E-Semai Teaching Portal (ESTP):

A Preliminary Study in Assisting the Teaching of Bahasa Semai

Azwinawati Alwi[1], Mazlina Mehat[2], and Noreen Izza Arshad[3]

[1]Computer & Information Sciences Department
Universiti Teknologi PETRONAS
32160, Bandar Seri Iskandar, Perak, Malaysia
e-mail: nodamearewin@gmail.com, mazlinamehat@petronas.com.my,
noreenizza@petronas.com.my

Abstract

   Bahasa Semai is one of the Aslian language that has been selected to be taught in Malaysian Government schools. However, there are no computing technology that currently support the knowledge sharing activities and communications of this language between the teachers that teach the language, especially in supporting the Pedagogical Content Knowledge methodology as proposed by Malaysian Ministry Of Education. E-Semai Teaching Portal(ESTP) will help to address the problems by providing a reliable knowledge sharing platform for Bahasa Semai educators. The purpose of ESTP is not only to focus on the importance of having computing technology support in teaching, but it also include concerns towards the sustainability of one ethnics background. The main aim for the research is to ensure that Bahasa Semai educators will be having all reliable resources that can be referred in teaching the subject to Orang Asli students. This paper examines the potential role of ESTP in assisting the teaching of Bahasa Semai. A number of improvement such as upload files of various format and availability over mobile phone are suggested by potential users. Hence, it will encourage the knowledge sharing on the teaching of Bahasa Semai among teachers and coordinators.

   Keywords: *Aborigines people, Bahasa Semai, Education, Knowledge sharing, Usage of portal for sharing knowledge.*

1   Introduction

Orang Asli in Malaysia comprise of eighteen culturally and linguistically distinct groups and the largest are the Semai, Temiar, Jakun (Orang Hulu), and Temuan. In 2010, they numbered about 178,197 less than 0.6% of the 28 millions Malaysian population [1]. The Orang Asli is only found in Peninsular of Malaysia. They are categorized as the indigenous minority people; also called as the Aboriginal people as they were the oldest community who migrated and exist in Malaysia. Uniquely, each of them is heterogeneous which mean, each group have different languages, lifestyles, cultures and also physical appearances. The Orang Asli in Malaysia is divided into three major groups (Senoi, Semang (Negrito) and Proto-Malay) and each group is made up of eighteen different tribes [2]. The language of the Orang Asli in Malaysia is classified into two groups: Aslian and Proto-Malay and the Aslian languages form a branch of the Mon-Khmer language family and geographically range through most of the Malay Peninsula [3].

In Malaysian Kurikulum Standard Sekolah Rendah (KSSR), electives languages could be taught in schools based on two solid reasons (as stated in the Malaysia Education Act 1996). Bahasa Semai, which is the language converse by Semai ethnic group, has the largest number of speakers and is the purest language compared to other Orang Asli language available in Malaysia. Thus, it satisfied the second reason in the Act and was chosen to be included in the education structure. This effort made by the Ministry of Education (MOE) under the Ethnic Language Department, enforce the language to be as important as other ethnic language subjects offered in schools. Many steps are taken to ensure that the subject is being taught properly in schools and shall assist in sustaining the originality of the language itself. MOE have been implementing and encouraging the Pedagogical Content Knowledge (PCK) [4] to ensure teachers know what they are teaching to students. Trainings and proper syllabus were constructed to make sure that the teachers have depth of knowledge on Bahasa Semai.

With the recent advancement of computing technology, it would be much more efficient if Bahasa Semai subject have its own portal that can support the teachers and the coordinators in sharing the knowledge, documenting the materials and communicating actively upon any update regarding the subject matters. Thus, it will encourage on better understanding of the subject matters and also ensure the sustainability of the language. This research focused on the role of portal in assisting teachers with the aim of sharing knowledge and information among teachers, who are teaching Bahasa Semai in Government primary schools and the coordinators in MOE. It will identify the importance of having a computing technology that can support the idea of expanding Bahasa Semai usage between the

teachers and through the knowledge shared in the portal itself , it shall contribute towards the sustainability of Bahasa Semai.

1.1   Orang Asli Education in Malaysia

The Ministry of Rural and Regional Development have entrusted Jabatan Kemajuan Orang Asli (JAKOA) with the authority to manage any educational matters that is related to the Orang Asli in Malaysia. Malaysian Government has been aiming to improve the Orang Asli life since years ago and one of the initiative is through education. It is crucial to ensure and promote proper education assistance as a method to make sure Orang Asli life is improved hence making sure all of them have the same rights of education and not left out [5]. Introducing ethnic language into Malaysia educational system is a big step taken to encourage the Orang Asli students to go to schools and feel appreciated due to the Aslian language is also taught in schools that they attend. Education also play a critical role whether the language become extinct or able to survive [6].

1.2   Education Problems among Orang Asli Students

Until today, the problems of attaining Orang Asli children interest in going to schools and pursue studies until higher learning institution is still being an issue, regardless of many educational awareness and support that has been exposed towards them. The number of Orang Asli students who dropped out from schools and did not finish their education at least until the end of secondary schools are still very high; and one of the main reason is due to poverty [7]. The level of poverty in some Orang Asli village are still high and some ethnic are still living in nomad lifestyle and depend on the nature resources available to sustain their life. Nevertheless, in certain areas, through the assistance from Federal Land Development Authority (FELDA) and Rubber Industry Smallholders Development Authority (RISDA) the issue of poverty have been resolved and improvement can be seen in the level of awareness on the significance of going to schools among Orang Asli students. However, there are cases where Orang Asli students are being bullied in school and with a very low self confidence level compared to other students, it added up to the reason why Orang Asli students dropped school. Apart from that, they feel that schools is not fun and have no attraction; and teachers did not see and understand the Orang Asli differences. They were slow learner because they did not receive full exposure and education arrived late to them as compared to the others [8].

1.3   Technology Roles in Sustaining Orang Asli Students' Interest

Malaysian Government encourage the use of technology in schools to sustain students interest and understanding in learning. It is necessary that teachers have depth of knowledge in the subjects that they teach in schools and following the PCK methodology that has been enforced by MOE to all teachers. Teachers can get access to new knowledge, tools and teaching methods that will help them during the teaching process through the usage of technology [9]. Teachers are encourage to explore the technology because the old method of teaching and pedagogy is no longer effective in teaching and computing technology. It have been proven in some country to be a great help for teachers to learn new teaching techniques and getting deeper knowledge on that subject matters[10]. Portal could be a great help to teachers in sharing teaching and learning method for Bahasa Semai.

1.4   ESTP and The Significance of Knowledge Sharing

The most important functionality of portals is their ability to synchronize and support knowledge development phase [11], which includes knowledge sharing. A portal is suggested to achieve the objective of knowledge sharing and providing a communication platform for all teachers that teach Bahasa Semai in primary schools. E-Semai Teaching Portal (ESTP) is a portal developed to encourage the knowledge sharing, for example in sharing teaching techniques with other teachers and also to provide a computing technology with a trusted sources for the teachers to refer and use for a long period of time. Teacher is a knowledge worker that possesses knowledge of a certain matters or area. The knowledge that they have automatically made them as the center of knowledge that has the ability to analyze, understand and share the knowledge to other people [12]. Apart from that, resources for the language could be recorded and refine by the teaching community through the portal. It is important to maintain the originality and sustainability of Bahasa Semai; as the language is one of the oldest Aslian language and it also reflects the Senoi group identity. Bahasa Semai is only speak and practice through orally and passed from generations to generations. It is hard to be found in any written document or internet sources [13].

ESTP aim to help the teachers in mastering the language, hence making sure the language originality is preserved through the correct methods in using the language in term of pronunciation and the word usage and also for formal learning in schools. Maori language, which is the New Zealand native mother tongue, have their own website which includes dictionary and other important details about their ethnicity background and language. In Malaysia, the usage of portal in teaching language was being practiced by people in Borneo for Bahasa Iban, through a portal

(as in Fig. 1) that was created for Bahasa Iban subject, for the usage of teachers that teach the subject in schools at Sabah [14]. Internet allows people to share their language and information about one ethnicity background and story. Thus, it will strengthen the efforts of sustaining the ethnic language so that everyone would know about an ethnic existence and their identity [15]. ESTP will allow the teacher to share or record their teaching experience through Forum/Discussion Room function, in better understanding of the Orang Asli kids and might help in addressing the school drop out issues.
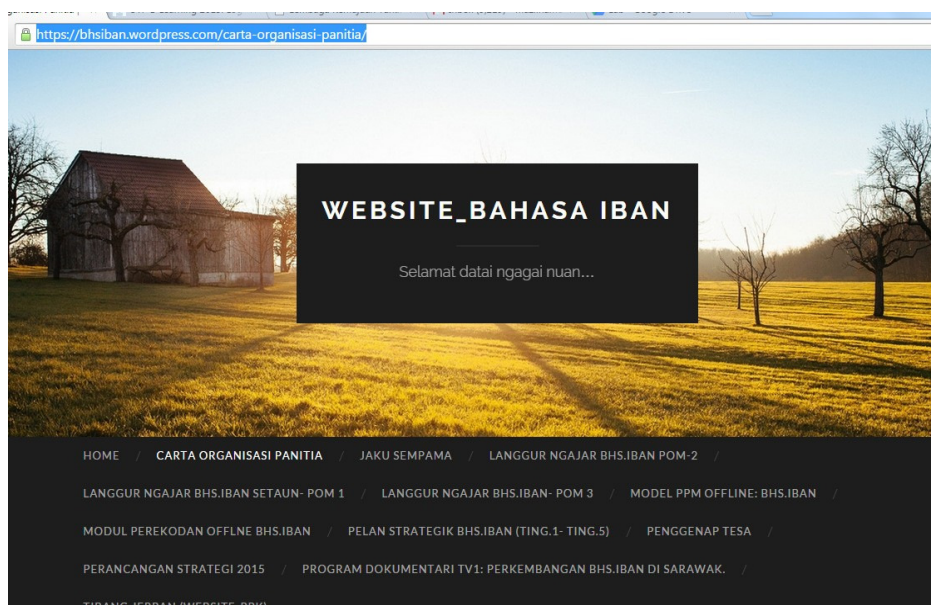
Fig. 1: Bahasa Iban website

2   Methodology Used to Develop ESTP

Methodology provides tools and directions for developer to know what should be done to make sure the project is successful and achieve its objectives.

2.1   Agile Methodology

Agile Methodology was adopted for this research and Scrum is one of the component in this methodology. Scrum is used to maintained the quality of the project and provide a clear guideline on the project development. Unlike other models that strictly require phase by phase development, the work progress of Agile Methodology is iterated and developer can always fix what is wrong in the portal. Scrum function allow the developer to choose the phase based on the

highest priority and each phase contain the development of one functionality. Meanwhile, Story Points could be use to estimate the work based on the size, efforts and complexity, not based on the duration. Fibonacci Sequence values are to measure the importance of functionalities that is included in the story point and the duration for development will be counted based on the story points that been given for each functionalities. Sprint Techniques will allows the developer to do planning on the development for each functionalities/phase of the project. Maximum of four weeks could be assign for each development and for ESTP, the sprint is minimize to 2-3 weeks per sprint to accommodate the timeline.

The development in Agile Methodology for ESTP is divided into two cycles (as in Fig. 2); Cycle 1: consist of total of four Development's. The development start with initiating the project, defining user requirement and placing priorities on the requirements. Every Development involves functionalities development and testing is included at the end of each development. The main purpose of testing to be performed at the end of each Development is to find any bugs and solve it before deciding to go to the next Development level. After all Development are completed, User Acceptance testing is conducted to get the user feedback about ESTP. If the users accept it without any request of changes or disapproval, then the project will proceed to implementation. However, if the user did not accept it and request for further improvements, Cycle 2 will start and all requests, errors and changes will be recorded and the iterations will starts again [16].
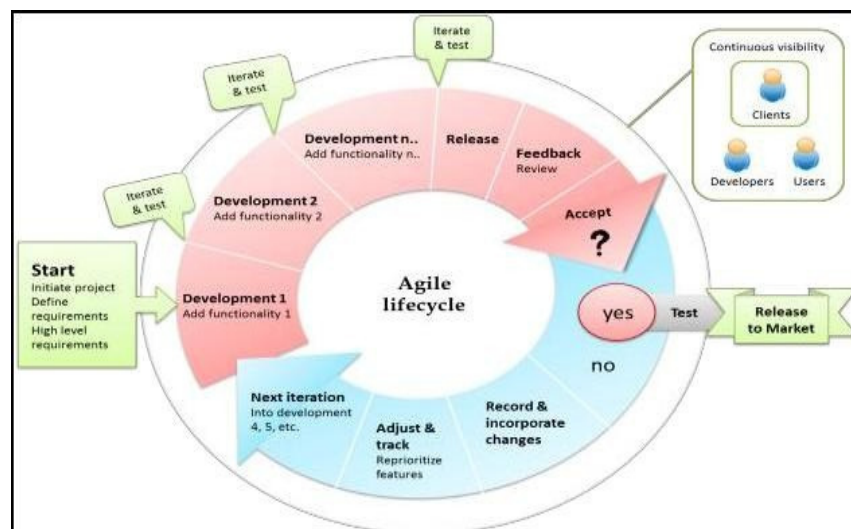

Fig. 2: Agile Methodology [16]

2.2   Project requirements and design

For the development, Bootstrap is utilized as the platform for building the interfaces and constructing the portal frame. XAMMP is used as software server, to store all the database in MySQL. Meanwhile, the programming language used to code and develop ESTP is CSS, PHP, HTML and JavaScript. The architecture for ESTP is as shown in Fig. 3. ESTP will be maintain by the administrator and the access is allow only for its targeted user-Coordinator and teachers that teach Bahasa Semai in schools. ESTP will include functions that allow the user to log in and log out to the portal, access to Bahasa Semai dictionary, Upload and Download of materials shared, view user profiles and chat or discuss topic through the Forum/Discussion Room function.
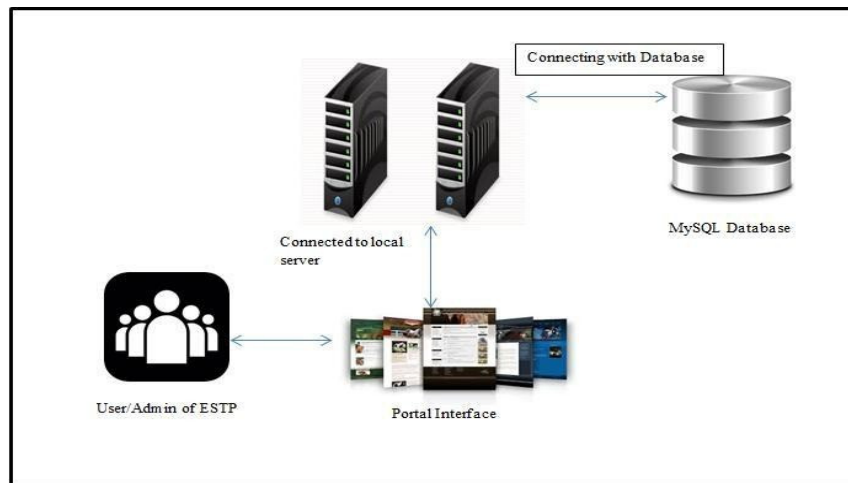
Fig. 3: ESTP System Architecture

3   Result and Discussion

At the initial phase of the project development, in user requirement gathering process, an interview was conducted with the Coordinators from the Ethnic Language Department under the Ministry of Education (MOE) that is based in Putrajaya and with few teachers that teach Bahasa Semai in schools around Perak. Open-ended questions were asked and the interview analysis shown that a computing technology is needed to assist them with methods on keeping updates and sharing knowledge about the subject matters. A trusted reference which is compatible and accessible anywhere anytime, especially by using the internet is really needed for this subject. The Coordinator stated, "as this subject is only an elective language, the method of teaching are still dependent on textbook. Meetings

are held every once in a while but it is good if we have a system or platform that can we can use in daily basis for our communication and sharing of knowledge".

Based from the user requirement collected, the portal was designed and figures below are the sample of Graphical User Interface for ESTP. The Main Page (as in Fig. 4) includes all news updates, a summary on the origin of the Orang Asli and about Bahasa Semai.

Dictionary page (as in Fig. 5) is the most important page and consist all the basic phonology of Bahasa Semai, for example, vocal, pronunciation and consonant for the teachers to know and learn about the language. The main purpose for this page is to provide teachers with a reliable and mobile dictionary that can be view and access at anywhere and anytime.
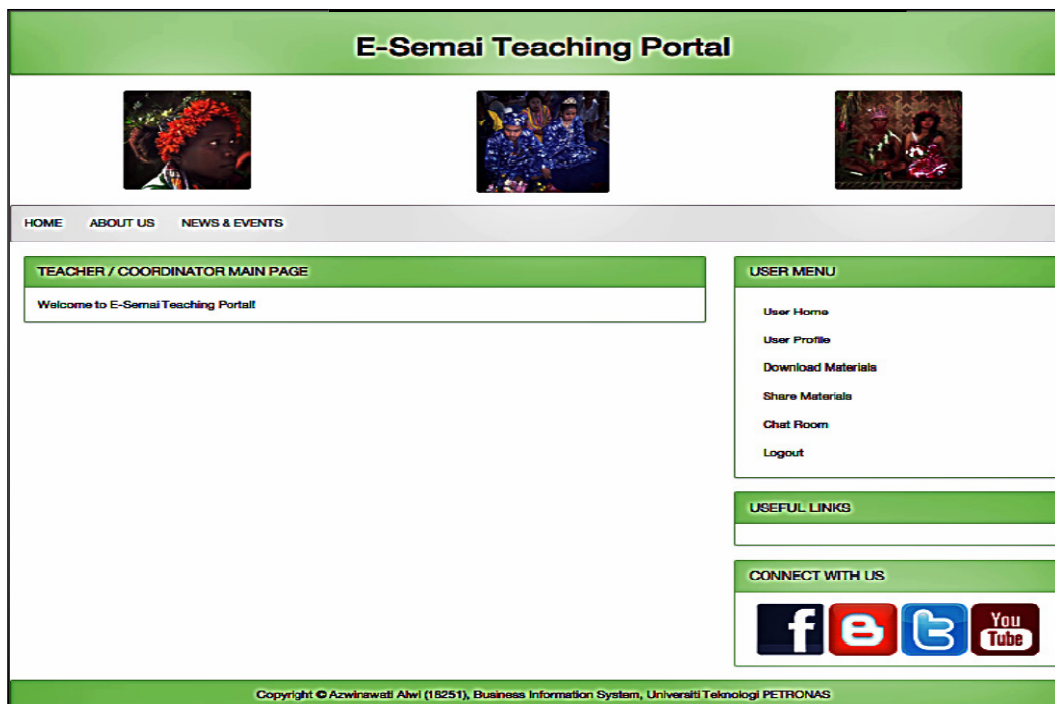

Fig. 4: ESTP Main Page

Fig. 5: Dictionary Page

Fig. 6: Sharing Material Page

Sharing Materials page (as in Fig. 6) will enables the Users to upload and download any materials to be shared in the portal and currently only focus on PDF and Microsoft Words file format. User Profile page, About Us page and Forum/Discussion Room page (as in Fig. 7) with each, will have its own functionalities. Since ESTP is still in development phase, the User Acceptance testing will only be done when all the Development in Cycle 1 is completed. The development of ESTP is estimated to finish by the end of July 2015 and will be implemented in the domain purchases just for the private use of Bahasa Semai teachers and Coordinators.

Fig. 7. Forum/ Discussion Room Page

4   Conclusion

ESTP will be a great help for teachers that teach Bahasa Semai subject in schools and also can be a knowledge sharing platform among the teachers and also the Coordinators. The effectiveness of ESTP could not be measured at this point since it is still under development. However, from the requirement analysis conducted, it is highly believe that the proposed portal will be a great assistance for teachers in finding Bahasa Semai reference during needed times. They can access the portal, in looking for teaching materials or refer to the syllabus at any time, even during holiday or training. Bahasa Semai is being practiced by minority of Malaysian and the teachers that teach this subject in schools has no computing technology that can assist them in the teaching and learning process. Since the portal promote mobility of the content that is important for the teachers, ESTP aims to help and assist the teachers to share any knowledge regarding Bahasa Semai structure or teaching Bahasa Semai subject among them in a more convenient ways. It is hope that the knowledge sharing activities could contribute towards better understanding on Orang Asli student learning experience in schools. Once ESTP is available, the continuity and appreciations towards the language could be measured. The objective of making sure on the language continuity and originality are preserved is very relevant to the current Orang Asli generations. Preservation of an ethnic language is important not only for Bahasa Semai but also for other ethnic languages in this world. This portal can be a reference for the other language in the future.

5   Future Recommendation

In future, features like teaching method page, that includes all teaching materials such as video, games and PowerPoint slides can be added to diversify the sharing of Bahasa Semai teaching techniques. Another suggestion is to make this portal available in mobile apps version as it is more preferable and feasible since everyone is using smart phone these days. It is planned that the portal will be available in Bahasa Semai language to support the usage of the language. In the future, the accessibility of the portal will be extended to school students who are learning Bahasa Semai for better learning experience and it could be set as public rather than private in order to educate other people about this language.

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