

Engaging youths in skill development through network system wiring workshop in rural area

Hazilah Mad Kaidi, Norulhusna Ahmad, Nor Fazilah Mohd Hashim, Fatimah Salim,
Mohd Nabil Muhtazaruddin, Nurul Aini Bani, Norliza Mohamed, Rafizah Musa,
Siti Armiza Mohd Aris, Siti Zura A Jalil

Engineering Department, Razak Faculty of Technology and Informatics, Universiti Teknologi Malaysia, Malaysia

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ABSTRACT

Nowadays, youths underuse their time, energy and creativity in a vast number of other activities, which lead to almost nothing in return. Thus, to fully utilise their huge potential of skills and abilities is by offering productive ways to attract young people in educational-related activities. This paper is presenting the community project on the network wiring system workshop that has been conducted for the young generation at Kg. Seriting Ulu, Simpang Pertang Jempol, Negeri Sembilan, Malaysia. The aim of participating in this project is to deliver the knowledge base and develop skills in technology and engineering. In addition, it is also intended to develop interpersonal skills, communication and lifelong learning as well as to increase the ability of a young generation to generate a side income by venturing into entrepreneurship field. Participants in this network system wiring workshop were exposed to a multitude of basic installation and wiring techniques in which they were able to shape their personalities with the advantage of acquired technology and engineering skills. As a result, the return on investment (RoI) and social return on investment (SRoI) targets for the workshop can be achieved. It was conducted at a rural area named as Kampung Seriting Ulu, Simpang Pertang Jempol, Negeri Sembilan, Malaysia.

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Corresponding Author:

Hazilah Mad Kaidi,
Engineering Department,
Razak Faculty of Technology and Informatics,
Universiti Teknologi Malaysia, Kuala Lumpur, Malaysia.
Email: hazilah.kl@utm.my

1. INTRODUCTION

Skill is the key to improve employment and livelihood opportunities, reducing poverty, enhancing productivity and promoting sustainable development in the environment. Skill development can be seen as a tool to increase the workforce's efficiency and contribution to production as a whole. It is important to push outward production opportunities and increase the economy's growth rate. In general, young people are more able and willing to develop untraditional skills as auxiliary incomes [1-2]. A youth strategy must be developed in the hope of using young people as a dynamic resource for development. Coordinated initiatives are needed to develop a holistic approach that helps boost easy access for all rural genders to relevant, good quality education and training. Consequently, with certain goals in mind, this community project attempts to reduce the burden and benefit the community's well-being. A joint effort and alliance between the Universiti Teknologi Malaysia (UTM) and the National Blue Ocean Strategy (NBOS) fundraiser under the Ministry of Higher Education (MOHE) and the Industrial Community Network Center (CCIN) Universiti Teknologi Malaysia formed The Strengthening Youth Skills Project. This project is dedicated to help youth especially in the rural area who are interested to develop and learn skills offered through training, provide opportunities for those seeking to be self-employed entrepreneurs. The network system wiring workshop is organized to

comply with the research achievement index of rural development at Kampung Serting Ulu Simpang Pertang Jempol, Negeri Sembilan. The workshop is an effective way of approaching youth employment opportunities and instilling an interest in polishing skills and entrepreneurship.

A community engagement of youth and teenager is defined in which young are actively involved in their surrounding environment. Young people can get involved through participation with existing organisations and government institutions. Community engagement is fairly seen as a crucial benefactor for the development of youth [3]. In recent decades, educators, employers and government leaders have progressively focused on improving life skills of young people in order to prepare them to become successful in the rapidly evolving and globalized world these days [4]. For starters, the World Health Organization (WHO) has described life skills as "adaptive and constructive behavior capabilities that enable people to deal efficiently with everyday life's needs and challenges" [5]. Community engagement might give economic growth a golden opportunity by exploiting the potential for higher efficiency and increased earnings for young people— but only if they are competently trained for the contemporary labor market [6-8]. Upon conducting this project, the targeted group is youths from 17 to 30 years old in the chosen rural area. This resulted in 20 young people participating with a variety of educational backgrounds, jobs and family institutions.

The aim of the workshop is not only to provide technical knowledge and introduce practical solutions but also to mobilize young people for their skill development in technology and engineering. On top of that, it cultivates young people's interpersonal skills through communication and relationship development, strengthens social skills and encourages positive social interaction and promotes life-long learning. In addition, the workshop helps the participants to establish and increase their ability to generate side incomes as well as to help them enter entrepreneurship. The slow economic growth rate is associated with relatively high rates of unemployment, particularly for young people. Venturing into entrepreneurship creates an adequate opportunity to start one's business particularly when there is a relatively high unemployment rate in the country or region. Newly formed companies may not be the only one-person solution, but entrepreneurs can create jobs for others; in this case, young people [9-11]. Entrepreneurship clearly contributes to the creation of new jobs, more competition in the market, innovative products and solutions which lead to increased growth. It is able to support young people throughout their lives in the development of their skills and personal qualities. Therefore it offers a comparative economic advantage over another by making young people willing to create new businesses. Business opportunities exist, but only few young people have the ability and opportunity to recognize them and transform them into production [12-13].

The workshop is an initiative of addressing youth unemployment as well as improving youth's physical and mental development. It highlights the concept of social safety through the creation of jobs whereby youth bear responsibility and no youth stay idle and burden economy. This workshop serves as an approach as it improves youth's skills and thus productivity, consequentially adding to the country's economic growth and development [14-15]. The participants were taught on the fundamental concepts of network system installation at home or in the premises with the assistance from Ansar Technologies Sdn Bhd during the entire project. It also allows young people to further deepen their knowledge on technology and engineering skills. This workshop emphasizes the added value in the sector of entrepreneurship which also relates to self-growth. Presumably, the impacts of skills taught to participants are valuable since they are useful in practice, apart from being a source of revenue once they have truly mastered the basics and managed to learn the methods. The participants were subjected to the fundamental concepts of single-phase electrical installation at home or in the premises collaborated by industry name as Ansar Technologies Sdn Bhd. The key solution is to ensure young people is well-equipped with ample skills to gain insight in creating their own jobs and then implement this knowledge for their future careers.

The workshop at Jempol, Negeri Sembilan were not successfully conducted without engagement from the committee of Kampung Ulu Serting that has provided the location of the program, equipment, workforce and advisory services. As the primary event planner, the Razak Faculty Technology and Informatics allocated the transport and equipment needed to make the workshop possible. Likewise, the collaborator, Ansar Technologies Sdn Bhd has provided necessary equipment, facilitators, and transport rentals. The direct involvement of Ansar Technologies Sdn Bhd is for the sake of the program's success in bringing the participants relatively close to the real-life scenario in the workplace concerned. Their background as an entrepreneurial "Bumiputera" company is also showcased throughout the workshop. The significance of this is to foster and encourage young people to better understand and appreciate local and cultural values for their self-development and social attitudes. This is agreeable as the development of a global and intercultural perspective is a lifelong process that only education can shape [16].

A built development should be sustainable in order to ensure that the funding process is relatively successful. The process of community development does not end only by satisfying society's needs in order to improve its quality of life. Sustainability can be built in a variety of ways, including enhancing community

leadership capacity, encouraging collaborations between organizations, electing new recruits to the entire process, creating a self-contained program and retaining a community's ecological, economic and social environment. The concept of sustainable development is about the global achievement of three principles; economic development, social development and ecological responsibility [17-18]. The financial process is measured either by the outcome or product, such as the number of properties constructed, employment opportunities created, the significant reduction in crime rates, but also from the willingness of the community to continue the cycle of sustaining sustainable community development [19-20]. The success of such hands-on training programs depends closely on the skills that are being taught, how well they meet the local demand for work as demand drives design and how well they are being implemented. The collaborations between different parties, both in the distribution of training content and in the provision of the necessary assistance, appear to have been a vital factor in the success of the workshop [21-23].

2. RESEARCH METHOD

This research is a study using quantitative measures to distinguish the level of involvement of young people in rural areas remotely interested in acquiring skills of the network system wiring workshop. Before the workshop began, the first activity was to identify the village area and the possible location to be involved. Prior to the workshop, visits to identified locations and meetings of the committee between facilitators and the village took place. The provision of training modules, questionnaire forms and workshop equipment were subsequently prepared. The survey was taken before, during and after the workshop. The survey form was analyzed after the workshop was completed. The questionnaire is a tool that is specifically designed to collect information for analysis purposes that can answer the research questions [24-25]. Finally, monitoring program visits took place one month after the workshop.

The location of the study is in the countryside of Kg Serting Ulu Simpang Pertang Jempol, Negeri Sembilan. Participants in this study also include young people from different backgrounds considering their education, employment and family institutions. Furthermore, the census approach was used and 20 participants in this study were involved. The study uses a Thurstone scale for the purpose of evaluation of skills. The assessment is measured by two aspects, first is the skill level of the respondent and second is the evaluation of the efficiency level of the workshop. The profile and comments of the respondents were also reviewed and considered. Figure 1 shows some pictures taken during the workshop.



Figure 1. Activities of youths during the network system wiring workshop

3. RESULTS AND ANALYSIS

Table 1 tabulates the demographic information of network system wiring workshop participants. Majority of the participants are teenagers and youth which are 50% of the age between 16 to 25 years old. Around 40% of the participants are working, while some of them are secondary school students while the remaining were waiting for Sijil Peperiksaan Malaysia (SPM) result and unemployed. All participants are the bachelor. In addition, the highest education level of the participants is Diploma with 20% of them. From the statistic, it is shown that we need to enforce our priority to help and improve youth development in the rural area especially. In order to enhance their skills and to has a possibility for job, knowledge and technology transfer are the best methods to help them.

Table 1. Demographic Information Pattern

Background of Participants	Percentage from total participants	Additional info
Employed	40%	Salary RM 500–RM 2000
Student	40%	16-20 years old
Unemployed	20%	-
Diploma	20%	The highest education
Age (16-25 years old)	95%	5% are >25 years old

Figure 2 shows the enhancement of skill and confidence of participants before and after the workshop in Jempol. It comprises of increased understanding and knowledge than before the program, enhancing the confidence of applying knowledge rather than prior to joining workshops, enhancing the desire for entrepreneurial knowledge, increased confidence in pursuing work related wiring systems, readiness and confidence to carry out activities or course-related projects, readiness to participate in the advanced workshop. The workshops were evaluated in three categories namely before, during and after the implementation of the program for the network system wiring workshop in Jempol. The registration form was distributed to the participants before the program began to assess the background of the participants. This is followed by a questionnaire form and feedback form to measure the level of knowledge, skills and satisfaction of participants before and after the workshop. Project monitoring after the program is implemented to assess the achievement of project targets and objectives including ROI and SROI. The workshop generally shows a significant improvement in the skills and confidence of participants before and after participating in the workshop.

Figure 2 shows the improvement of the skills and confidence of participants for pre and post of the network system wiring workshop in Jempol. There was a total of 20 participants participating in the workshop. Each bar shows an increase in the transfer of knowledge as well as in the the confidence of participants in learning the skills learned. The findings of the first study were related to increased knowledge and understanding of participants compared to before the workshop.

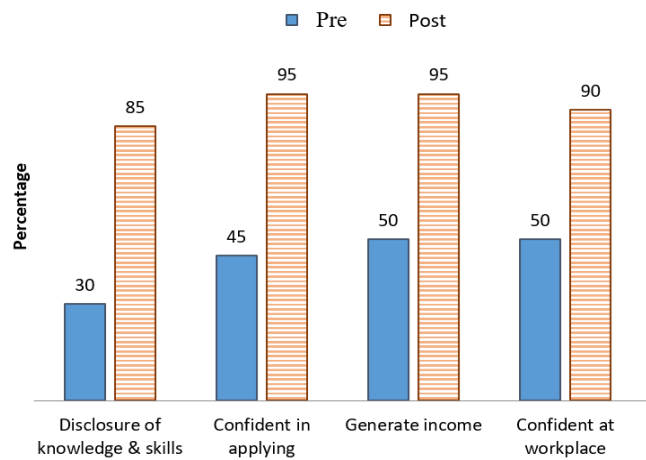


Figure 2. Result of Pre and Post-Survey on Network System Wiring Workshops in Jempol

From the questionnaire, 30% of the participants have had early exposure to the network system wiring knowledge before they joined the workshop. After the workshop, there was a drastic increased by 85%. The next findings are related to participants' confidence in applying what has been learned from the workshops. In the early stages, only 45% of participants were confident in applying for the wiring works without help from friends. After the workshop, 95% of participants are confident of applying for the individual wiring works. The findings of the third study were about improving the participants' desire to generate income using the knowledge obtained from the workshop. After the workshop, more than 90% of participants are confident and willing to use the knowledge gained to generate income and sustain their lives, which shows of 45% increment before the workshop. The findings of the next study show 40% confidence increasing among participants to apply their knowledge to pursue work-related network wiring systems. This can generate lucrative income in their daily lives as not everyone has the skills and expertise in the field of wiring the network system.

The final findings of this workshop were the participants' opinions on the success and benefits of the workshops that have been held entirely. For the network system wiring workshop in Jempol, all participants agreed that this workshop is successful and very beneficial not only to them but also to other youths. All participants were satisfied with the workshops that have been carried out and hope that further transfer of knowledge will be implemented after the program. Participants also hope that this workshop can be implemented over a longer period and conducted in areas with more work-related facilities. This is to provide more exposure to the network system wiring.

A project monitoring is done to assess the achievement of project targets and objectives including RoI. For the network system wiring workshop in Jempol, the project has achieved 100% RoI when participants named Azizan Bin Talib have obtained permanent job offers as an IT manager at the 1Malaysia Kg Seriting Ulu Internet Center, Simpang Pertang Jempol with a monthly income of RM2000. He is a graduate who unemployed during the workshop. The skills acquired were also a bonus for him to fill the vacancy. In addition to ROI, this Jempol system wiring workshop has also reached the SROI target when participants, Wan Norbaizurah Binti Rohaizat, have successfully conducted two free network system introduction courses to nearly 20 young people from the community. The actual cost of the course is estimated at RM1500 per session. With the skills acquired, she plans to carry Cat-6 (Category 6) cable business using the equipment supplied by UTM. This business will be online operated and also directly to the potential customers. Indirectly, the business can increase the income generation of the community. The success of the project has published by the Bernama Online media on Thursday, June 15, 2017 and has been funded another grant focusing on SROI research in 2018. As a result of the program's continuity, the NBOS4 fund has helped 50% in the provision of workshop materials and can be re-applied for the continuity in another rural area program. Knowledge in wiring skills, confident and entrepreneurship are some of the generic skills development that has been produced for a social impact of this workshop.

4. CONCLUSION

This paper has shown the successful of the skill development on network wiring system among youth in one of the rural areas in Malaysia. From the project implementation, the RoI and SROI of network system wiring workshop is achieved when some of the participants has been offered a job related to networks system wiring. In general, the trainer and facilitators for the workshop delivered the course content efficiently as the results shows the increments of skills and confident level among the participants. The pedagogy of the workshop is enough to allow participants to comprehend the accurate concepts, techniques and practices of level 1 wiring. The trainer or facilitator ratio to the participants is 1:2 and it somehow plays a vital factor in helping the success of the workshop. Each participant can also incorporate each module effectively. In the development, community empowerment occurs when they have demonstrated the ability to identify problems, find resources, improve skills and experience, implement, lead and mobilize all active community members in every program implemented for mutual benefits [19]. It is therefore, hoping that the skills-building program for these young people will reap benefits in terms of employment opportunities, skills and economic development. These community projects should be kept going and broadened to expose community with a different set of skills and the unemployment rate among young people can be substantially reduced.

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REFERENCES

- [1] V. Singh, "Sustainable Livelihood Through Skill Development Among Rural Youth: Role Of Micro-Finance In The Developmental Paradigm," *Commonwealth Youth and Development*, vol. 14, no. 1, p. 156, 2017.
- [2] S. Redmond and P. Dolan, "Towards a conceptual model of youth leadership development", *Child & Family Social Work*, vol. 21, no. 3, pp. 261-271, 2014. Available: 10.1111/cfs.12146 [Accessed 15 April 2019].
- [3] Christens, Brian & Zeldin, Shepherd, "Community Engagement," 10.1007/978-1-4419-1695-2_24, 2011.
- [4] Jacobs Foundation, "Guideline on Monitoring and Evaluating Life Skills for Youth Development," volume 1, pp. 9-14, 2011. [Online]. Available: https://globaled.gse.harvard.edu/files/geii/files/jacobs_me_guideline_e_simmon_sommer.pdf.

- [5] W. Health, "Life skills education for children and adolescents in schools. Pt. 1, Introduction to life skills for psychosocial competence. Pt. 2, Guidelines to facilitate the development and implementation of life skills programmes", *Apps.who.int*, 2019. [Online]. Available: <http://apps.who.int/iris/handle/10665/63552>.
- [6] R. Assaad and F. Roudi-Fahimi, *Youth in the Middle East and North Africa: demographic opportunity or challenge?* Washington, DC: Population Reference Bureau, 2007.
- [7] Matthew Groh, Nandini Krishnan, David McKenzie, and Tara Vishwanath, "The impact of soft skills training on female youth employment: evidence from a randomized experiment in Jordan," *IZA Journal of Labor & Development*, 13-May-2016. [Online]. Available: <https://izajold.springeropen.com/articles/10.1186/s40175-016-0055-9>.
- [8] P. Maitra and S. Mani, "Learning and earning: Evidence from a randomized evaluation in India", *Labour Economics*, 23-Nov-2016. [Online]. Available:<http://www.sciencedirect.com/science/article/pii/S0927537116303384>.
- [9] Z. Papulová and J. Papula, "Entrepreneurship in the Eyes of the Young Generation", *Procedia Economics and Finance*, vol. 34, pp. 514-520, 2015. Available: 10.1016/s2212-5671(15)01662-7.
- [10] Efe-Imafidon, Emmanuel & Ade-adeniji, O & Umukoro, Ewomazino & Ajitemisan, Mercy, "Entrepreneurial Skill Acquisition as a Facilitator of Self-Employability among Nigerian Youths." 1. 9 – 19, 2018.
- [11] C. Blattman and L. Ralston, "Generating Employment in Poor and Fragile States: Evidence from Labor Market and Entrepreneurship Programs," *SSRN Electronic Journal*, 2015.
- [12] S. Olugbola, "Exploring entrepreneurial readiness of youth and startup success components: Entrepreneurship training as a moderator", 2019.
- [13] S. Sukanya, B. R. Roy, Sharma J.P., Padaria R.N., P. Sudipta, and Singh A.K, "Attracting and Retaining Youth in Agriculture: Challenges and Prospects." 385-395, 2019.
- [14] Ansari, Tahir, "Role of Education and Skill Development to Promote Employment in India," 2018.
- [15] W. Cunningham and P. Villaseñor, "Employer Voices, Employer Demands, and Implications for Public Skills Development Policy," *Policy Research Working Papers*, 2014.
- [16] M. Barrett and M. Barrett, "Developing intercultural competence through education," *Academia.edu*. [Online]. Available: https://www.academia.edu/3150166/Developing_intercultural_competence_through_education.
- [17] S. Mirror and Surinamemirror, "Incheon Declaration and Framework for Action for the implementation of Sustainable Development Goal," *Issuu*. [Online]. Available: <https://issuu.com/surinamemirror/docs/245656e>.
- [18] P. Tranter, "Australian Planning: New Challenges, New Agendas.: By Brendan Gleeson, Nicholas Low and Allen Unwin", *New Zealand Geographer*, vol. 56, no. 2, pp. 60-61, 2000. Available: 10.1111/j.1745-7939.2000.tb01580.x.
- [19] Fauziah Ani, A. A, "Pendekatan Pendayaupayaan dalam Pembangunan Komuniti: Satu Analisa dari Malaysian Journal of Social Sciences and Humanities," Volume1, Issue1, 36- 44, 2016.
- [20] Muhtarom, Ali, "Participation Action Research dalam Membangun Kesadaran Pendidikan Anak di Lingkungan Perkampungan Transisi Kota," *Dimas: Jurnal Pemikiran Agama untuk Pemberdayaan*, 18.259.10.21580/dms.2018.182.3261, 2019.
- [21] M. Honorati, "The Impact of Private Sector Internship and Training on Urban Youth in Kenya," *Policy Research Working Papers*, 2015.
- [22] S. Chakravarty, M. Lundberg, P. Nikolov, and J. Zenker, "The Role of Training Programs for Youth Employment in Nepal: Impact Evaluation Report on the Employment Fund," *Policy Research Working Papers*, 2016.
- [23] Pablo, Jochen, Ripani, Laura, Rosas, and David, "Experimental Evidence on the Long-Term Impacts of a Youth Training Program," *SSRN*, 04-Sep-2015. [Online]. Available: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2655085.
- [24] Siti Hajar Abu Bakar, N. O., "INTERVENSI SOSIAL UNTUK KOMUNITI TERSISIH: KE ARAH PEMBANGUNAN UMMAH, (*Social Intervention For Marginalized Community: Towards The Development Of Ummah*)." *Journal Hadhari : An International Journal*, 2012.
- [25] Suhaili, s, "Sumbangan-Sumbangan Belia Dalam Pembangunan Negara. Fasilitator Bahasa Melayu," 2011.