Evaluation of Training Effectiveness, Perceptions, and Satisfaction in a Mobile Phone Repair Course

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ABSTRACT

This study highlights the value of skill-based initiatives in promoting economic self-sufficiency and enhancing human capital. The rising prevalence of mobile phones among various age demographics underscores the escalating significance of mobile phone repair competencies. This study assesses a mobile phone repair course of ten participants, ages 18 to 22, took in Perak, Malaysia, with the goal of giving them practical skills.This study underscores the significance of skill-based programs in fostering economic self-sufficiency and augmenting human capital. The course emphasised practical instruction, supplemented by pre-course and post-course surveys to evaluate participants' knowledge and repair experiences. The analysis also encompassed participants' perceptions and satisfaction regarding the course. The findings of descriptive survey indicated substantial enhancements in overall knowledge regarding mobile phones and repair methodologies. The majority of participants acknowledged high levels of satisfaction with the course as a whole, including the achievement of the course objectives, the modules, the facilities, and the speaker delivery. Participants underscored the necessity of sustaining this course owing to the advantages of these skills in minimising personal expenses and generating work prospects.

Keywords: Evaluation, Mobile Phone Repair Course, Training Effectiveness, Perceptions, Satisfaction

INTRODUCTION

Mobile phones have become an integral part of daily life, with users spending an average of 2 hours and 39 minutes on their devices each day (Deng, 2019). This trend is particularly pronounced among young people, who predominantly use their phones for entertainment (Maheshwari, 2021). Additionally, a significant portion of individuals with serious mental illnesses are mobile phone users, with 86% owning a phone and 60% possessing a smartphone (Young, 2019). However, excessive mobile phone usage can lead to issues such as depression and sleep disturbances (Rahaman, 2019). Among young children, sociodemographic factors like gender, age at first use, and the reasons for giving the device play a significant role in contributing to excessive mobile device usage (Abdullah, 2022).

Currently, the use of mobile phones is not limited to communication but extends to various online transactions. Moreover, during the pandemic, learning and seminars were conducted online. Mobile phones are utilized by people of all ages and demographics, including both adults and children, for business and entertainment purposes. For example, webinars and online classes became crucial strategies to continue school activities that were halted during the pandemic (Chin & Kovac, 2023). Over time, and particularly during the pandemic, mobile phone usage has sharply increased. It has become commonplace to see people frequently using mobile phones in various places. This trend naturally leads to mobile phones experiencing damage or errors more quickly. Given

this situation, it is important for vocational high school students, especially, to acquire skills in repairing damaged or malfunctioning mobile phones Azmi (2022).

Mobile phone usage in Malaysia has increased dramatically, with studies documenting various aspects of this trend. For instance, Chan (2021) found that university students in Malaysia are using smartphones more frequently that potentially give negative impact on their academic performance. Similarly, Abdullah (2022) identified sociodemographic factors such as gender, age, and parental influence as significant contributors to excessive mobile device use among young children. Additionally, Foo-Wah (2019) pointed the perceived ease of use, usefulness, and risk as key factors influencing the adoption of mobile internet banking in Malaysia.

Research on mobile phone knowledge and purchasing behavior has uncovered several important insights. For example, Tahir (2023) discovered that prior experience, subjective knowledge, and perceived value positively affect purchase intentions, whereas perceived risk is negatively influenced by quality and price awareness. Likewise, Elammari (2019) found that brand image, product or application features, and peer group influence play significant roles in students' mobile phone purchasing decisions, with price being a less critical factor.

The growing demand for mobile phone repair skills is evident, with an increasing need for more service centers and the capacity-building requirements of electronic technology lecturers (Kaluri, 2020; Ibezim, 2014). This demand is further highlighted by the fact that most repairers acquire their skills informally (Kabelinde, 2022). Moreover, the successful training of students in mobile phone repairs emphasizes the importance of these skills (Nketia, 2021). There is an increasing need for a platform dedicated to repairing mobility devices for people with disabilities, underscoring the importance of quick and convenient repair support (Kong, 2023).

Acquiring mobile phone repair skills offers numerous benefits. Nketia (2021) found that students who received training in mobile phone repair developed various technical skills. Kabelinde (2022) established that these skills can create employment opportunities. Additionally, Laitala (2021) emphasized the role of repair skills in extending product lifespans and supporting a circular economy.

Research shows that mobile phone repair workshops are vital to the circular economy, especially in urban areas. These workshops provide a variety of customized services and contribute to sustainable development goals (Türkeli, 2019; Nketia, 2021). In low-resource settings, community-based repair is crucial for maintaining assistive technology, emphasizing the need for support and funding for such initiatives (Oldfrey, 2023). Additionally, using information systems like mobile applications can improve the efficiency of repair services (Hadinata, 2023). Thus, funding mobile phone repair workshops is essential for promoting a circular economy, supporting community-based repair, and enhancing the efficiency of repair services.

The Mobile Phone Repair Course is an initiative to provide practical exposure related to mobile phone repair skills, offering participants the potential to generate income through repair services. In this regard, this study assessed the effectiveness of the training course by conducting a before and after survey regarding the participants' knowledge and experience in mobile phone repair. This survey also evaluated perceptions regarding the need for mobile phone repair skills and the level of participant satisfaction with the overall course, including the achievement of course objectives, modules, facilities, and speaker delivery.

METHODOLOGY

The mobile phone repair course consisted of 10 participants who are native to Perak, comprising 5 males and 5 females aged between 18 and 22 years. This course was funded by the Perak Aspirations Center for Youth (PASAK) Grant. PASAK is a human resource development agency under the portfolio of the Perak State Government's Human Resource Committee. PASAK assists in managing job vacancies and relevant training programs for job seekers, especially for the residents of Perak, Malaysia. The planning and implementation of the course were carried out with full commitment and dedication by the grant-receiving members, as organizers.

The course focused on providing practical experience, supported by surveys conducted before and after the course to evaluate its effectiveness in improving participants' knowledge and skills. A Google form was created and shared with all participants before the course began on 25th August 2023 and and again after its completion

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on 29th August 2023. Data were primarily collected from all 10 participants, ensuring they had sufficient time and convenience to respond. The questionnaire consisted of five sections: Participants' Background, Knowledge about Mobile Phones (6 items), Mobile Phones Repair Experience (12 items), Perception of the Need for Mobile Phone Repair Skills (5 items), and Satisfaction with Mobile Phone Repair Course (13 items).

Prior to mounting of the course, a pilot study was performed to assess the items constructed in the Google form before it was distributed. A reliability test using Cronbach's Alpha statistics was conducted. It was found that the statistics for Knowledge about Mobile Phones, Mobile Phones Repair Experience, Perception of the Need for Mobile Phone Repair Skills, and Satisfaction with Mobile Phone Repair Course were 0.936, 0.937, 0.901 and 0.945 respectively. Each of these values was above 0.9, which is considered excellent reliability (Hasan et al., 2024). This means that the items within each construct are highly consistent and reliable for measuring their respective constructs.

There are two objectives of this study. The first is to evaluate the effectiveness of the training course by conducting pre-survey and post-survey to assess participants' knowledge and experience in mobile phone repair. The second is to explore perceptions of the importance of mobile phone repair skills and measure participant satisfaction with various course elements, including the achievement of objectives, the quality of modules, the adequacy of facilities, and the effectiveness of the speaker's delivery.

Most participants, 70%, have never attempted to repair a mobile phone, while the remaining 30% had some experience. The survey also found that none of the participants had ever attended any mobile phone repair course before. However, 70% of the participants stated that they had referred to various online platforms to obtaining information related to mobile phone repair, while the remaining 30% had not.

FINDING

This section presents the results of the evaluation of the average differences before and after the course, including general knowledge about mobile phones, experience in mobile phone repair, perceptions of the need for mobile phone repair skills, and satisfaction with the mobile phone repair course among the 10 participants.

A. Analysis of the average difference before and after for general knowledge about mobile phones

A pre-course and post-course survey assessed participants' general knowledge about mobile phones. Table 1 shows the averages and average differences in general knowledge before and after the course. Items in this section were rated on a 5-point scale: 1 (Strongly Disagree), 2 (Disagree), 3 (Neutral), 4 (Agree), and 5 (Strongly Agree). The survey results indicate that the overall average for each measured item increased after attending the course, with participants moving from disagree to agree.

The highest increase was observed in awareness of the latest technology, with an average difference of 2.2 before and after the course. This was followed by an average increase of 2.0 in knowledge related to the history of mobile phones. Next, there was an average difference of 1.9 for knowledge about the latest models and market prices of mobile phones. An average difference in knowledge of 1.8 was noted for knowledge about mobile phone specifications. The smallest average increase of 1.4 was observed in knowledge about mobile phone brands in the market.

Table 1: Averages before and after for knowledge about mobile phones

No.	Item	Average Before	Average After	Average Difference
1.	I know the history of mobile phones.	2.4	4.4	2.0
2.	I know the brands of mobile phones in the market.	3	4.4	1.4
3.	I know the specifications of mobile phones in the market.	2.5	4.3	1.8

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4.	I am aware of the latest models of mobile phones.	2.4	4.3	1.9
5.	I am aware of the latest mobile phone technology.	2.3	4.5	2.2
6.	I keep track of the market prices of mobile phones.	2.5	4.4	1.9

B. Analysis of the average difference before and after for mobile phone repair experience

Table 2 presents the averages and average differences for mobile phone repair experience items before and after the course. Items in this section were measured using a 5-point scale of 1 (Strongly Disagree), 2 (Disagree), 3 (Neutral), 4 (Agree), and 5 (Strongly Agree). The survey results indicated that the overall average for each item measured increased after attending the course, with shifts from Disagree or Neutral to Agree. The highest increase, with an average difference of 2.6, was in the ability to repair or maintain mobile phones. The smallest average difference of 1.3, was in the participants' readiness to learn the course modules. This shows that participants improved in their repair skills, their readiness and enthusiasm throughout the course.

Table 2: Averages before and after for mobile phones repair experience

No.	Item	Average Before	Average After	Average Difference
1.	I can identify problems or issues with a mobile phone.	1.9	4.0	2.1
2.	I have basic knowledge of mobile phone components.	2.2	4.3	2.1
3.	I can repair or maintain mobile phones.	1.7	4.3	2.6
4.	I am interested in learning how to repair mobile phones.	2.9	4.5	1.6
5.	I am ready to learn the course modules.	3.1	4.4	1.3
6.	I am well-versed in the techniques for updating the mobile phone OS.	2.2	4.4	2.2
7.	I can handle data recovery on mobile phones.	2.5	4.1	1.6
8.	I can handle data backup on mobile phones.	2.7	4.5	1.8
9.	I can format mobile phones.	2.7	4.2	1.5
10.	I am familiar with the software required for mobile phone repair.	2.1	4.1	2.0
11.	I am ready to equip the tools needed for mobile phone repair.	2.4	4.1	1.7
12.	I adhere to data privacy ethics when repairing mobile phones.	2.5	4.3	1.8

C. Perception of the need for mobile phone repair skills

This section analyzes perceptions regarding the need for mobile phone repair skills. There are five items included in this section, namely perceptions related to the necessity for individuals to have basic mobile phone repair skills, perceptions about how basic mobile phone repair skills can save individuals money, perceptions about how basic mobile phone repair skills can create income generation opportunities for individuals, perceptions about the continuation of basic mobile phone repair skills courses, and perceptions about the allocation of funds

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for the implementation of various skills courses by the government and NGOs to empower human capital. Items are measured using a 5-point scale: 1 (Strongly Disagree), 2 (Disagree), 3 (Neutral), 4 (Agree), and 5 (Strongly Agree).

Table 3 shows that most participants, 50%, Strongly Agree that basic mobile phone repair skills need to be learned by individuals. Meanwhile, 40% Agree with this perception, and only 10% responded Neutral. Then, it was found that most participants, 50% Agree that basic mobile phone repair skills save individual money when facing personal mobile phone damage. Meanwhile, 40% expressed Strongly Agree regarding this perception, with only 10% responding Neutral. Next, the majority of participants, 70% Strongly Agree that basic mobile phone repair skills provide income generation opportunities for individuals. Additionally, 30% Agree with this perception.

This study also identified that the majority of participants, 80% Strongly Agree that mobile phone repair courses should be continued in the future. Additionally, 10% provided Agree feedback, while Neutral feedback was given by the remaining 10% regarding this perception. Lastly, the majority of participants, accounting for 80% Strongly Agree that the government or NGOs should allocate funds to implement various skills courses to empower human capital. Moreover, 10% provided Agree feedback, while Neutral feedback was given by the remaining 10% regarding this perception.

Table 3: Perception of the need for mobile phone repair skills

No.	Item	3	4	5
1.	Basic mobile phone repair skills need to be learned by individuals.	10%	40%	50%
2.	Mobile phone repair skills save individuals' costs when facing personal mobile phone damage.	10%	50%	40%
3.	Mobile phone repair skills provide income generation opportunities for individuals.	0	30%	70%
4.	Mobile phone repair courses should be continued in the future.	10%	10%	80%
5.	The government or NGOs should allocate funds to implement various skills courses to empower human capital.	10%	10%	80%

D. Satisfaction with mobile phone repair course

This section presents the frequency and percentage of participant satisfaction levels regarding the overall mobile phone repair course. It considers satisfaction levels with the achievement of objectives, modules, facilities, lecturer delivery, and other aspects. Participant satisfaction levels are assessed using a scale of 1 (Very Dissatisfied), 2 (Dissatisfied), 3 (Neutral), 4 (Satisfied), and 5 (Very Satisfied). Referring to Table 3, there are 13 items measured to evaluate participant satisfaction levels.

Study finding on Table 4 established that majority of participants, 80% are Very Satisfied with the allowance provided and the overall course, while the remaining 20% express satisfaction with these aspects. Furthermore, the majority, 70% are Very Satisfied with the conduct of activities throughout the course, lecturer delivery, and assistance from facilitators, while the remaining 30% express Satisfied feedback for these items.

Regarding the course venue item, the survey found that the majority, 70% are Very Satisfied, followed by 20% expressing satisfaction, and only 10% responding Neutral. Moreover, the analysis indicates that the majority of participants, 60% are Very Satisfied with the modules, materials, equipment, atmosphere, time allocation, and meal provision throughout the course, while 40% feel Satisfied with these items. This analysis also found that 60% are Satisfied with the course objectives achievement, while the remaining 40% are Very Satisfied.

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Table 4: Satisfaction with mobile phone repair course

No.	Item	3	4	5
1.	The objectives of this course were achieved.	0	60%	40%
2.	The course modules (content) were appropriate.	0	40%	60%
3.	The course materials (notes/slides/etc.) were interesting.	0	40%	60%
4.	The course activities were well conducted.	0	30%	70%
5.	The course equipment was complete.	0	40%	60%
6.	The course venue was conducive.	10%	20%	70%
7.	The course atmosphere was calm.	0	40%	60%
8.	The time allocated for each module was very suitable.	0	40%	60%
9.	The speaker's delivery was easy to understand and engaging.	0	30%	70%
10.	The facilitators helped ensure the smooth running of the course.	0	30%	70%
11.	The food provided was delicious.	0	40%	60%
12.	I am satisfied with the allowance provided for the course.	0	20%	80%
13.	Overall, this course was successfully implemented.	0	20%	80%

CONCLUSION

The findings from this study demonstrate the effectiveness of the mobile phone repair workshop in improving participants' knowledge and skills. The workshop not only provided technical insights into mobile phone maintenance and repair but also fostered enthusiasm for continued learning. Participants acknowledged the relevance of these skills in saving costs and generating income, suggesting the potential for long-term benefits in both personal and professional contexts. The strong positive feedback on course satisfaction and the call for future programs highlight the importance of such initiatives for empowering individuals and supporting human capital development in Malaysia. This study intends to perform advanced statistical analyses, such as mean score and paired sample t-test analysis in the future to assess the outcomes in greater detail.

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