

IJEAST

INTERNATIONAL JOURNAL
OF ENGINEERING APPLIED SCIENCE
AND TECHNOLOGY

VOLUME : 2 ISSUE : 1 Print / Issue Publication Date: 31-Dec-2016

ISSN : 2455-2143

Indexed In

Google SCHOLAR OPEN ACCESS doi Crossref

WWW.IJEAST.COM

editor@ijeast.com

International Journal of Engineering Applied Sciences and Technology, 2016
Vol. 2, Issue 1, ISSN No. 2455-2143, Pages 101-104
Published Online November-December 2016 in IJEAST (http://www.ijeast.com)



WEB-BASED TEACHING SYSTEM FOR KAYAH LANGUAGE LEARNING

April Thet Su
Software Technology Department,
Computer University (Loikaw),

Hlaing Htake Khaung Tin
Research and Development Department,
University of Computer Studies, Yangon, Myanmar

***Abstract*— Intelligent Tutoring Systems (ITS) have been a very successful way for improving learning experience. ITS can provide the great benefits of one-on-one instruction with lower cost and more flexibility in time and location. The major benefit of web-based ITS is that, the ITS installed and supported in one place can be used by thousands of learners all over the world. This paper describes the powerful technique of learning theory in computer technology, ITS and Parsing can create attractive and easy learning environment for the learners. Deeply, parser is used for accepting the correct and exact Myanmar sentence structure from administrator. And, four components of ITS are applied for teaching between two different languages. Kayah refers to the largest of the minority groups and is the name that the Kayah use to refer to themselves as well as their language. Moreover, this paper illustrates the constructing for the Kayah language learning system from Myanmar language that the learner who wants to improve their language skills and providing feedback about question performance and status.**

***Keywords*— Intelligent Tutoring System, Web-based teaching, Kayah Langugage**

I. INTRODUCTION

This paper introduces analyses and visualized, to enhance the understanding of the material and train the learner to learn the Kayah language learning. These language lessons will be useful to anyone wishing to study or learn the Kayah language. Additionally, these lessons could be used by a speaker/reader of Kayah to improve his or her English skills. The phrases, dialogues and terms were checked at different stages for spelling, naturalness and accuracy by a number of native language speakers who have advanced literacy skills.

Nowadays, most of the people are learning other language besides their own language. Among them, Kayah language is one of the hottest languages in Myanmar because of attraction of Kayah State. Web-based education is currently a hot research and development area. Web-based learning has a particular advantage over traditional media because student's action can be captured as the student language learning through the materials. The Web-based Intelligent Tutoring System has become more effective in the past decade due to increasing use of the Internet in learning area. Intelligent Tutoring Systems have been a very successful way for improving learning experience.

The Intelligent Tutoring System (ITS) has been developed for a widening of training applications. Intelligent Tutoring system presents an opportunity for using technology to improve and enhance a student's learning environment. Intelligent Tutoring Systems (ITSs) are computer-based instructional systems with modules of instructional content that specify what to teach, and teaching strategies that specify how to teach. Every module in the curriculum has analogies to help learners understanding the Kayah language. In this system, ITS and some components of NLP (Parsing) will also help to accelerate the learner'slanguage skills and ITS is used to build learning from Myanmar to Kayah language.

II. RESEARCH METHODOLOGY

The focus of this particular effort is to have Kayah language learners design an application to use sequences of learning to improve student learning in Kayah language. This system practices student's skill by carrying out tasks within highly interactive learning environments and to be a feasibility study focused on Kayah language learners. By building a web-based intelligence tutoring system for Kayah language learning, this system provides students to learn faster and translate the learning into improved performance interacting via intelligence tutoring system generally. It allows a student to solve exercises in any manner the student chooses and is able to determine the student's ability to understand and apply basic concepts.

In Myanmar language, characters can be classified into three groups: consonants, medials and vowels. There are four syllable types in Kayah: V, CV, CCV and CCCV. The CV syllable pattern is the most common. Tones occur on the nucleus of the syllable, as does breathiness. A single diphthong /ɯə/ is treated as one vowel. Words in Kayah can be one, two or three syllables long. Compound words are also fairly common[7].

Table 1. Consonants

International Journal of Engineering Applied Sciences and Technology, 2016
Vol. 2, Issue 1, ISSN No. 2455-2143, Pages 101-104
Published Online November-December 2016 in IJEAST (http://www.ijeast.com)

		Bilabial	Labio-Dental	Dental	Alveolar	Post-Alveolar	Retroflex	Palatal	Velar	Glottal
Plosive	voiceless	p			t				k	
	voiceless aspirated	p^h			t^h				k^h	
	voiced	b			d					
Fricative	voiceless			(Θ)	s^h	ʃ	ʂ		x	h
	voiced		v		z					
Affricate	voiced							ʤ		
Nasal	voiced	m			n			ɲ	ŋ	
Tap					r					
Lateral					l					
Approximant		w						j		

Note: /ɲ/ is considered by Mr. Hte Reh to be an allophone of /ŋ/ . However, since the Kayah separate these two elements in their own orthography, I have treated them as separate for this research.

III. Background Theory

Intelligent tutoring systems use simulations and other highly interactive learning environments that require people to apply their knowledge and skills. These active, situated learning environments help them retain and apply knowledge and skills more effectively in operational setting. In a traditional classroom, an essential factor in student's academic success is student's desire to learn. This desire can be strengthened if the student's interest can be motivated by presenting the course material in an attractive manner which encourages students to like the material and learn more.

Intelligent Tutoring System has been pursued for more than three decades by researchers in education, psychology and artificial intelligence [1]. Prototype and operational intelligent tutoring systems provide practice-based instruction to support corporate training. The goal of interactive tutoring system is to provide the benefits of one on-one instruction automatically and cost effectively. Intelligence tutoring system enables participants to practice their skills by carrying out tasks within highly interactive learning environments. However, intelligent tutoring system goes by answering user questions and providing individualized guidance.

Typically separate an ITS into several different parts, and each part plays an individual function. Usually, most ITSs have four common major components [4], as illustrated in Figure 1:

[1] Knowledge domain;
[2] Student model;
[3] Teaching strategies;
[4] User interface.

A. Knowledge Domain

The knowledge domain stores learning materials that the students are required to study for the topic or curriculum being taught [3]. This system stores courses. In each course, vocabularies and exercises are contained. The higher the course, the more difficult vocabularies and more phrases exercises are played interestingly.

B. Student Model

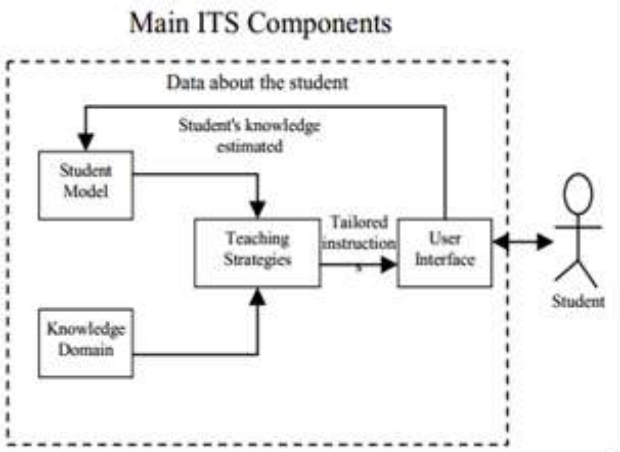
The student model stores information that is specific to each individual learner and enables the system to identify different users. Without an explicit student model, the teaching strategies component is unable to make decisions to adapt instructional content and guidance (see Figure 1) and is forced to treat all students similarly [3].

C. Teaching Strategies

The teaching-strategies component refers to instructional techniques for teaching. For example, the component decides when to present a new topic, how to provide recommendations and guidance, and which topic to present. As mentioned earlier, the testing result of the student model is input to this component, so the system's pedagogical decisions reflect differing needs of students. Thus, this component needs to take appropriate actions to manage one-on-one tutoring, such as switching teaching strategies and using a variety of teaching approaches at appropriate times according to the student's particular needs and problems [3]. This system can study the vocabularies and practice exercises and exam questions. ITS uses parser, learners can practice each word and type the answer.In this component, parsing is used to modify the words and sentence by the administrator. As parser is used, this system can redefine and controlled words in detail.

D. User Interface Component

The user interface component decides show the system interacts with a user. The dialogue and the screen layouts are controlled by this component. A well-designed interface can enhance the capabilities of an ITS by allowing the system to present instructions [3]. This system is used to display Myanmar and Kayah text lessons, exercises, exams and give the test certificate.



International Journal of Engineering Applied Sciences and Technology, 2016
Vol. 2, Issue 1, ISSN No. 2455-2143, Pages 101-104
Published Online November-December 2016 in IJEAST (http://www.ijeast.com)

Figure 1. Major Components of intelligent Tutoring System

IV. Web-Based Learning For Kayah Language

Web courseware installed and supported in one place can be used by thousands of learners all over the world that are equipped with any kind of Internet-connected computer. Using computers for educational purposes has long history. It can be realized in various forms and modifications (computer-based training, online learning, elearning, web-based learning, etc.) Web-based learning exercises can be designed such that both students and faculty receive immediate, useful feedback about various aspects of an exercise. The focus of this particular effort is to have Kayah language learners design an application to use sequences of learning (programmed instruction) to improve user learning. A learning exercise is designed around the Kayah language in order to illustrate the utility of the web-based approach. If a learner desire to learn, this desire can be strengthened if the user's interest can be motivated by presenting the course material and learn more. To achieve this goal, this system introduces analyses and visualizes the Kayah language concepts based on other systems which are easily visualized, to enhance the understanding of the material and train the user to link the behaviors of different systems [5].

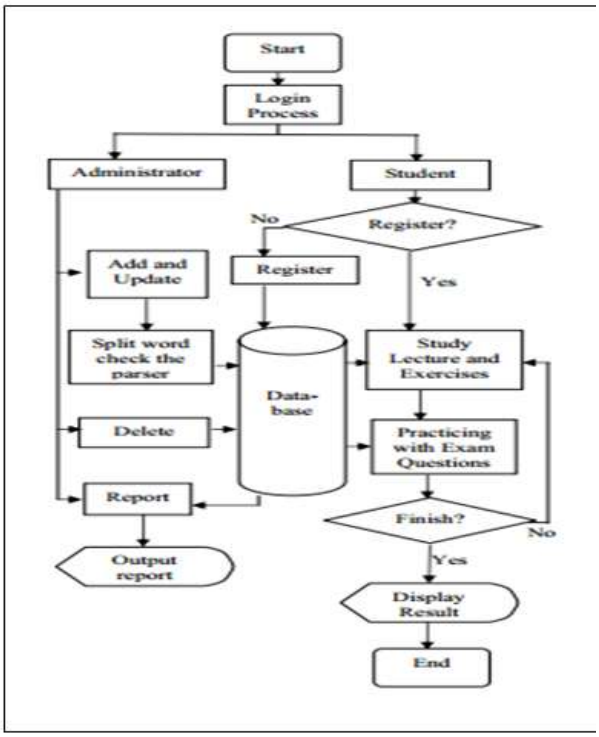


Figure 2. The System Flow Diagram

V. System Design

Web-based tutoring systems have made significant strides in the last few decades in well-defined domains. The intelligent tutoring system is a software package that permits individual tutoring of students. This web-based intelligent tutoring system is designed to use as a learning aid for the student. And this system has practice an increase by tutoring in Kayah Language. This learning system is built for two kind users who the authorized person (administrator) and the student (user or learner). Each user has a specific allowance in using the system. Firstly, an administrator is tested with password to enter the system because of the security for question and learning word. Then, the administrator can manage adding, updating and deleting the lectures and questions. By using Parser, administrator can analyze the input question of Myanmar sentence into each word and defined this word. Student has "login" process. If the student is new, he/she needs to be registered. If the student is already registered, he/she can enter the system by typing user name and password. They can learn the vocabularies and practice exercises lessons step by step. If the students are ready to sit for the exam, they must type the answer for the giving Myanmar questions translate into Kayah. They can get their result as Certificate.

A. Control of User Levels

The learning system is created for, two levels of users. They are Administrator and Student.

B. Administrator

Administrator needs the password to enter the system because it controls the system's contents. The administrator can add, delete and update the learning lessons and exam sections.

C. Student

For the student, user must register to create the student account. Each student needs login name, password to enter the system. The student can learn the vocabularies, practice exercises and answer the exam questions lesson by lesson.

For student, the system gives exam question randomly. Where every question is completed, the system examines the answer whether it is correct or not. If the student's answer is all correct, the student can go next lesson. Otherwise, the student goes to learning vocabularies for unsatisfied answers and re-exam. If all chapters are finished, student can view certificate of their exam result.

VI. Database Design

There are four tables for Web-Based Teaching System for Kayah Language Learning. They are Admin Profile Table, Student Profile Table, Lesson Table and Question Table.

Table 2. Admin Profile Table

Field	Data Type
AID	int
AName	varchar
Apassword	varchar

International Journal of Engineering Applied Sciences and Technology, 2016
Vol. 2, Issue 1, ISSN No. 2455-2143, Pages 101-104
Published Online November-December 2016 in IJEAST (http://www.ijeast.com)



Table 3. Student Profile Table

Field	Data Type
MemberID	int
SName	varchar
SPassword	varchar
Email	varchar
Age	int
Sex	varchar
Adress	varchar
Occupation	varchar
Lesson	varchar

Table 4. Lesson Table

Field	Data Type
CLesson	varchar
Myanmar	varchar
Kayah	varchar

Table 5. Question Table

Field	Data Type
QLesson	varchar
Myanmar	varchar
Kayah	varchar

VII. CONCLUSION

The most advanced language learning technique, Intelligent Tutoring System is used to build a Myanmar-Kayah language learning system. Users can learn Kayah language by using ITS from anywhere that just have Internet network at any time. So this will reduce the time and cost effectively. And then, this system can display the user's experimental result. This proposed system is aimed for the enhancing self-learning and saves time for Kayah language learning in the future.

This system can be more developed for advanced learners. If this system includes images, sound and animation, it will be more interesting for the user. There is a need to make an interactive exchange of messages between the students and lectures. When teaching and learning are changing with technology; web-based learning has become a significant trend in education. Using Internet technology, web-based learning system can be developed to achieve the effective and efficient system.

VIII. REFERENCES

[1] Antonia J.Jones "**Artificial Intelligence in Computer Aided Instruction Shells**".

[2] B. P. Butz, Temple University, Philadelphia, "**The Learning Mechanism of The Interactive Multimedia Intelligent Tutoring System (IMITS)**", in *30th ASEE/IEEE Frontiers in Education Conference*, Kansas City, MO, October 18-20, 2000.

[3] C.J. Butz, S. Hua, R.B. Maguire "**A Web-based Bayesian Intelligent Tutoring System for Computer Programming**" Department of Computer Science, University of Regina, Saskatchewan, Canada S4S 0A2 Email: {butz, huash111, rbm}@cs.uregina.ca

[4] C.W. Woo, Instructional Planning in an Intelligent Tutoring System: Combining Global Lesson Plans with Local Discourse Control, Ph.D. Thesis, Illinois Institute of Technology, Chicago, IL, 1991

[5] Geroge Couloris, Jean Dollimore Tim Kindberg, "**DISTRIBUTED AND DESIGN**", Third Editiion.

[6] Tun Thura Thet, Wunna Ko Ko; "**Word segmentation for the Myanmar language**", School of Communication and Information, Nanyang Techmological University, Singapore637718.

[7] Kayah Li (Western Red Karen) Language Lessons by H. Anne Helgerson, October 2009.

IJEAST

INTERNATIONAL JOURNAL
OF ENGINEERING APPLIED SCIENCE AND TECHNOLOGY

AUTHORS

April Thet Su

Hlaing Htake Khaung Tin

ABOUT IJEAST

International journal of Engineering Applied Science and Technology (IJEAST) is a peer-reviewed, open access journal that publishes high - quality research paper in the field of Engineering, Applied Science and Technology.

IJEAST aims to provide a platform for researchers, academicians, and professionals to share their innovative ideas, research findings, and practical experiences with the global scientific community.

JOURNAL METRICS

H-INDEX	i10-INDEX	IJEAST CITATIONS	PEER-REVIEWED & OPEN ACCESS
33	154	9,647 (IJEAST CITATIONS)	PUBLISHED MONTHLY

PEER REVIEWED

All submission are rigorously peer reviewed to ensure quality.

AUTHORS ARE OUR PRIORITY

We value our authors and recognize their contribution to the advancement of research and knowledge.

OPEN ACCESS

Free and unrestricted access to research for all.

GLOBAL REACH

Connecting researchers and professionals worldwide.

TIMELY PUBLICATION

We ensure a swift and efficient publication process.

For more information, visit our website
www.ijeast.com

editor@ijeast.com

www.ijeast.com

India

2455-2143