 6, No. 1, pp.43–57.

Yeng Kiat, O. and Shuhymee, A. (2012) 'A study among university students in business startups in Malaysia: motivations and obstacles to become entrepreneurs', *International Journal of Small Business and Enterprises Development*, Vol. 3, No. 9, pp.181–192.

Zahra, S.A. and Garvin, D.M. (2000) 'Entrepreneurship andfirm performance: the moderating effect of international environmental hostility', *Journal of Business Venturing*, Vol. 15, No. 5, pp.469–492.

Zuber-Skerritt, O. (2002) 'The concept of action learning', *The Learning Organization*, Vol. 9, No. 3, pp.114–124.