

Orang Asli Students: Learning Style Affects ICT Skills

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Abstract

Orang Asli is one of many entities among the diversity of races in Malaysia. The difference in residence contributes to the diversity of socioeconomic status, education level, lifestyle, learning styles, and ICT skills, which may result in different opportunities to undergo life-long learning. Due to this, the study aims to explore how learning styles affect the level of ICT skills among Orang Asli students. This is to ensure Orang Asli students can enhance their ICT literacy skills. Qualitative research was conducted, which involved nine (9) Orang Asli students. The data was organised using the ATLAS.ti 7 software. Research findings show that visual for the psychological learning styles dimension and group for the sociological learning styles dimension were the dominant learning style attributes in helping the Orang Asli students enhance their ICT skills. Findings show that it is important to consider visual and group learning styles in teaching and learning ICT among Orang Asli students. Therefore, this finding contributes by providing a research direction to enhance ICT skills among Orang Asli students' by considering their dominant learning styles.

Keywords: ICT Skills, Orang Asli Students, Learning Styles.

Introduction

Rapid changes in the development of Information and Communication Technology (ICT) have contributed to influencing culture, teaching and learning (T&L) implementation, and the style of modern society's life. ICT is an aspect that needs to be emphasised in the process of supporting development and learning among students. This is because the integration of ICT, especially in the field of education, has given a new shift to pedagogic techniques and the learning process experienced by students. Previous studies have also reported that with the use of technology, it has been possible to implement a revolution in T&L techniques in the classroom that involves teachers and students (Mansor et al., 2021). Therefore, it is important to emphasise the educational pattern implemented in order to parallel the technological changes that occur without forgetting the diversity of learning styles that exist in each student. When the country was focusing on the process of achieving Wawasan (Vision) 2020, the government did not forget the importance of ICT for the Orang Asli community. Referring

to Malaysia Plan 8th, 9th, and 10th, the government has worked hard to reduce the digital divide at various levels of society.

The seriousness shown by the government in developing ICT for all levels of society is a manifestation of the government's awareness of the ability of ICT to empower change in the field of education while at the same time contributing to forming a future generation of calibre. This is because ICT is an effective technology in the process of changing the quality of life of the community, including marginalised groups, which in the context of this study refers to the Orang Asli students.

Orang Asli students in Malaysia are not exempt from the effects of the rapid development and change of ICT. Based on the empirical results of the analysis carried out on Orang Asli students, it was found that there is an increase in the level of understanding, ownership, and encouragement of ICT use among Orang Asli students. However, the level of understanding and use of ICT among them is still low, coupled with a pattern of low ownership of ICT equipment due to financial constraints. This situation causes an increase in the digital divide when compared to other communities (Anthony & Keating, 2013; Nadzri et al., 2015).

Rapid changes to the technological advancements that occur today are necessary to utilise in the process of enhancing the quality of life through aspects of education among the Orang Asli students, which aims to ensure they are ready to go through the 21st century era. Appropriate ICT application to the cultural needs, values, and learning styles of the Orang Asli students should be emphasised. In relation to that, the organisation of short-term courses and programmes of ICT training is necessary to implement among Orang Asli students as an approach to increasing the optimal use of ICT, promoting an effective and meaningful T&L process, producing students who have transferable skills, and producing capable entrepreneurs from aspects of collaboration and joint communication with the outside and international community. This is because ICT knowledge and skills are one of the main criteria in the 21st century education system, which contributes to producing an individual who can think critically and creatively and is able to face future challenges.

Thus, learning styles play an important role in affecting ICT skills among Orang Asli students (Kamsin et al., 2022). This is mainly because Orang Asli students have a special learning style, and the integration of learning styles applied by educators during T&L affects Anak Orang students' academic performance (Aziz & Rahman, 2017; Wilks et al., 2017). However, there is still a lack of studies conducted on how ICT skills among Orang Asli students could be affected by applying learning styles in T&L processes. With that, this research aims to explore how learning style affects the level of ICT skills among Orang Asli students. This could contribute to the development of comprehensive T&L processes, specifically in ICT as well as in other subjects generally. Thereby, a meaningful learning environment among Orang Asli students could be developed, which would enable Orang Asli students to engage in the T&L process.

Literature Review

Orang Asli

Orang Asli refers to the indigenous population of a country. In the context of Peninsular Malaysia, the Orang Asli community is the earliest indigenous population to inhabit Malaya, which existed approximately 10,000 years ago. The socio-economic position of the majority of the Orang Asli community is still behind in various fields, such as education and economy, compared to other races in Malaysia. Findings regarding the settlement distribution of the Orang Asli community show that the majority of them live in the suburbs, followed by the hinterland, and only 0.7% of them live in urban areas. There are three settlement zones

inhabited by the Orang Asli tribes in Peninsular Malaysia: i) the northern zone: the Negrito tribe; ii) the middle zone: the Senoi tribe; and iii) the southern zone: the Malay-Proto tribe, also known as Malay-Asli. For each tribe, they will be divided into smaller tribes based on the differences that exist among them in aspects of origin, language, and physical appearance.

The Orang Asli tribes have their own cultural characteristics as a symbol of their identity. The formation and development of culture among the Orang Asli community are based on the needs that exist within their environment (Yusof, 2010). Each Orang Asli tribe has differences in aspects of background, beliefs, customs, culture, and health practices. Socio-cultural Orang Asli includes the appointment of penghulu, family system, healing methods such as berjampi/tangkal, taboos, traditional musical instruments used in sewang ceremonies and for entertainment purposes such as bamboo flutes and drums, nutrition, health practices, and traditional medicine materials, as well as social practices such as relationships in the family and relationships with neighbours. The Orang Asli community is indeed rich in customs and culture. This is because their lives are closely related to nature, even though they have lived in the modern age. In relation to that, it can be seen that the unique customs and culture of the Orang Asli are closely related to the natural creatures found in their environment.

Learning Styles

The study of learning styles is not a new thing. However, most of the studies conducted are limited in scope, their implementation (Osborne, 1985), most of which have not been critically described, does not specifically address education for the Indigenous student community and is only studied in relation to the context of learning styles. Each student has their own uniqueness in the aspect of information acquisition that is passed on through the teaching and learning process. This uniqueness refers to the diversity of learning styles that each of them has. Learning style is an approach and strategy among students that aims to acquire knowledge or skills. The learning style owned by every student is one aspect that contributes to the formation of a conducive learning environment among them. In this regard, Orang Asli students are no exception. This is because indigenous students also have their own learning style in the process of understanding the knowledge and skills conveyed to them by the teaching staff.

Each student has a different learning style depending on a variety of factors and aspects. Learning style describes the process of accepting information for a student based on their own choices. In most situations, a student's learning style describes how they can learn in relation to the materials given in the situation. Learning style is how students can learn better. This situation is when the student is able to give full attention throughout the implementation of teaching and learning, is able to absorb information as well as skills conveyed, and is able to retain information and acquired skills (Dunn, 2000). The interaction process explained by Dunn (2000) is different for each student. Accordingly, it is a necessity to identify what can attract students' attention during the teaching and learning implementation process, how students are able to survive the teaching and learning process, and how students can give feedback on the information and skills acquired in the process ensure that the information received is understood and can be applied in the future. Therefore, it is important to apply a comprehensive learning style model to meet the diversity that exists in each student.

Methodology

Sampling

A single case study was implemented holistically by the researcher for this study. Thus, nine (9) Orang Asli students ranging in age from 7 to 13 years old were involved in the study, with the utilisation of interviews as a method of data collection. The participants' selection was based on the list that has been prepared by the researcher regarding the children of Orang Asli who have the potential to be involved in ICT training (*Microsoft Word, Microsoft PowerPoint, and Microsoft Excel*), conducted with the implementation of the learning styles attribute. Positive feedback given by students' parents is also being used as selection criteria, apart from the abilities possessed by Orang Asli students themselves, in ensuring the T&L process can be successfully implemented. Data collection for this study was carried out by obtaining a letter of approval and permission from the Department of Orang Asli Development (JAKOA) to conduct the study in an Orang Asli village. This process is followed by obtaining permission from the parents of Orang Asli students based on the permission letter provided by the researcher.

Interview

To ensure the interview can be carried out as planned, interview questions were developed and evaluated by one Orang Asli teacher, two experts in education, two computer training specialists, and two educational technology specialists. In the process of developing the interview questions and ensuring the quality of the interview questions developed, the three phases stated by Montoya (2016) have been used as a baseline. The first phase is to ensure the interview questions developed in line with the research questions being studied. This phase contributed to the process of developing the matrix of interview questions to be mapped to the research question being studied. The second phase refers to creating communication based on questioning, which aims to develop quality interview questions from the aspect of feedback acquisition, and the last phase reflects on the process to get feedback regarding interview questions that have been developed. Fig. 1 represents the research methodology flow.

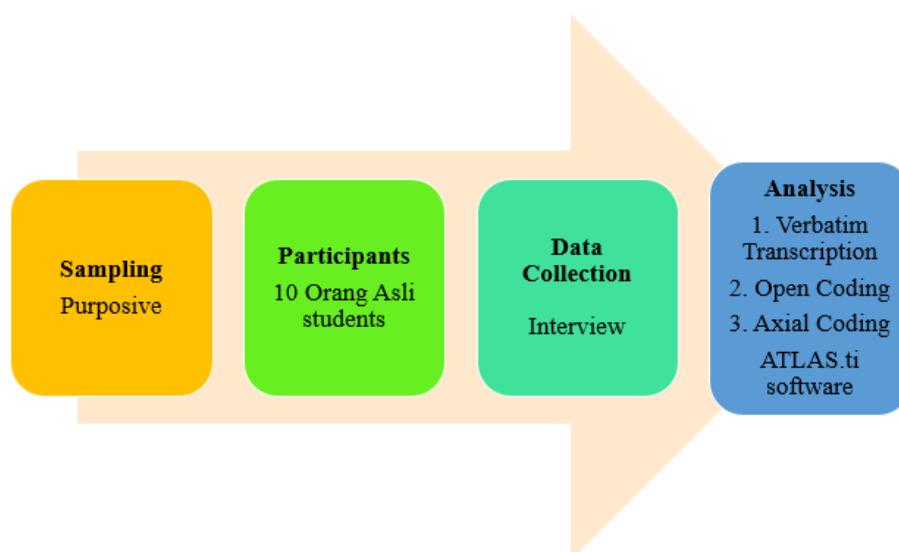


Fig. 1 Research Methodology Flow

Findings

Evaluation

Evaluation, which more specifically refers to validity and reliability according to a qualitative approach, is not the same as a quantitative approach. Thus, Tracy (2010) introduces some terms that have the same meaning as validity and reliability in the context of quantitative research, namely confirmability and dependability. Therefore, for this study, confirmability and dependability were used to replace validity and reliability in the context of the quantitative approach by running the process of triangulation.

Triangulation is defined as a credibility procedure in which researchers identify convergence between the diversity of information sources to produce themes or categories in the research carried out. Therefore, in this study, triangulation was carried out throughout the process by using two (2) methods: comparing interview feedback within the same participant and comparing interview feedback within different participants. Based on the evaluation, it was shown that the data gathered was trustworthy and reflected what it was supposed to measure, which in this context was how learning styles affect ICT skills among Orang Asli students.

Orang Asli Students' Learning Styles

Based on data obtained from triangulation within different Orang Asli Students' interview feedback, the majority of Orang Asli students' learning styles are Visual (9), followed by Audio (8) and Tactile (8). Table I shows a summary of the learning styles of the Orang Asli students.

Table I

Learning Styles of Orang Asli Students

Respondent (R)	Learning Style (LS)
	LS1: Visual LS2: Audio LS3: Tactile
R1	LS1; LS2; LS3
R2	LS1; LS2
R3	LS1; LS3
R4	LS1; LS2; LS3
R5	LS1; LS2; LS3
R6	LS1; LS2; LS3
R7	LS1; LS2; LS3
R8	LS1; LS2; LS3
R9	LS1; LS2; LS3

Visual Learning Style and ICT Skills

Based on Table I, it shows that the majority of the Orang Asli students' learning styles are visual. Thus, to cater to this learning style, researchers have developed teaching materials that integrate diagrams to represent the knowledge. Fig. 2 shows the learning style that integrates diagrams to fulfil the needs of Orang Asli students who have visual learning styles.

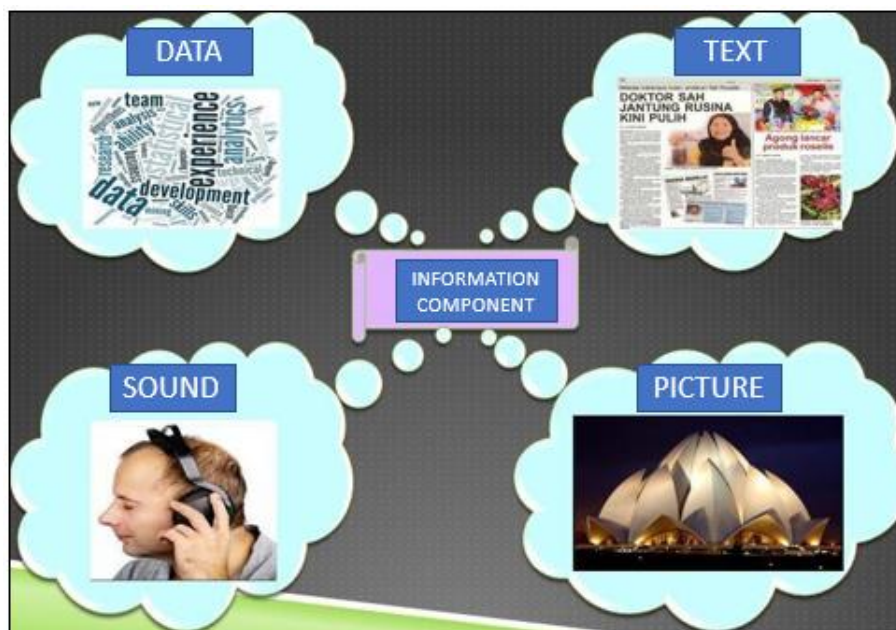


Fig. 2 Teaching materials cater to Visual learning styles

After Orang Asli students went through the teaching and learning process that involved the integration of diagrams, they were able to increase their ICT skills in terms of how to use the mouse and keyboard and prepare word documents for the exercises given to them. This is supported by the feedback from R1 via the interview conducted below:

“Researcher: *if picture integrated in teaching slides, would it be benefit to you?*

R1: *easy to understand the material.*

Researcher: *Why easy to understand?*

R1: *because picture help me to understand which part on the computer should be clicked to search for file or folder”*

Hence, it is not surprising that, through this study, the visual learning style not only improves the level of ICT skills among Orang Asli students but also contributes to transferable skills among some of them. The following excerpt shows the feedback given by R1 to the researcher regarding how the visual learning style can help him better understand the ICT skills being taught and make the teaching and learning process more meaningful:

“Researcher: *did you apply what you learnt in school?*

R1: *yes, I used skills gather to complete English portfolio.*

Researcher: *how you complete the portfolio?*

R1: *used computer at school, insert picture in Microsoft Office like what has taught before. I’m totally not facing any issue to complete the portfolio.”*

Therefore, teaching materials that integrate diagrams could help Orang Asli students better understand the knowledge delivered. This has been shown based on the interview data collected, which stated that the visual learning style could improve ICT skills and, at the same time, contribute to transferable skills among Orang Asli students.

Audio Learning Style and ICT Skills

Students who have an audio learning style will be able to understand easily when listening to the words expressed or through oral explanations carried out by the facilitator (Ellington & Benders, 2021). For this reason, there is no denying that, as R4 stated through the workshop, he could easily understand the information and ICT skills presented by the researcher, one of which was because the explanations given were so clear and detailed (R4). In addition, the Orang Asli students also stated through the interviews conducted that their level of ICT skills can be improved when researchers use video in the teaching and learning (T&L) process. This is because, through the video, participants can hear what is being conveyed through the audio found in the video being played. They will pay full attention to the audio that they are listening to to ensure that the explanation is understandable. This was explained by R2, who stated that she would be able to understand things better if the T&L process implemented was integrated with audio (R2).

Fig. 3 shows the integration of video in teaching and learning processes, which include the Orang Asli community's traditional dance. The selection of Orang Asli community's traditional dance to be imbedded in the T&L material is to relate to their culture and ensure that they are able to understand it well. For the Orang Asli community, culture plays an important role in their lives. Therefore, the infusion of their culture into T&L was able to attract them to learn better.



Fig. 3. Orang Asli students watch Orang Asli community traditional dance

Tactile Learning Style and ICT Skills

Students can easily understand the skills taught when they can be practised using real hardware, such as being given the opportunity to use computers directly if ICT skills are involved. This statement is referring to the tactile learning style. Based on this learning style, students can relate what is learned in theory to the practical that is applied in the reality of real learning.

For the study, Orang Asli students were exposed to the use of hardware such as computers, keyboards, and mice directly related to task design. This has been able to give them experience with how hardware works. In addition, through the process of implementing the activities and completing the tasks given, they can understand how the hardware and software used complement each other in ensuring the objectives of the activities and the

tasks carried out are achieved. Therefore, it is not surprising that the majority of the study participants gave feedback that they could learn better, and their ICT skills level also increased. This is because they are given the opportunity to use the computer directly in the T&L process, and they are able to practise the theory they have learned in the process of completing the assigned task. The following interview excerpt is the feedback given by R3, R5, and R7 regarding the implementation of tactile learning style in T&L, which has helped to improve the level of ICT skills among them, and Fig. 4 shows how Orang Asli students were given the opportunity to complete the assigned task by using a computer.

“Researcher: if there are no hands-on for the session, would you able to understand?”

R3: not understand because unable to imagine how the process executed

Researcher: What you mean by unable to imagine?

R3: because I unable to hold the mouse therefore unable to imagine how to click the mouse, how the cursor could move, and many more.”

“Researcher: what you feel when you are given the opportunity to hold the mouse and computer to do the class task?”

R5: I’m happy because able to learn how task could be completed by utilizing the compute. This is new thing for me to explore”

“Researcher: if in class you can’t hold or use computer, what you feel?”

R7: It’s difficult for me to understand what has been taught, because no exposure with the utilization of devices before”.



Fig. 4. Orang Asli students used computer to complete assigned task

Discussion

This study shows that the three learning styles (Visual, Audio, and Tactile) affect Orang Asli students in terms of improving their ICT literacy skills. This finding is similar to the study conducted by Adrizi et al (2018), who also found that Orang Asli students have a visual learning style, which helps them gain a better understanding of what is being delivered more effectively. Other than the visual learning style, the audio learning style is the second most important learning style among Orang Asli students. Orang Asli students need a T&L environment that involves teachers who can give instructions and oral feedback to their questions. This was emphasised by Mensah et al (2020), whereby Orang Asli students can learn better in a structured learning environment compared to a learning environment that requires them to study alone. This is because Orang Asli students do not dare take risks in the learning process they go through; therefore, they prefer when the learning process they go through emphasises guidance and support. Orang Asli students prefer traditional presentations carried out orally in the classroom. When teachers use storytelling techniques, they give examples related to the information presented based on the environment of Orang Asli students that are easy for them to understand either through speech, singing, or dancing (Mensah et al., 2020; Banks & Ojeya, 2020; Elizabeth, 2018). The final learning style, which is tactile, refers to the students ability to carry out the tasks or activities given practically. They will take a long time to understand a thing or a skill if they are only given theoretical exposure. According to Elizabeth (2018), the main method used by Orang Asli students to gain skills is through the 'watch-then-do' process. This shows Orang Asli students are less interested in T&L because they focus on work that requires them to write, yet they are highly motivated to do the learning that is done practically. Nevertheless, this study has explored how learning styles affect Orang Asli students' ICT literacy skills, which is in line with the previous study conducted.

Conclusion

Past studies show that ICT skills among Orang Asli students are at a low level due to the T&L process that is implemented, which places limited emphasis on the learning style needed by Orang Asli students (Burrige & Chodkiewics, 2012; Abdullah et al., 2013). Thus, every T&L implementation needs to emphasise the learning style possessed by each participant. This is intended to ensure that the learning process conducted is easy to understand and able to attract participants to learn. In addition, learning materials that are infused with the learning style of the participants contribute to the process of improving their understanding of what is being learned. In connection with that, based on this study, there is a relationship between learning styles and improving the level of ICT skills of Orang Asli students.

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