

Learners' Evaluation of the Usability and Design Features of Chinese as a Foreign Language E-Learning Websites

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Abstract—Given the dearth of research that explains phenomena related to usability and design issues affecting Chinese as a Foreign Language (CFL) e-learning websites, this study was launched, using a modified questionnaire, to explore answers for the following three research questions: 1) Do the learners use CFL e-learning websites to learn Chinese language? 2) To what degree CFL e-learning websites are usable from the perspective of the learners? 3) What do the learners think of the design features of CFL e-learning websites? Thirty nine undergraduate students studying Level II of the CFL course at a Malaysian university where this study was launched responded to the questionnaire, out of which twenty two (56.4%) of them indicated that they used the existing CFL e-learning websites as a means to support their learning of the language. In addition, though the majority of this group of respondents ranked highly the usability aspect of the websites they used to learn the language, a small number of respondents expressed views over the design issues of the websites via the focus group interview conducted. This study envisages that the findings derived thereof will contribute towards providing instructors and course designers with a better understanding of relevant aspects causal to usability and design of CFL e-learning websites thereby enabling them to make informed decisions about future CFL e-learning website design and development.

Index Terms—Chinese as a Foreign Language (CFL), e-learning websites, usability, design features, evaluation

I. INTRODUCTION

As China captures massive attention from the world in recent years, Chinese language education and communication continue to grow in importance. An evidence of the growing prominence of Chinese language in the Western World is the “Chinese language learning euphoria” as manifested in the growth spurt in Chinese language subject enrolment among students across schools and institutions in the United States [1]. The

proliferation of free and open Chinese as a Foreign Language (CFL) e-learning websites featuring lesson plans, academic resources and pedagogical discussions in multimedia mode for use by CFL teachers and learners is another indication showing the growing popularity of teaching and learning of the language in this era of globalization. The Malaysian university where the present study was launched exudes similar trend of Chinese language learning. At the university, Chinese language has been taught to its students studying at both diploma and degree levels and as of July 2014, the university witnessed an enrolment of more than 400 students in the language course.

The fundamental objective of teaching the students the language at the university is to enable them to develop basic communicative skills in the language viz. listening, speaking, reading and writing as well as to expose them to Chinese-related cultural knowledge and the writing up of some commonly used Chinese characters. At this point, this study observes that, while there are students who are genuinely interested in learning the language and have valued its cultural and aesthetic dimension, the insufficient face-to-face in-class instructional time practiced in the Chinese language classrooms at the university poses a limitation in that it has thwarted students from reaching the desired learning outcomes. As there are only four contact hours per week for students at diploma level (two at degree level) and this study reveals that it takes 1,320 contact hours to enable a learner to reach a limited working proficiency in Chinese language [2], the students are obviously at a great disadvantage in learning the language. Given the limited classroom instructional time, it is only natural that the problem of language skills retention among the students comes to the fore. This leads to this study to contemplate that in their quest to fulfill their learning needs which in turn would help them achieve the preferred level of communicative skills, the keen learners would find a means by which they could practise and reinforce the language skills outside of their in-class contact hours with the instructors.

One of the latest in a series of technology innovations affecting foreign language teaching and learning is e-learning websites. Foreign language e-learning websites are often used as a supplementary learning tool in classroom teaching and learning, or as a method to acquire language competence independently {cited in [3]}. To this end, in view of the mushrooming of CFL e-learning websites in multimedia mode designed to accommodate needs of various types of CFL learners, and taking into account the appeal of web-based media to young generations, this study envisages that the keen learners would resort to the free and open access CFL e-learning websites to scaffold their learning of the language, among other possible routes.

Experts in website usability suggest that usability reflects the quality of a website and probing the learners' opinions on the ease of use and the pedagogical usefulness of the e-learning websites they interact with, would shed light on developing effective design guidelines for e-learning websites [4], [5]. In addition, according to [6], the most noticeable affective learning factor in e-learning, which can result in considerably profound effects on learners, is interactions with an e-learning application. This implies that evaluating the usability of e-learning designs with a focus on the learners' perspective is therefore relatively important.

Armed with the issues discussed above this study thus set out to seek answers for the following questions:

- 1) Do the learners use CFL e-learning websites to learn Chinese language?
- 2) To what degree CFL e-learning websites are usable from the perspective of the learners?
- 3) What do the learners think of the design features of CFL e-learning websites?

This paper is organized as follows. Section two presents literature review. Section three introduces the methodology employed in this study. Section four presents the results and discussions, and lastly section five concludes the paper.

II. LITERATURE REVIEW

The first part of this section presents readers with an overview of constraints facing the CFL learners considered in this study and it explores also possible remedial suggestions for this group of CFL learners. It then delves into discussion on the pedagogical relevance of CFL e-learning websites. Subsequent parts of this section evolve around the following topics: the definition of web site usability, the importance of usability evaluation as it relates to the design and development of foreign language e-learning websites followed by a showcasing of usability studies on foreign language e-learning websites.

According to [2], in a standard set by U. S. Foreign Service Institute, for a novice learner with average language learning aptitude to reach a limited working proficiency in Chinese language, he/she needs 1,320 hours contact hours with a human instructor. Students at the diploma level and the degree level at the university where this study was launched have to study the language

course for two semesters and three semesters, which is a total of 112 and 84 contact hours respectively throughout their study of the language at the university. Within the total contact hours for each respective level of the Chinese language courses, the students have to tackle the four macro skills – listening, speaking, reading and writing – as well as learning pinyin and some commonly used Chinese characters, let alone Chinese-related cultural knowledge. Compared to the standards set by the U.S. Foreign Service Institute, the students at the university are obviously at a great disadvantage in learning the language. In combating their constraints in learning the language, this study envisages that the keen learners would turn to alternative avenues to support their learning of the language.

A review on the pedagogical relevance of the CFL e-learning websites demonstrates that well-designed CFL e-learning websites do hold potential to facilitate the learners' acquisition of the language. An example of a free and open access CFL e-learning website with judiciously good didactic elements for beginning learners is **BBC Real Chinese** (http://www.bbc.co.uk/languages/chinese/real_chinese/).

In summing up the pedagogical relevance of CFL e-learning websites, [7] notes that “the interactive, collaborative and communicative features of well-designed CFL e-learning websites enable CFL learners to engage in web-based language learning in a pedagogically relevant manner and enjoy the functionality of a language classroom.” Related literature has also shown that web-based learning helps break the shackle of time and distance between learners and instructors and lend itself to allowing learners access to the instructional materials virtually 24/7 [8]. In view of this, in order to fulfil their language learning needs, this study anticipates that the keen learners would resort to the free and open access CFL e-learning websites, among other possible options.

To this end, in response to the proliferation of the foreign language e-learning websites, it is only natural that queries arise questioning how useful and how practical the websites are. In this regard, [9] succinctly note: “The vast quantity and variety of Internet resources for language study is welcome but leaves us with the problem of evaluating the quality of what is available (p.279)”. Consequently, “language learning website assessment, based on appropriate quality criteria, becomes necessary to guide developers in designing and creating these sites, and to guide both teachers and learners in their quest for useful and reliable sites that meet their needs.” [10]. As a result of this, a number of studies have therefore emerged to review, measure and test the functionality and usefulness of foreign language e-learning websites using perceived checklists and guidelines such as those endeavors by [9], [11], [12]. Further literature search, however, reveals that evaluations of foreign language e-learning websites with usability considerations are scant. Given the dearth of research that explains phenomena related to usability of foreign language e-learning websites, this research

attempts to further address the lack in the literature by exploring the usability and design issues affecting foreign language e-learning websites, in particular the CFL ones from the perspective of the learners.

Usability has been defined as “the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency, and satisfaction in a specified context of use.” [13]. On the other hand, [4] defines usability by five primary components: Learnability, Efficiency, Memorability, Errors and Satisfaction. These five components contribute to the definition of usability are shown in Table I.

TABLE I. COMPONENTS OF USABILITY

Learnability	Emphasizes on how easy it is to learn to use the system.
Efficiency	Emphasizes on how much work does it require users to do.
Memorability	Emphasizes on how easy it is to remember how to use.
Error	Emphasizes on determining whether the system work correctly and does it help users perform tasks correctly.
Satisfaction	Emphasizes on determining whether users are satisfied as a result of using the system.

Ref. [14] notes that the above-mentioned components of usability can virtually be applied to all the aspects of a website with which a user might interact and additional factors of web usability to consider include content, page and site design. Still according to [14], content design is associated with writing for scan ability and use of media, page design is related to cross platform, speed of page access and page linking whereas site design concerns linking and navigation. In summarizing the concept of web usability, ref. [15] states “(website) usability is the broad discipline of applying sound scientific observation, measurement, and design principles to the creation and maintenance of websites to bring about the greatest ease of use, ease of learnability, amount of usefulness, and least amount of discomfort for the humans who have to use the system.”

General usability standards apply to all sites including e-learning ones {cited in [16]}, thus in the context of e-learning, usability can be regarded as “the effectiveness, efficiency and satisfaction with which users can achieve specified learning (or learning related) goals in a particular environment or with a particular tool or learning resource.” [17].

Along with debates on the importance of usability as it relates to the quality and success of a website, the last decade has seen usability researchers raising concerns over the notion of pedagogical usability. In stating the essence of pedagogical usability relating to e-learning websites, [16] remark that “pedagogical usability encompassing pedagogical aspects such as learning process, purpose of learning, content, user’s needs and learning experience, is often mediated by technical usability, thus, both usability, are intertwined with each other and determine the effectiveness of the sites and the learning outcomes.” Hence, the evaluation of the usability of e-learning websites must concurrently consider its

pedagogic effectiveness as well as its interface usability [16], [18] as the ease of use of a website may be just as crucial as the effectiveness of the learnability [19].

The implementation of usability issues can assist instructors in enhancing the web-based learning experience for learners, and may influence student learning outcomes and learning effectiveness {cited in [20]}. From the perspective of language professionals, [21] postulate that measuring the usability of language websites and providing language teachers and course designers with understanding on all aspects causal to language learning websites usability would enable them to make informed decisions about website design and will ultimately entail in improving the overall learning experience for students. By investigating a total of 1519 China-based EFL practitioners’ perceptions of the various components of major language areas and skills in English Language Learning (ELL) websites, website materials, language users’ preferences, and website usability, the study conducted by [3] concluded that ease of website usability is one of the key features of a popular ELL website in China. In addition, the study also recognized that the aspect of interactivity, the judicious use of multimedia modalities, technical logistics of website usability and other factors such as speed of downloading the learning materials are pivotal when designing ELL websites in order to satisfy EFL users’ needs. On the other hand, the formal usability tests with specific tasks involving real users of EFL and CFL conducted by [5] and [22], pointed out the significance of information, interface, and interaction design issues as they relate to the degree to which ESL and CFL learners enjoyed and were satisfied with learning the languages via the websites. Similarly, using usability factors comprising effectiveness, efficiency and enjoyment, [21] probed the usability issues concerning web-based foreign language courses offered at a UK-based university from the perspective of the learners. According to the study, reasons for non-use of websites by learners do not appear to be based on usability flaws but primarily associated with pedagogical issues.

III. METHODOLOGY

This section presents the research design and techniques which have been used in this study. In particular, it describes how the related literatures were reviewed, the instruments used to gather required information, the manner in which the survey was conducted and procedures it used. In addition, the details of data collection and data analysis are also described.

A. Literature Review

For this study, this aspect of the research involved studying relevant books, articles in peer-reviewed journals, conference proceedings, unpublished documents and findings of some previous research reports written by other researchers regarding the subject matter (either through library or desktop Internet search).

B. Questionnaire Design

The questionnaire used in this research was developed in adaptation of the instrument originally employed by [5]. The questionnaire consists of two parts. The first part of the questionnaire is organized in three sections and includes 16 questions comprising both open-ended and close-ended questions as well as a 5 point Likert-scale question. Section A is designed to collect learners' demographic data, Section B is designed to collect data regarding learners' computer and Internet experience, Section C is designed to find out learners' perceptions towards the level of difficulty of the university-administered Chinese language test they took during the previous semester and whether the learners use CFL e-learning websites to learn the language. User-based evaluation method is used to determine the usability flaws of the CFL e-learning websites of the learners' own choice in this research. This study would like to emphasize at this juncture that its aim was to determine the learners' overall rating regarding their experiences while interacting with their chosen websites. It did not intend to obtain information about the websites or to evaluate each site individually. According to [23], dependent on the utilisation of questionnaire and interviews, the main aim of the user-based evaluation method is to record users' satisfaction with the interface of the system being evaluated. The second part of the questionnaire employed in this research, which is in the form of a site feedback form, is designed to collect website usability data from the viewpoints of the learners. This part of the questionnaire was adapted mainly based on the work by [5]. In particular, the site feedback form is used to collect information about learners' perceptions towards the usability and design of the websites, namely website's ease of use, information quality, interface quality, multimedia use issues and learners' overall learning experience and satisfaction towards the websites. This particular section of the site feedback form consists of 12 items and uses a 5 point Likert-type rating scale. The use of Likert-type scales can effectively avoid loading respondents with immense work and ensure an accurate report [3]. The form contains also a section asking learners' to rate how useful were the websites in terms of helping develop their language skills and cultural knowledge. Likewise, a 5 point Likert-type rating scale is used for this section. Additionally, the site feedback form also requests the learners' to list out 3 features of the websites they like best and vice versa. The 5 point Likert-types rating scale employed in the site feedback form is organized as follows: 1= strongly Disagree, 2= Disagree, 3=Neutral, 4= Agree, 5= Strongly Agree.

C. Conduct of the Survey

Before piloting the questionnaire with the learners, the first draft of the modified questionnaire was referred to an experienced university English lecturer with a PhD qualification in ESL as well as a university lecturer who possesses a PhD qualification in Human Computer

Interaction for consultation. Based on their feedback, some additional modifications were made to the questionnaire. The questionnaire was then piloted with 20 learners of CFL at the university where the present study took place. After reviewing the piloted questionnaire, some steps were taken to ensure the validity and reliability of the questionnaire such as fixing ambiguity in the wordings of questions and adding some questions deemed necessary by the current research. The improved version of the questionnaire was then administered to a total of 39 undergraduate students studying level II of the CFL course at the university. Problems regarding internal validity were kept to a minimum by implementation of the survey by one person in the form of one of the researchers in this study. The respondents were given 2 days to complete the questionnaire and all the respondents returned the completed questionnaire within the anticipated time frame. The filling in and submission of the completed questionnaire was taken as formal consent to participate in the survey [3].

D. Focus Group Interview

According to [24], a focus group is an informal assembly of users whose opinions are requested about a specific topic. The goal is to elicit perceptions, feelings, attitudes, and ideas of users about the topic. Still according to [24], focus group interview is useful not only in terms of helping identify the range of views expressed by the users, but also useful for the users to learn from each other. This study used this instrument to gather 8 learners for an informal meeting to discuss what they desired in the CFL e-learning websites. Prior to the commencement of the discussion, the open-ended questions were piloted for clarity and relevance. Together with a script created to ensure that what to ask and which topics to cover were of coherent manner, this study prompted discussions among the learners using the open-ended questions. The nearly one hour long discussion took place in an internet-connected computer laboratory and was recorded using a digital video camera. The information gathered from the focus group interview was used to supplement findings from the survey conducted. This instrument also explored areas which were beyond the scope of the survey.

E. Data Interpretation

The collected data from both the questionnaire survey and focus group interview were grouped together and presented by means of word description as well as descriptive statistics, such as frequency counts, percentages, means and standard deviations. Statistical software package SPSS version 19 for Windows was used to code and analyse the data collected. The information gathered from the focus group interview are transliterated and saved in both written and electronic forms in order to make the job of any future reference considerably easier. The thorough analysis involved combining information from both the qualitative and quantitative data to support conclusions drawn from this and other sections of this study.

IV. RESULTS AND DISCUSSION

For the purpose of this submission, this section presents the main results and discusses them in the light of the research questions posed at the outset of the study. Thirty nine undergraduate students (henceforth respondents for the rest of this section of the paper) studying Level II of the CFL course at two different faculties namely Faculty of Computer Science and Faculty of Architecture Planning at the university where this study took place responded to the questionnaire. Nineteen (48.7%) of the respondents are male students whereas 20 (51.3%) of them are female students. 74.4%

of them claimed that prior to the commencement of this survey they had 6 months to a year of experience in learning CFL and 76.7% of them reported having obtained grade B and above (B, B+, A- and A) with the remaining 23.7% reported receiving grades from C, C+ to B- in the CFL test they took at the university previously.

Pertaining to the level of difficulty of the CFL test taken, the respondents regarded writing test was the most difficult part to tackle whereas components of listening, speaking and reading in the test were ranked moderately difficult. Table II and Table III illustrate graphical interpretation of this particular finding.

TABLE II. LEVEL OF DIFFICULTY OF THE TEST ITEMS IN THE CSL TEST TAKEN

Test Items	Level of Difficulty	Frequency (Number of Respondents)	Percentage (%)	Mean	Mean Score Interpretation
Listening	Very Easy	4	10.3	3.36	Moderate
	Easy	19	48.7		
	Fair	14	35.9		
	Difficult	2	5.1		
	Very Difficult	0	0.0		
Total		39	100.0		
Speaking	Very Easy	8	20.5	3.26	Moderate
	Easy	14	35.9		
	Fair	16	41.0		
	Difficult	1	2.6		
	Very Difficult	0	0.0		
Total		39	100.0		
Reading	Very Easy	5	12.8	3.33	Moderate
	Easy	19	48.7		
	Fair	12	30.8		
	Difficult	3	7.7		
	Very Difficult	0	0.0		
Total		39	100.0		
Writing	Very Easy	1	2.6	3.74	High
	Easy	2	5.1		
	Fair	11	28.2		
	Difficult	17	43.6		
	Very Difficult	8	20.5		
Total		39	100.0		

TABLE III. THE INTERPRETATION OF MEAN SCORE OF THE LIKERT SCALE

Likert Scale (5 Levels)	Score	Likert Scale (3 Levels)	Mean Score	Mean Score Interpretation
Very Easy	1	Easy	1.00 – 2.33	Low
Easy	2			
Fair	3	Fair	2.34 – 3.66	Moderate
Difficult	4	Difficult	3.67 – 5.00	High
Very Difficult	5			

TABLE IV. PERCENTAGE OF RESPONDENTS USING CFL E-LEARNING WEBSITE(S) TO LEARN THE LANGUAGE

Responses	Percentage (%)	Frequency (Number of respondents)
Yes	56.4	22
No	43.6	17

The insufficient classroom contact hours with the instructors (as discussed earlier) and the level of difficulty associated with the test items in CFL test they

took perhaps explain why some of the respondents resorted to use the existing CFL e-learning websites to support their language learning. More than half of the respondents (22 respondents - 56.4%) (See Table IV) reported that they used the existing CFL e-learning websites to support their learning of the language. When asked as to their specific purposes of using CFL e-learning websites (the respondents were allowed to tick more than one purpose), 86.3% of those who used the websites answered they used the websites to increase their knowledge in Chinese language. Other purposes of using the websites (in order of preferences) as reported were to improve their language skills, to acquire more Chinese vocabulary, to help recall what they have learnt in class, keen to know more about Chinese culture followed by Chinese history. Table V shows in detail the specific purposes of using CFL e-learning websites among the respondents.

With regards to the usefulness of the websites in terms of helping develop their four language skills and cultural knowledge, the great majority of the respondents exuded astounding recognition of the usefulness of the websites

in this regard. When combining all statements together we get an average overall rating for usefulness of the websites of 3.9 (S.D.0.7) (See Table VI).

TABLE V. SPECIFIC PURPOSES OF USING CFL E-LEARNING WEBSITE(S)

Usage of CFL website(s)	Percentage (%)	Frequency (Number of respondents)
to increase my knowledge in Chinese language	86.3	19
to help recall what I have learned in class	54.5	12
to improve my Chinese language skills	81.8	18
to learn more about Chinese culture	22.7	5
to acquire more Chinese vocabulary	59	13
to learn more about Chinese history	9.1	2

TABLE VI. USEFULNESS OF WEBSITES IN DEVELOPING LANGUAGE SKILLS AND CULTURAL KNOWLEDGE

No	Statement	Mean (SD)
a.	contribute to developing my listening skills in Chinese language	4.00 (.62)
b.	contribute to developing my speaking skills in Chinese language	4.05 (.49)
c.	contribute to developing my reading skills in Chinese language	3.96 (.79)
d.	contribute to developing my writing skills in Chinese language	3.73 (.98)
e.	contribute to increasing my knowledge in Chinese culture	3.86 (.71)

TABLE VII. MEAN USER RATINGS WITH STANDARD DEVIATION IN PARENTHESIS

No.	Question	Mean (SD)
1.	Ease of finding the information/activities	3.86 (.64)
2.	Ease of reading the text	3.77 (.53)
3.	Ease of understanding the instructions and activities	3.72 (.46)
4.	Ease of moving around the site without getting lost	3.77 (.81)
5.	Speed of pages displaying	3.55 (.67)
6.	Appearance of site, including colors and graphics	4.00 (.76)
7.	Interactive	4.09 (.68)
8.	Effective use of multimedia	4.09 (.75)
9.	Quality of information/activities	3.90 (.61)
10.	Fun, entertainment value	4.05 (.89)
11.	Overall learning experience	3.86 (.64)
12.	Overall satisfaction with this website	3.91 (.75)

At this point, Table VII reflects the overall ratings for the CFL e-learning websites (which the respondents accessed) for each individual question. A graphical representation of the results is shown in Fig. 1. The responses to all questions were merged together and the average overall ratings were presented in Fig. 2. The websites rank high in terms of usability (Fig. 2) with the majority of the respondents giving all twelve questions high ratings (responses 4 were mostly cited). We get an overall rating for usability of the websites of 3.88 (S.D.

0.68) with the dominance of responses being the highest score of 4 when amalgamating all responses to all questions. There were no responses that were below 3.

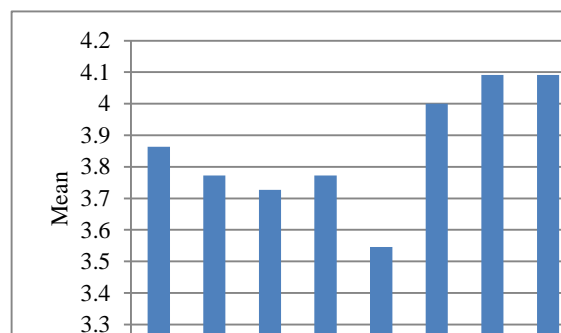


Figure 1. Graph showing mean user ratings for the 12 questions

Although the websites received favorably high ratings in terms of usability further analysis however indicates the websites are not flawless. Ratings given to some individual questions conform to this observation. By scrutinizing the individual question rankings one can notice that question 2 (Ease of reading the text), question 3 (Ease of understanding the instructions and activities), question 4 (Ease of moving around the site without getting lost), question 5 (Speed of pages displaying) are ranked comparatively lower. All these points to website design flaws relating to navigation and information architecture of the websites and the comparatively lower ratings granted to these aspects might perhaps be seen as cues for course designers/evaluators when developing and designing e-learning websites.

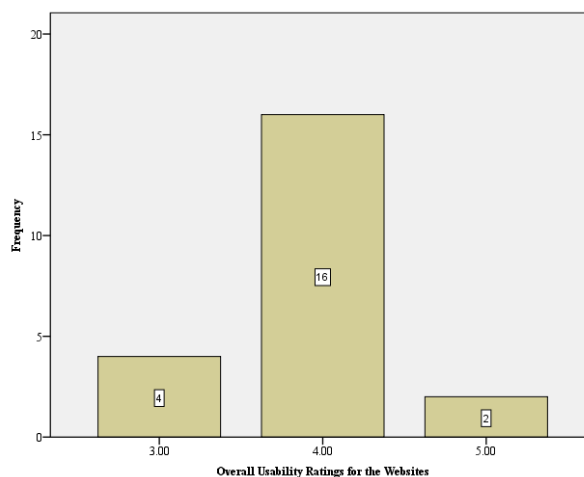


Figure 2. Overall usability ratings for the website(s)

On the other hand, question 11 (Overall learning experience) and question 12 (Overall satisfaction with this website) received high ratings from the respondents indicating a high overall satisfaction of respondents with the websites and their ease of use.

When asked as to whether they would re-use the websites to learn the language, 95.5% (21 respondents) of the respondents unequivocally indicated that they would return to the sites to continue with the learning of the language. This finding seems to correspond with [3]'s work confirming that ease of website usability is one of

the contributing factors to the popularity of an ELL website in China.

To further probe additional usability and design flaws of the websites, the questionnaire employed in this study also encouraged respondents to list up to three of the most preferred and three of the least favored aspects of the websites they used to learn CFL. A sample of the responses received is shown in Table VIII.

TABLE VIII. MOST PREFERRED AND LEAST FAVOURED ASPECTS OF THE WEBSITES

Most Preferred	Least Favoured
Animated demonstration of the stroke order of Chinese characters	Streaming of sound files are slow and the quality of the sound is not good
Availability of scoring check	No online chat facility with instructors
Colour schemes used in the website are pleasing to eyes	Broken links

In addition to the findings derived from the questionnaire survey, 8 respondents were recruited for a focus group interview to discuss and share what they desired in the CFL e-learning websites. Some of the responses gathered are shown below:

“Categorization of language levels should be made clear on the websites...I find some materials are relevant to my current level of Chinese language but not all the other materials...There should be sections on the websites informing learners which section is for beginning learners, which section is for intermediate learners...so on and so forth...” “The learning materials on the websites are useful and meet my language learning needs but the many fancy images and video presentations incorporated into the website are sometimes a nuisance because they distract my attention and they slow down the browsing speed of web pages due to the internet bandwidth limitation. Websites should be visually pleasant but more attention should be channelled to the content. I mean the learning materials provided should enable us to learn more...For me simplicity (of the website design) is the way to go...” “It seems to me that the learning resources available on the website are very much western learners inclined. Some of the images used and conversation practices created seems to be based on western learners’ cultural values...I look forward to seeing websites that blend in local flavours...One more thing on the cultural knowledge provided on the websites. I find the cultural notes provided are based on the cultural practices and beliefs of Chinese residing in mainland China. From my interactions with my local Chinese friends I realize there are actually differences, perhaps not huge, in this regard between the Chinese people in China and the local Chinese...” “The explanations and instructions on the websites are mainly written in English. I hope the Malaysian made websites would consider providing additionally explanations and instructions in Malay language...” “I have come across this “text to speech” thing on the websites where after keying in a particular word in English the pronunciation of that word in Mandarin will pop up. This is a good thing to help increase my vocabulary base in Mandarin. However, I

think it is even better if there is this “speech to speech” mechanism on the websites in which after saying out a word in Mandarin the website will offer the correct pronunciation by providing interactive multimedia graphical demonstration of the correct stress and pitch level of the word pronounced so that I can mimic and practise the correct tones...”

V. CONCLUSION AND RECOMMENDATION

The central concern of this study was to investigate the degree to which CFL learners at the university used the available free and open access CFL e-learning websites to support their learning of the language and their evaluation of those websites from the standpoint of usability and design features. The results revealed that more than half of the surveyed learners who faced limited instructional contact hours with the instructors at the university and baffled by the degree of difficulty in the test items in the university-administered CFL test particularly the writing component did use the existing learning resources available on the CFL e-learning websites to supplement their language learning needs. They used the CFL e-learning websites for various purposes with “to increase their knowledge in Chinese language” being the most cited choice. They not only used the CFL e-learning websites to seek additional learning aids, they also reported that consumption of those websites proved useful to help develop their four language skills and cultural knowledge. They also reported that they would continue to use the websites to support their learning of CFL.

The learners were asked to rate how usable the websites were and the degree to which they were satisfied with them. The websites they used for out-of-class practice received favorably high ratings in terms of usability and the learners also expressed high overall satisfaction with the websites and their ease of use. However further analysis indicates that the websites suffer numerous minor usability and design flaws ranging from aspects such as navigation and information architecture. From the negative comments regarding the websites expressed by the learners, it was learnt that the websites they accessed did present problem of sound streaming over the internet, unavailability of online chat facility with instructors and links’ faults. On the other hand, the learners rejoiced over the availability of scoring check, animated demonstration of stroke sequence and the visually pleasant appearance of the websites.

Feedback solicited from the focus group interview session with the learners gives rise to re-thinking of design features affecting the websites. Judicious use of multimedia elements on the websites, minimalist approach in designing the websites, provision of localized instructional sound and informative content on the websites, and the possibility of making available an interactive “speech to speech” mechanism on the CFL e-learning websites are among the desires raised by the learners.

As with all studies, certain limitations may influence the results obtained and these need to be identified and

allowed for informing conclusions based upon them. This study proves no exception. One of the limitations identified in this study is the rather small sample size recruited in the survey. However, due to the paucity of this research particularly in the local setting, this study provides views into the topic concerned. This study envisages that the insights derived from both the questionnaire and the interview would prove useful for course designers and/or evaluators of CFL e-learning websites to make informed decisions about future e-learning website design and development. Additionally, despite the fact that this work concerned primarily CFL e-learning websites, it is likely that the results obtained can be applied to other foreign language (or fondly termed as third language in the Malaysian context) e-learning websites. This study recommends that future research should consider heuristic evaluation, employ survey and interview involving a larger and more representative sample size and put real users of the language on formal usability test with detailed tasks. Last but not least, this research submission proposes that usability testing with specific techniques need to be explored for their applicability to local CFL learners.

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