

Computerized Entrepreneurship Education – Special Review on Life Quality in Digital Era

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Abstract. Social and economic gap remain a crucial issue in Indonesia related to the level of poverty. This research focuses on analyzing how computerized entrepreneurship education can help reduce poverty in terms of improving quality of life. Studies on quality of life need to be performed in this study considering that most of the previous studies highlight unemployment and income levels as indicators of poverty, without relating it to the quality of life. In addition computerized business now has become a new trend for income generating activities. Quantitative methods were used in the research by applying Man Whitney analysis to compare quality of life between two groups of respondents. WHOQOL-BREF is used as the research instrument and was distributed to group 1 consisting of respondents who had been given computerized entrepreneurship education and group 2 consisting of respondents who were not given entrepreneurship education. Research findings indicates that computerized entrepreneurship education can help reduce poverty through significant improving in the quality of life. Entrepreneurship creates positive change which ultimately bring huge effect on human wellbeing. The research contributes to enhance our knowledge about computerized entrepreneurship education as a pathway to reduce poverty.

1. Introduction

One indicator of the success of a country's economic development is the ability of a country to overcome the problem of poverty [1]. Over the past decade, the government has succeeded in reducing poverty levels in Indonesia. One of the efforts made by the government to reduce poverty is to increase investment in the field of human resource development through education. The education sector is getting government attention because the relationship between education and poverty is very strong. The higher a person's education, the higher his/her expertise thereby increasing opportunity to get a job or open a business which in turn will increase income. In line with this, Agi and Yellowe (2013) stated that education is important for the development of human resources, knowledge and also for the character building. The level of education is very influential on the level of poverty since education become a major



component in the vicious cycle of poverty. Therefore, one way to unravel poverty problems is through improving the quality of education [2].

Poverty is a condition where an individual does not have access to basic human needs, namely clothing, food, and housing. Poverty also means lack of income, competence, confidence or powerlessness. Poverty can be caused by low productivity and low drive for entrepreneurship [3]. According to Alan E Singer (2006) the best strategy for overcoming poverty in various parts of the world is to encourage more business activities and the emergence of new businesses through entrepreneurship. In current conditions, entrepreneurship is a profession that promises to increase prosperity and improve quality of life [4]. Frinces (2004), explained that the contribution of entrepreneurship is to create business, employment, the main driver of economic activity, driving change and innovation, creating competitive advantage, creating people's hopes for a good and prosperous life and encouraging national independence [5].

Various studies explained the close relationship between entrepreneurship and poverty. O.J.K Ogundele et.al (2012) in his case study in Nigeria explained that the federal government had set entrepreneurship as a measure to reduce poverty and unemployment in the country. Ogundele's findings stated that entrepreneurship training and education had a significant influence on improving the welfare and empowerment of youth in Nigeria. This study measures youth empowerment as an indicator of poverty reduction [6]. This research does not specifically focus on the quality of life. Brutton, Ketchen and Reland (2013) stated that computerized entrepreneurship education creates long-term solutions for people under the poverty problems. This research was conducted by reviewing 71 literature, and did not calculate the real number regarding the percentage of improvement in quality of life [7]. L Boyer et.al (2014) conducted a study on poverty-related quality of life, but this study focused more on health quality [8]. Fitri Amalia (2012) found that education had a significant influence on poverty levels in Eastern Indonesia. This research focuses on the economic dimension which measures unemployment and inflation [9]. In addition to the above studies, many studies have shown that education has a significant influence on poverty levels [10, 11]. Studies on the effect of computerized entrepreneurship education on poverty reduction specifically highlighting improvements in quality of life have not been found. A comprehensive study of quality of life that is multidimensional is needed.

Computerized education is crucial and has become necessity in the digital era. ICT support education process combined with different type of multimedia, computer based graphics, and computer generated text, music, recorded audio and video clips. The lectures material can be then played on computers, be burned on DVDs or uploaded on a website. However, the research focused in the computerized education, especially in the field of entrepreneurship related to life quality is still rare to be found. Indeed, this is become the originality behind this work. In addition, The Economic Commission for African has indicated that the ability to access and use information is no longer a luxury, but a necessity for Entrepreneurship Education. Iwu and Nzeako (2012) through their research claimed that Information Communication Technology (ICT) is the viable tool for computerized entrepreneurship education [12]. Unfortunately, this research is not related to life quality. Kalu and Onwukwe (2015) states that ICT enable the corporation to develop more efficient infrastructure and contribute for the added value in computerized entrepreneurship education [13]. In this connection, this research has the aims to analyze on how computerized entrepreneurship education can help reduce poverty in terms of improving quality of life. The quantitative method with qualitative approach is performed in this research.

2. Experimental method

The data used in this study are primary data. WHOQOL-BREF which is a concise version of WHOQOL-100 is used as an instrument to measure quality of life. WHOQOL-BREF consists of 26 items / questions

covering four domains [14]. The domains measured are the domains of physical health, psychology, social relations and the environment. The WHOQOL-BREF instrument was given to two groups of respondents with each group is consisted of 30 people. In addition, the interviewer will help to explain the questions. Data collection was carried out at the low economically class people in Binongjati, Bandung, West Java on August 20, 2019. The first group is consisted of 30 people which several years ago who had been given training and computerized entrepreneurship education by the government and Universitas Komputer Indonesia (UNIKOM) through community service program. The second group is consisted of 30 people who had never been given computerized entrepreneurship education.

Questions from WHOQOL-BREF is given a score that covers four domains: i) physical: 7 questions, ii) psychological: 6 questions, iii) social relations: 3 questions and iv) environment: 8 questions. Each question is given a value of 1 to 5, and higher value is a better quality of life. The score of the domain is calculated by multiplying the average of each set by 4. The domain is not given a score, if 20% of the questions are not answered by the respondent. Data from the WHOQOL-BREF questionnaire were analyzed using Man Whitney analysis. Man Whitney's analysis is used to compare two different groups of respondents.

3. Results and Discussion

Computerized teaching, also well known as digitalized teaching resources, are the kind of teaching resources that are developed or collected by the staff, are processed in a digital manner or exist in a digital form, show features of expressiveness, share-ability and interactivity, can be presented on multimedia or internet, and seek for self-directed exploration or communication in students [15].

Table 1 show the resources of computerized teaching is shown below as classified according to different criteria:

Table 1. Computerized teaching resources listed by criteria [15]

Criteria	Category	Examples
Components	Hardware	Computer, multi-touch screen, projector, camera
	Software	Software for education, courseware, video, audio, on-line curriculum, learning management system (LMS)
Generation	Technical	Digital hardware and audio resources for education, teacher-student interactive platform
	Informative	E-text book, multimedia courseware, multimedia test, multimedia teaching media
	Intelligent	Information resources such as thought, attraction and innovation that are generated during the process and computerized teaching.
Criteria	Category	Examples
Application	Multimedia	CAI courseware, video & audio interactive resources, plan, multimedia materials
	Management Data Base	Teaching and research management information resources
	Library Data Base	Inquiry and retrieval service resources
	Dynamic/General Data Base	Resources for campus news release, Q&A and software download
Presentation		Text, picture, animation, audio, video, webpage
Carriers		CD, IP, webpage, resource base
Objectives		Public, exclusive, disciplinary, teaching and learning

Computerized teaching resources are widely informative, conveniently retrievable, incrementally heritable, interactively transmissible and remotely sharable. For this study, the term “computerized teaching resources for people in Binongjati” is defined as the sum of the content of entrepreneurship education, supporting materials for lectures, computerized tools and service platforms (as technical carriers) that are developed with computers, communication technologies and/or network technologies, etc., In terms of quality of life, improving education is a crucial issue for our society. Innovation by adding technology in entrepreneur education can stimulate participants be successful. Technology can multiply the force to work harder. Indeed it can extend education in many ways. The attractive education through digital media stimulate people of Binongjati to create small business and inspire them to improve their income. Computerized education as creative media to describe entrepreneurship able to increase self-motivation and independence. In other word its improve self-efficacy which is described as the ability and motivation to learn, adapt, take action, and put forth one’s best effort, particularly in demanding situations. Furthermore, it is enhance ability to solve the problem through critical thinking.

The results obtained (see Table 2) indicate that the domain 1 (Physical health) in the group of respondents who were given computerized entrepreneurship education is in the good category (72.19%). In the group that was not given entrepreneurship education, the average physical health showed a lower rate of 48.67% and was in the fair category.

Table 2. The Average of Life Quality

Domain	Educated with entrepreneurship	Computerized	Uneducated with Entrepreneurship	Computerized
	Averages (%)	Category	Averages (%)	Category
Physic Health	72.19%	Good	48.67%	Fair
Psychology Health	70.44%	Good	48.67%	Fair
Social Relationship	72.22%	Good	50.89%	Fair
Environment	66.00%	Good	59.17%	Fair

Source: research data

For people who have not been given entrepreneurship education, their income tends to be lower because there is no stimulation to change motivation in life and no knowledge of how to open a business. The income level below the poverty line and the low opportunity to obtain various social welfare facilities will make it difficult to fulfill various nutritional food needs or the ability to fight disease, so it is not surprising that in their environment the rate of infant mortality is high. Various types of diseases threaten weak economic groups, such as: malaria, tuberculosis, eye disease, kwashiorkor, and others as a result of weak resistance. This causes their life expectancy to be short and their mortality rates high. These poor groups tend to avoid health facilities that require costs makes them have to deal with many problems such as outpatient care, delay hospital services, buy half or even a third of prescribed drugs so they do not undergo total treatment. In addition, they tend to seek local treatment that is sometimes it can have harmful effects, give birth at home with the help of traditional healers who increase the risk of childbirth, the disease becomes chronic due to avoiding expensive treatment. Patients with kidney failure tend to delay, cancel or cancel treatment, patients tend to treat themselves resulting in complications, the rate of abortion increases because of costs and socio-economic implications, patients refuse or postpone surgical procedures due to lack of funds

Table 2 also explains the results of the Domain 2 (Psychology health) descriptive analysis in the group receiving entrepreneurship education. The results obtained showed that domain 2 (psychology) in the group of

respondents who were given computerized entrepreneurship education was in the good category (70.44%). While the results obtained in the group not given computerized entrepreneurship education were 48.67% in the quite good category. In the theory of Felce and Perry (1996) it is mentioned that psychological well-being includes influence, fulfillment, stress and mental state, self-esteem, status and respect, religious beliefs, and sexuality [16]. In the elderly, a person will experience changes in physical, cognitive, and psychosocial [17]. The stability of psychological well-being is one of the factors that play a role in improving psychological well-being. Being in poor condition also tends to shut down because of experiencing a sense of self-confidence. to have relations with the VC.

Psychological health refers to positive affect, spirituality, thinking, learning, memory and concentration, self-image and appearance, self-esteem, and negative affect. Based on the above theory, psychological well-being is one of the factors that determines the quality of human life. Psychological factors are important factors for individuals to exercise control over all the events they experience in life. Likewise with the poor. The decrease in psychological ability is due to the vulnerability of conflict with family or the environment due to lack of funds or facilities and lack of funds and facilities to reduce stress such as recreation or joining social groups.

Table 2 also explains the results of the Domain 3 (Social Relations) descriptive analysis of groups receiving entrepreneurship education. The results obtained indicate that domain 3 (Social Relations) in the group of respondents who were given computerized entrepreneurship education is in the good category (72.22%). Whereas the group that was not given computerized entrepreneurship education showed a lower rate of 50.89% which was in the quite good category.

Quality of life is known as an indication of the level of social function in mental health. This is important in supporting social relations and community relations, which is a bond that a person has with his social environment, including being happy to gather with friends, having social relationships, being active and not experiencing difficulties in social relationships. Spiritual and social activities will provide the highest value for someone to find meaningfulness and sense of self-worth [18]. In accordance with the above theory, social welfare is one of the factors in determining the quality of life of a person. Measurement of quality of life involves mapping the overall life and considering every event in life or social context that has the potential to affect the quality of life of individuals. Using the term quality makes us associate it with a standard of perfection that is related to human characteristics and positive values such as happiness, success, health, and satisfaction, where life indicates that the concept underlines the recognition of the social environment of one's own existence.

Table 2 explains the results of the Domain 4 (Environmental) descriptive analysis of the groups receiving entrepreneurship education. The results obtained showed that domain 4 (environment) in the group of respondents who were given computerized entrepreneurship education was in the good category (66.00%). In groups that were not given computerized entrepreneurship education, the results of the analysis showed 59.7% or in the quite good category. Quality of life is defined as a person's perception of his position in life in relation to the culture and value system where he lives in relation to goals, expectations, standards, and other interesting things [15]. Quality of life is a multidimensional construct that is influenced by personal and environmental factors, such as close relationships (intimate relationships), family life, friendship, the world of work, neighbors, cities of residence, settlements, education, health, living standards, and conditions in a country. Based on the above theory, a place to live must be able to create a peaceful, peaceful, and pleasant atmosphere for its residents so that residents can feel at home and feel that they continue to want to live in that place. Thus, the elderly will be supported by

the environment to achieve a high quality of life. The quality of life of individuals is intrinsically related to the quality of life of others in their environment. This is supported by the opinion of Samuelson and Litzler (2016) that the quality of a person's life reflects the cultural wealth of a person and those around him [19].

The role of the family is also very important to print someone to become an entrepreneur. Computerized entrepreneurship education can take place from an early age in the family environment. According to Anderson et al. (2016) parents who have a profession as entrepreneurs give inspiration to children to become entrepreneurs [20]. The flexibility and independence of entrepreneurs are studied by children from childhood with the example of their own parents. Children are also inspired because they have been trained since childhood, brought to the place of business, helping the work of their parents at the place of business, being introduced to their parents 'relationships, and inherited by their parents' businesses. Through family the entrepreneurial mindset is formed. Therefore, the interest in entrepreneurship grows and develops well in someone who lives and grows in an entrepreneur family environment. Unfortunately, not all family or parent environments play a good role in shaping children's interest in entrepreneurship. This is caused by many factors, including: limited parental knowledge, mindset in the family being a civil servant or employee is safer than being an entrepreneur, there are no examples of entrepreneurs in the family, and so forth.

Tables 3 and 4 show the results of the Mann Whitney statistical test. Table 2 shows the mean rank or average rank of the health domain in the group given computerized entrepreneurship education 37.80, higher than the average ranking of the group not given entrepreneurship education, which is 23.20. The significance value of 0.001 is smaller than 0.05, indicating that there are significant differences between groups given computerized entrepreneurship education related to physical health. This explains that the hypothesis in this study was accepted. Computerized entrepreneurship education is a provision for someone to try to change their economic conditions. Good economic conditions will result in better access to health facilities. In line with this the previous research stated that there are several factors that cause a decrease in environmental health along with an increase in the poverty rate. These factors are natural factors, the industry is inadequate for the absorption of local labor, the built physical factors, namely the condition and provision of public facilities and infrastructure is still lacking; socioeconomic factors, can be classified into two, namely internal factors from within the region and external factors from outside the region; socio-cultural factors, such as population, economic level, education level, and culture. the education and health sector has a positive and significant effect on economic growth, and economic growth has a negative effect, although not yet significantly on poverty reduction [21].

Table 3. The Result of Man Whitney Test

	Educated with Computerized Entrepreneurship	N	Mean Rank	Sum of Ranks
Physics Health (X1)	YES	30	37.80	1134.00
	NO	30	23.20	696.00
	Total	60		
Psychology (X2)	YES	30	39.70	1191.00
	NO	30	21.30	639.00
	Total	60		
Social Relationship (X3)	YES	30	42.13	1264.00
	NO	30	18.87	566.00

Environment (X4)	Total	60		
	YES	30	35.82	1074.50
	NO	30	25.18	755.50
	Total	60		

Table 4. The Result of Man Whitney Test

	Physics Health (X1)	Psychology (X2)	Social Relationship (X3)	Environment (X4)
Mann-Whitney U	231.000	174.000	101.000	290.500
Wilcoxon W	696.000	639.000	566.000	755.500
Z	-3.321	-4.132	-5.200	-2.388
Asymp. Sig. (2-tailed)	.001	.000	.000	.017

a. Grouping Variable: Educated with Computerized Entrepreneurship

Mean rank or average rank in the psychological domain shows the group given computerized entrepreneurship education 39.70, higher than the average ranking of groups not given entrepreneurship education, which is equal to 21.30. The significance value of 0.001 is smaller than 0.05, indicating that there are significant differences between groups given computerized entrepreneurship education related to psychological health. Psychologically, people who are classified as poor usually have a feeling of inferiority and attitude do not care and are passive towards the surrounding environment. Thus causing the poor to remain in poor condition. As a result they usually do not participate in community activities and tend to shut down. The above is called the poverty cycle, and to be able to change the mind-set of the poor, this poverty cycle must be stopped or cut so that the poor are not forever trapped in poor conditions. Therefore poor people must be given counseling so that they can believe and instill in their minds, that they are people who have certain abilities and skills, not just giving up on fate, which will ultimately lead them to a better life. Of course this can work well, if supported by sustainable computerized entrepreneurship education for economically weak populations. If this group is given provision through knowledge and education, self-confidence will grow and have proper self-esteem to compete healthily in the world of work. So that when poor people are in difficult conditions, they are expected to be able to deal with it and not easily give up or despair.

Mean rank or average rank in the social relations domain shows the group given computerized entrepreneurship education 42.13, higher than the average ranking of groups not given entrepreneurship education, which is equal to 18.87. The significance value of 0.001 is smaller than 0.05, indicating that there are significant differences between groups given computerized entrepreneurship education related to psychological health. Dimensions of social relations include personal relationships, social support and social activities. Personal relationships are individual relationships with others. Social support is describing the assistance obtained by individuals who come from the surrounding environment. This relationship in the form of competition is one form of social relations between citizens which can be either positive or negative. This negative form will later take the form of conflict. In poor communities, vulnerable conflicts occur between family relationships and the environment. Competition for various basic needs with very limited access to employment increases conflict and crime between them.

Dependence on the environment is very high and this makes the mentality of people who are classified as poor in general have a level of dependency.

4. Conclusion

The digitalization in entrepreneurship education is crucial, since the technology can be used as the solution to foster the quality of life of people. Computerized education is able to force people and stimulate them to improve their income. This digital model of education give stimulation and inspire them to build the business. We believe this information may also be beneficial in providing recommendation to shift conventional way to digitalization entrepreneurship education since it has a great influence on people's life quality.

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References

- [1] Todaro, M. P., & Smith, S. C. (2006). *Pembangunan Ekonomi* (Edisi ke-9, Jilid 1). Jakarta: Erlangga.
- [2] Agi, U. K., & Yellowe, N. A. (2013). Management strategies for regenerating secondary education for national development and self-reliance. *Journal of Teacher Perspective*, 7(2), 1-12.
- [3] Baltagi, B. H. (2005). *Econometric Analysis of Panel Data*. Edisi ke-3. West Sussex: John Wiley and Sons, Ltd.
- [4] Hussain, Mohammad Delwar, Abul Bashar Bhuiyan, and Rosni Bakar. "Entrepreneurship development and poverty alleviation: an empirical review." *Journal of Asian scientific research* 4.10 (2014): 558.
- [5] Wee, Hwee Lin, et al. "Mean Rank, Equipercentile, and Regression Mapping of World Health Organization Quality of Life Brief (WHOQOL-BREF) to EuroQoL 5 Dimensions 5 Levels (EQ-5D-5L) Utilities." *Medical Decision Making* 38.3 (2018): 319-333.
- [6] Frinces, H. (2004). *Kewirausahaan dan Inovasi Bisnis*. Cetakan Pertama, Yogyakarta: Penerbit Darusalam.Ogundele
- [7] Ogundele, O. J. K. (2012). Entrepreneurial succession problems in Nigeria's family businesses: A threat to sustainability. *European Scientific Journal*, 8(7).
- [8] Bruton, Garry D., David J. Ketchen Jr, and R. Duane Ireland. "Entrepreneurship as a solution to poverty." *Journal of Business Venturing* 28.6 (2013): 683-689.
- [9] Boyer, L., Baumstarck, K., Iordanova, T., Fernandez, J., Jean, P., & Auquier, P. (2014). A poverty-related quality of life questionnaire can help to detect health inequalities in emergency departments. *Journal of clinical epidemiology*, 67(3), 285-295.
- [10] Amalia, F. (2012). Pengaruh Pendidikan, Pengangguran dan Inflasi Terhadap Tingkat Kemiskinan di Kawasan Timur Indonesia (KTI) Periode 2001-2010. *Jurnal Ilmiah Econosains*, 10(2), 158-169.
- [11] Rizal, Rofiq Nur. "Apakah Jenjang Pendidikan Dasar Tenaga Kerja Berperan Dalam Mengurangi Kemiskinan Di Indonesia?." *Jurnal Ekonomi dan Pembangunan Indonesia* 16.1 (2015): 15-30.
- [12] Pratama, Y. C. (2014). Analisis faktor-faktor yang mempengaruhi kemiskinan di Indonesia. *Esensi: Jurnal Bisnis dan Manajemen*, 4(2).
- [13] Iwu, A. O., & Nzeako, R. C. (2012). ICT as a viable tool for entrepreneurship education. *Journal of Educational and Social Research*, 2(9), 125-131.
- [14] Onwukwe, E. K. (2015). Infrastructure finance mechanism and challenges in Nigeria. *Independent Journal of Management & Production*, 6(3), 827-836.

- [14] Felce, D., & Perry, J. (1996). Exploring current conceptions of quality of life: A model for people with and without disabilities.
- [15] Xue, W. U., & Bin, L. A. I. (2016). A Study on the Pooling Mechanism of Computerized Teaching Resources for Tourism Related Subjects with Higher Vocation Education—A Case Study on Chengdu Vocational Education Group for Tourism. DEStech Transactions on Social Science, Education and Human Science, (eshd).
- [16] World Health Organization. "WHOQOL and spirituality, religiousness and personal beliefs (SRPB)." (1998).
- [17] Papalia, D. E., Olds, S. W., & Feldman, R. D. (2001). Physical and cognitive development in adolescence. Author, In human development, 406-443.
- [18] Lynch, E. B., Butt, Z., Heinemann, A., Victorson, D., Nowinski, C. J., Perez, L., & Cella, D. (2008). A qualitative study of quality of life after stroke: the importance of social relationships. *Journal of rehabilitation medicine*, 40(7), 518-523.
- [19] Samuelson, C. C., & Litzler, E. (2016). Community cultural wealth: An assets-based approach to persistence of engineering students of color. *Journal of Engineering Education*, 105(1), 93-117.
- [20] Anderson, A. R., Jack, S. L., & Dodd, S. D. (2016). The role of family members in entrepreneurial networks: Beyond the boundaries of the family firm. In *Entrepreneurial Process and Social Networks*. Edward Elgar Publishing.
- [21] Häntze, B., Roodzant, M., & Vos, K. (2016). *Breaking the Cycle of Poverty*.