2005-04-13

Developing an Electronic Film Review for October Sky

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DEVELOPING AN ELECTRONIC FILM REVIEW

FOR OCTOBER SKY

by

Farrah D. B. Keeler

A project submitted to the faculty of

Brigham Young University

in partial fulfillment of the requirements for the degree of

Master of Arts

Department of Linguistics and English Language

Brigham Young University

August 2005

BRIGHAM YOUNG UNIVERSITY

GRADUATE COMMITTEE APPROVAL

of a project submitted by

Farrah D. B. Keeler

This project has been read by each member of the following graduate committee and by majority vote has been found to be satisfactory.

_____   _____
Date   Alan K. Melby, Chair

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Date   Lynn Henrichsen

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Date   Glen Probst

BRIGHAM YOUNG UNIVERSITY

As the chair of the candidate's graduate committee, I have read the project of Farrah D. B. Keeler in its final form and have found that (1) its format, citations, and bibliographical style are consistent and acceptable and fulfill university and department style requirements; (2) its illustrative materials including figures, tables, and charts are in place; and (3) the final manuscript is satisfactory to the graduate committee and is ready for submission to the university library.

_____   _____
Date   Alan K. Melby
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ABSTRACT

DEVELOPING AN ELECTRONIC FILM REVIEW

FOR OCTOBER SKY

Farrah D. B. Keeler

Department of Linguistics & English Language

Master of Arts

The purpose of this Electronic Film Review (EFR) Project was to take the feature

film *October Sky* and apply the EFR approach to an ESL setting. By the use of a special

EFRaid player, high-intermediate to low-advanced ESL/EFL students access vocabulary

and cultural material in short segmented clips in order to improve their listening and

overall comprehension of the film. This material was developed and tested by the

materials developer of this project.

ACKNOWLEDGEMENTS

I would like to thank all of those whose support and help have guided me and directed me through this process. A special thanks to Hans Nelson, Michael Manookin and Ryan Corradini whose endless efforts on the EFRaid player and documentation made this project even a possibility. A great big thanks to Alan Melby, Lynn Henrichsen and Glen Probst who saw me through this project to the very end. To my father, whose inspiration and example have led me to paths of higher education and learning. I have been blessed to have a Heavenly Father who I know loves me and supports me, even in my darkest hour. And I would like to especially thank, last but definitely not least, my husband. Without his support, help, encouragement and love, the completion of this project would not have been possible. Thank you, Joshua.

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CHAPTER ONE: INTRODUCTION

As technology advances, new materials are constantly being incorporated into the

language classroom. One of the most significant tools to be introduced in language

teaching is video technology. Even in this computer age, it is often more common to find

videos used in the classroom than computers (Berdahl & Willets, 1990). Teachers are

able to supplement their language teaching with video by using clips to demonstrate

grammar principles, culture, idiomatic usage and pronunciation to their students who are

studying a second language (Edasawa, Takeuchi & Nishizaki, 1990). One popular type of

video used in classrooms is authentic video. Authentic video can be defined as video

made for native speakers of a language, as opposed to educational video. Some examples

of authentic video are movies, TV programs, documentaries and commercials.

Although the use of authentic video in second language teaching is a valuable

resource, authentic video poses some challenges for teachers. The key challenge in

authentic video is finding the right combination of material that is attractive and

accessible, all within reasonable costs. In order for authentic video to be considered

"attractive," it needs to hold the interest of the student. The video needs to engage the

learner in order for learning to take place. This attractiveness needs to be balanced with

accessibility. In order for it to be accessible, it needs to be comprehensible to the student.

Authentic video, as a means to teach a second language, proves useless unless it is within

the realm of understanding for the learner. That is, the material must be accessible to the

learner and the learner needs to walk away understanding something from the authentic

video. Both attractiveness and accessibility need to be balanced and fall within a

reasonable cost to the teacher.

In addition to classifying video as to whether it is authentic, video can also be classified according to the rights one has to use it. There are three types of video that offer possible solutions to these challenges: original, licensed and retail. Original material is designed with the purpose of teaching a second language. The material for original footage may be shot with the second language learner in mind. Because the original footage was shot for them, it is accessible to them, which is a great advantage for the second language learner. Brigham Young University pioneered a fantastic example of original footage in their creation of "Montevidisco"—an interactive video platform with original footage shot in Mexico for the purpose of teaching Spanish to second language learners (Gale, 1983). Although Montevidisco was popular among learners, the cost of the production was prohibitively expensive—over $120,000. Creating well-produced video materials is often not an option for language teachers because of the expense. Instructors can create their own footage at a low-cost, but usually at the sacrifice of quality. For professionally made films, they can cost anywhere from $1,000 to $10,000 per minute. Hollywood-style films can cost anywhere from $100,000 to $1,000,000 per minute of film—a price definitely outside a language teacher's budget.

Another disadvantage of using original footage is that learners often find educational materials boring. Because cost is an issue in creating this footage, the videos are often staged and contrived. The actors are rarely professionals, and they generally speak at slower, less native-like rates, in order to be more comprehensible. Although original footage meets the challenge of accessibility, it often fails at being attractive to language learners and is definitely not cost-effective for teachers.

The second type of video option for second language learning is using licensed material. In this option, the interested party licenses Hollywood-style feature films for the explicit purpose of developing materials for language learning. This option is presumably more cost-effective because there is no large investment in creating a script and filming material as there is in using original material. The movie has already been filmed and is ready to be used in the second language classroom. Because it is a Hollywood-style film, a large budget was used in producing the film. These types of movies are often what second language learners prefer. As a result, using licensed films will attract second language learners. However, the challenge this option poses is in obtaining the license from the license holder. This involves contacting the license holder and negotiating a license that is beneficial to both parties. This can be a time consuming process. If the license holder sees no benefit, it often results in not obtaining a license. This option, although more cost-effective, still creates significant challenges.

The final option for authentic video use in second language classrooms is using retail movies without a negotiated license. Like the licensed material, this option uses Hollywood-style films as the basis for the creation and development of materials to be used for second language learners. The advantage of this option over all other options is that it is extremely cost-effective. Because no license is negotiated, just the cost of the VHS tape or DVD is necessary for this option to work. Although this option is the most cost-effective, certain legal issues apply. Certain considerations regarding copyright law and fair use guidelines must be accounted for in order for this option to be a valid one. The development of this project uses this option in the creation of materials for a second language learning environment.

The Electronic Film Review Project

The purpose of this Electronic Film Review (EFR) Project was to take the feature film *October Sky* and apply the EFR approach to an ESL setting. The EFR approach uses feature films to improve listening comprehension in second and foreign language learners. Feature films that have been released onto DVD are chosen to be 'treated.' This treatment involves the creation of an EFR—a computer data package that provides additional learning material based on a feature film. The data package has been designed for the second language student. The system also includes a player that allows the learner to have control over the content of the movie. According to Melby (2003), EFR project leader:

> The pedagogical basis of the EFR project is the assumption that interesting feature films can be effective in improving listening comprehension, but only with user control over the playback and with access to sufficient supplementary material to make the film comprehensible. (p.135)

Because the movie is segmented into short clips, the player allows the user complete control over the flow of the movie. It enables the user to repeat short segments of the movie, skip around to different parts or just watch the movie straight through. The player also provides the user access to additional wraparound material. This material provides vocabulary and culture notes as well as comprehension questions.

There are certain restrictions placed on the EFR approach to ensure there is no violation of copyright law. The actual film is not copied or stored anywhere on the computer or computer program, but is played directly from a DVD purchased at any store. In addition, no copy of the copyrighted transcript appears anywhere in the final

version of the EFR. The use of these precautions allows for the development of EFRs with no official license.

The purpose of this project was to treat the movie *October Sky* in a way that makes it more effective in language learning for ESL/EFL learners. To achieve this, the EFRaid player was used to allow viewer control over short segments of the movie. The materials developer focused on developing six main components for the purpose of completing this project. Those components are: segmentation, transcript, vocabulary/culture table, chapter summaries, comprehension questions and a list of characters in the film.

This EFR project was developed for high-intermediate to low-advanced language learners. Due to the difficult nature of the language present in the film, the *October Sky* EFR only targets the audience of higher-level English language learners. Throughout the development of the project, the materials developer alpha tested the EFR. Upon completion of the EFR, the researcher conducted a pilot evaluation testing only the users' gains in vocabulary through the use of this EFR. This preliminary study was done both qualitatively (through interviews) and quantitatively (through a test). Although the preliminary findings were positive, much more empirical research is needed to decide the overall effectiveness of the EFR approach in ESL/EFL.

The following chapter reviews literature that focuses on listening comprehension, vocabulary and culture as they relate to video usage. In Chapter three, the purpose of the *October Sky* EFR project is explained as it relates to the literature reviewed in Chapter two. Chapter four explains the development of the actual EFR project. Chapters five and six provide a look at a small group of students who tested the initial project as well as

their reactions to it. In chapter seven, applications and limitations of the EFR project, the

October Sky EFR as well as the computer software are examined. Included in chapter

seven are suggestions for future work.

CHAPTER TWO: REVIEW OF LITERATURE

The purpose of this project was to create an EFR using the feature film *October Sky* applicable to ESL. The materials developer wanted to create this EFR to bridge the gap between video usage in language classrooms and ESL students. This gap exists because of the disparity in language used in feature films and its accessibility to ESL students. A look at research examining video usage in ESL classroom reveals a need for a way to narrow this gap. To demonstrate the need for this project, the following literature review will briefly examine issues involved in video usage and listening comprehension, vocabulary learning, culture development and oral production in foreign language teaching.

Insights into Authentic Video Usage

Susan Stempleski is an applied linguist who has seen firsthand the benefits of using authentic videos in her ESL/EFL classrooms. Throughout the duration of her teaching career, Stempleski has used authentic video in her language classroom. Through her experience, Stempleski has formulated ideas about the use of authentic videos in language classrooms. Because of their very nature, authentic videos are believed to be some of the most true to life materials that teachers can use with their students. This is because authentic videos have the potential to bring "real" people with "real" lives into the classroom, thus creating a powerful teaching experience (Longergan, 1984). Through years of observation Stempleski (1992) has gained many insights into the positive role of authentic video use. Stempleski suggests that authentic video: (a) presents real language; (b) provides an authentic look at the culture; and (c) motivates students.

Real Language. Stempleski (1992) defines "real language" as language that is intended for native speakers. In other words, language that is spoken as it would be in everyday use, at a regular pace with regional accents. Students watching authentic videos are immersed in a linguistic environment much like that of a native speaker. This almost always proves to be more instructional than a scripted educational video (Chung & Huang, 1998; Darst, 1991). Because of the native speech, learners are given the chance to adapt to different accents, idiomatic phrases, expressions and other elements of natural speech that they do not often encounter in language classrooms (Garcia, 1989). In addition, the context is more meaningful, and the vocabulary is often richer than in pre-scripted educational videos (Edasawa, Takeuchi, & Nishizaki, 1990).

Authentic Look at Culture. One of the greatest advantages that authentic videos possess is their ability to bring culture into the classroom. Kitajima & Lyman-Hager (1998) enumerate that "theoretical and applied linguistics lend strong support for video as a provider of cultural, social and linguistic data sources in which the importance of context is all pervasive" (p. 44). This suggests that authentic video can be an essential vehicle for transmitting culture to language students. These authentic videos allow students to "step into" a foreign country where they will perhaps never visit. This allows students to gain insights that they would not normally obtain in a language classroom (Svensson & Borgarskola, 1985). Often because these videos have been developed for native speakers, students are drawn into the dynamic exchanges that can occur among native speakers in day-to-day situations (Altman, 1989). The images alone projected on the screen carry powerful messages. Students who struggle to understand the language often pay closer attention to these images and are able to describe in remarkable detail

subtleties of the culture being presented. Altman (1989) suggests that through these images, curiosity is piqued and students are spurred on to explore the dialogue in more detail. He further suggests that it is possible to teach culture using videos without the use of sound at all. Doing so encourages the students to discuss the cultural significance of what they are seeing.

    Motivating Students. Research has determined that motivation is one of the most important factors in learning a second language (Strong, 1984; Scarcella & Oxford, 1992). One of the most dominant findings in authentic video use is that it provides a strong motivational force for students. Because the material is the "real thing" as noted by Stempleski (1992), students are motivated to listen to and watch the movie. The role of motivation in video usage is an important one as Gebhard (1989) notes that "video programs can dramatically improve students motivation and ability" (p. 58). Because authentic videos, such as feature films, were originally made for entertainment, it is the expectation of the filmmakers that the audience would have an enjoyable experience. Allen (1985) reports that students bring the same expectation of having fun into the classroom as they would if they were in a movie theatre or at home. Although students initially do not understand everything, they achieve a sense of accomplishment when they have understood material that has been directed toward a native-speaking language audience. As students are exposed to "real" language and begin to pick up on cultural insights, the role of motivation plays an integral part in their language development (Baltova, 1994). This motivational power is often the key reason teachers bring videos into a language classroom. Videos often relieve students from the daily routine of drills

and engage students and teachers alike in intellectually stimulating experiences (Chung, 1998).

Stempleski's insights into authentic video usage demonstrate the advantages of using authentic videos in language classrooms. But often the "real language" that Stempleski states as an advantage in authentic videos can pose barriers to learning for foreign language learners. In order to understand this challenge, a more in-depth look at what it means to comprehend language is needed.

The Role of Comprehensible Input

One popular approach in the field of foreign language teaching is the comprehension approach. The comprehension approach proposes that language learners first learn to comprehend language and then produce the language. According to Postovsky (1975), when trying to acquire spoken language there are two essential steps: (1) "processing of auditory input, and (2) generation of speech output" (p. 170 as cited in Winitz). The question then becomes how we teach language learners to comprehend.

Krashen's Input Hypothesis is one theory that attempts to suggest the best way for language learners to comprehend. Based on the idea of an innate capacity for human beings to acquire language, Krashen (1981, 1985) proposed that it is through a plethora of comprehensible input that humans learn language. Krashen defines comprehensible input as language input that is slightly above a learner's current state of knowledge. In other words, Krashen defines a learner's current level of knowledge as i and anything that is the next stage of learning as $i + 1$. The goal then becomes to keep the learners within an $i + 1$ range to flood their language learning environment with comprehensible input.

Krashen further believes that speaking is a result of the language acquisition process and not the cause. According to Krashen and Terrell, "speaking is not absolutely essential for language acquisition" and they go on to state that it is through the development of a learner's listening or reading abilities (receptive) that spoken fluency will "emerge on its own" (1983). This natural approach to language learning gives precedence to comprehension over production (Asher, 1986; Winitz, 1981).

Gass and Selinker (2001) challenge Krashen's notion of comprehensible input by questioning what a "sufficient quantity" of comprehensible input would be (p. 205). They further separate "comprehensible input" from "comprehended input." Gass and Selinker indicate that the responsibility of providing comprehensible input is placed on the one providing the input, whereas the responsibility of achieving comprehended input is placed on the learner. This is an important distinction because the responsibility ultimately rests on the learner for achieving comprehended input.

As well as questioning what constitutes a "sufficient quantity" of comprehensible input, there is also the consideration of learner variables. The responsibility of providing comprehensible input rests on the one providing the input, but each individual learner has a different $i + 1$ range. In a classroom of thirty students, an instructor may be providing a comprehensible input range of $i + 1$ for one student, but for 29 others, the notion of 1 may not be in that range. This poses a challenge for language instructors in insuring their learners are receiving comprehensible input.

Yet another question about comprehensible input relates to what constitutes comprehensible input. Besides considering the quantity of input, the question of what type of input is needed is important. Nation suggests that learners must understand at

least 95% of running words in any form of input to gain comprehension (2001, p. 114). This suggests that vocabulary knowledge is an important aspect of comprehensible input. Because words are what carry the primary meaning, comprehending a large amount of words is necessary to achieve comprehension (Vermeer, 2001).

From Krashen's Input Hypothesis and Gass and Selinker's elaboration on the hypothesis, the apparent ultimate goal of any language learning situation is to create an environment with plenty of comprehensible input, within the reach of each individual learner. This poses a great challenge to language teachers because creating the $i + 1$ language environment among diverse students is daunting. Any language teaching task, according to Krashen, must fall within the $i + 1$ range and the language teacher is responsible for creating that.

When examining authentic video use in foreign language teaching, the key issue becomes using the "real language" in authentic videos to the advantage of the learner by ensuring that the language falls within the $i + 1$ range. Despite the positive affects that authentic videos play in providing culture and in motivating students, the challenge of using "real language" creates a problem that the foreign language instructor must deal with.

Video Learning Research

Relatively few studies have examined the role of video in general in language learning. Some research has examined the impact video has in listening comprehension, vocabulary learning, culture development and oral production in foreign language teaching. Despite the popularity of using videos in language classrooms, only small numbers of research studies have been conducted in these areas.

Listening Comprehension. In a study completed by Edasawa et al. (1990), the use of films in listening comprehension tasks was examined. Two studies were conducted with the same group of first-year students at a women's college in Japan. All of the students previously had at least six years of English and were between 18 and 19 years old. Six classes were divided into three groups and each group was given a different assignment. In the first study, all groups were assigned to watch *Love Story* for approximately ten minutes and then were required to listen to the audio tape recording of the movie and fill in the blanks of a partial dictation. Students were also required to listen to stories on tapes and answer multiple-choice questions. Group A did only these two things. In addition to the above, Group B also had workbook assignments that practiced English rhythm, intonation and reduced forms. In addition to Group A and Group B tasks, Group C had workbook assignments that helped them solve listening tasks. Results indicated that students in groups B and C significantly outperformed Group A students. The second study was a questionnaire designed to find out how students felt about the different tasks. The researchers discovered that students felt the film was very difficult to comprehend, but found viewing it was the most enjoyable of the three tasks. Despite this degree of difficulty, the students still considered it the most instructive activity. Edasawa et al. concluded that the study might have been more effective had they chosen a more comprehensible movie (following Krashen's $i + 1$ theory of comprehensible input). Although students found it difficult to understand, they were highly motivated because of the film. These researchers failed to show how videos aid in the improvement of listening comprehension, but instead demonstrated the motivational effect of videos on students in the classroom. The students in all groups were only allowed 10 minutes to view the

movie. Perhaps if more time had been allowed or if the movie clip had been repeated several times, the researchers would have found an improvement in their students' listening comprehension.

In a different study conducted by Baltova (1994) listening comprehension was assessed by examining both visual and audio information. In contrast to Edasawa et al., (1990) Baltova did find students' listening comprehension abilities improved through the use of video. Baltova's subjects were two classes of grade 8 students studying French. These students were randomly assigned to two different groups: sound-only and video-and-sound to watch a French language film. Each group was given a multiple-choice comprehension quiz to determine how much information they understood from the story and several open-ended questions to determine what the students thought about the viewing method. Students who were given both the audio and visual cues consistently outperformed those that were given only audio cues. It should be pointed out, however, that students in both groups reported a high degree of frustration with the movie. Those who were given only audio cues consistently reported more frustration with the level of difficulty. It is fascinating to note, that, as was the case in the Edasawa et al. study, all the students who watched the movie reported that they enjoyed the story despite the level of difficulty. This study supports the finding that using videos improves student's motivation and interest in the foreign language classroom. Like the study conducted by Edasawa et al., Baltova's study also found the students to be frustrated due to lack of comprehension. It is clear that in both cases, the movie was not within the $i + 1$ realm of comprehensible input for the language learners.

        In yet another study done to test listening comprehension, Terrell (1993)

examined an intermediate group of Spanish learners enrolled in an Advanced Listening

Skills course. The entire semester was based on viewing authentic oral texts such as

movies, soap operas, news, documentaries, game shows and commercials. The class met

4 hours weekly over the course of 10 weeks. Students received 40 in-class hours and

were required 60 hours of outside class instruction. Because of the vast majority of

unfamiliar vocabulary in the videos, Terrell produced a list of vocabulary and expressions

that were crucial to understanding the videos. Students were given the list in advance and

were allowed to discuss the lists. Quizzes on vocabulary were administered every one to

two weeks to test comprehension. At the beginning and end of the semester, Terrell gave

a pre- and post-test to his group of 15 experimental Spanish learners, as well as control

groups of non-native Spanish majors and native-Spanish speakers. This was an 18-point

listening comprehension test of brief segments from several different video media.

Although the post-test revealed an 8-point mean increase in the experimental group,

several factors show the possibility of error in these results. Namely, both experimental

groups (non-native Spanish speakers and native Spanish speakers) also reported an

increase. This is perhaps due to the repetition of the same test being administered. The

results, therefore, could have been skewed by the repetition of the same test for all groups

involved. Despite this flaw, student testimonials reported that they felt an increase in

comprehension from a pre-existing 40% to 75-100% after the course. Students also

reported that they felt more at ease listening to native speakers after the course. Other

benefits that students noted were increased reading comprehension, increased ability to

listen for key information and increased confidence in speaking.

Culture. Culture is another area where authentic video is deemed as beneficial in language learning. Relatively few empirical studies have examined the relationship between authentic video and culture. One such study performed by Kitajima and Lyman-Hager (1998) examined how short video clips enhanced students' cultural understanding. Students were shown a silent video about Japanese roads. They were allowed to stop at any point in time and verbalize what they had noticed. Think-aloud protocols were used to see what students could glean from the clips about the specified cultural aspect. Results showed that these short video clips enhanced "students' discovery processes of culturally unique phenomenon in the target language" (Kitajima & Lyman-Hagar, 1998, p. 44). This study was limited in that it used video to teach one specific aspect of culture. Despite this, the students who participated in the study did gain the targeted cultural knowledge. Because the study was limited, it would be difficult to say if the results could be repeated by showing a longer or more extensive video clip.

In another study designed to teach children culture through video, Herron and Hanley (1992) looked at a group of 57 fifth-graders learning French. The experimental group was given a brief video segment and text displaying the targeted cultural topics, and the control group was given the text only. Students in both groups were given a quiz in English at the end of class to determine what they had understood. All quiz items were based on cultural topics from the video and text. Results showed that students who had both the text and video scored significantly higher than those who received only the text. But because the students in the experimental group received text and video, the exact role that video played in this study remains undetermined. Herron and Hanley (1992) suggest that due to the redundancy hypothesis, students who have received the input twice have a

better chance of remembering. In order to find out whether video enhanced students'

abilities to remember cultural information, a comparison between a group who received

only text and a group who received only video would be necessary.

     Oral Production. Weyers' (1999) study examined whether viewing authentic

video had an impact on oral production. Students from two sections of a Spanish class

were compared. The experimental group watched two episodes of a Spanish soap opera

each week while the control group carried out the department's regular course

curriculum. Students in the experimental group were given a synopsis of the program

before they began to view it. This served as an advanced organizer to aid in their

comprehension of the story development. Students were also given vocabulary lists of

common words and expressions they were likely to encounter throughout the series of

episodes. In addition, students were given comprehension questions to listen for

throughout the episode to ensure students understood the main ideas of the episode.

Results were assessed by performing two tests: listening comprehension and oral

production. The listening comprehension portion was the National Spanish Exam for that

level. The oral production portion was a recording of students' speech that was then rated

on a five-point scale. Three evaluators judged the students with an interrater reliability

score of .95. Results for both tests were significant. Students in the experimental group

significantly outperformed those in the control group in listening comprehension. Results

of the oral production test also showed that the experimental group significantly

outperformed the control group in the quality and quantity of oral language produced.

Weyers (1999) deduced that "an increase in the quantity and quality of input reaching

students via authentic video results in an increase in the quality and quantity of their

output" (p. 347). The results of this study are significant. As quoted early from Postovsky (1975), listening comprehension precedes oral production. (p. 170, as cited in Winitz). Possibly due to the increase in comprehensible input, the students' abilities in oral production increased. This shows that video can not only improve a student's listening comprehension abilities, but it also has the potential to greatly enhance a students' oral production through extended use.

Interactive video. In a project designed by a team at Brigham Young University, interactive videodisc workstations were created to test the differences in instructional processes using interactive videodisc (Branvold, Chang, Probst, & Bennion, 1986). A computer instructional program was developed using the movie *Raiders of the Lost Ark* as the authentic movie. The program allowed students to view comprehension questions, access a dictionary for vocabulary words and idiomatic expressions from a specific scene, as well as access the script from the scene. In a small study conducted with 19 students, researchers examined whether or not students who used this program would gain more than the control group in the areas of content comprehension, vocabulary and idiomatic expressions. The experimental group had access to an interactive videodisc (IAVD group) of the movie while the control group did not (non-IAVD group). Pre-tests and post-tests measured the knowledge of content comprehension, vocabulary and idiomatic expressions of both groups. Although no significant difference was found in the areas of content comprehension and vocabulary, researchers found that the IAVD group significantly out-performed the non-IAVD group in their knowledge of idiomatic expressions. The researchers suggested that this was because the IAVD group had access to the dictionary and idiomatic expressions option on their workstations whereas the non-

IAVD group had a reference book containing the same material. It was much easier for

the IAVD group to access the information. Although the study was small, several

significant findings emerged. First, results showed that in at least one targeted area,

idiomatic expressions, the IAVD group significantly out-performed the non-IAVD group.

Further research in this area is needed to determine why this is and what could possibly

help the IAVD group perform better in the other two areas. Second, both groups had

limited control over the movie they were watching. In both groups, they reported the

desire to have more user-control over the computer program. Third, the IAVD group

reported that they were highly motivated using this program. Although these results are

encouraging, little follow-up research has been conducted to verify the significance of

these findings.

Bringing it all together

The relatively few empirical studies that have examined language learning in

conjunction with authentic video usage have barely begun to look at the many

possibilities that authentic video materials could offer in the classroom. The studies

examined above have only examined listening comprehension, oral production and

culture (Edasawa et al., 1990; Baltova, 1994; Terrell, 1993; Weyers, 1999; Kitajima &

Lyman-Hagar, 1998; Herron & Hanley, 1992; Branvold et al., 1986). Studies done in

these fields are still fairly limited. One area still left untouched by research is using

authentic video to teach pronunciation. Although researchers concur that authentic video

gives students the opportunity to listen to native speech and accents, no empirical

research has examined the teaching possibility (Darst, 1991; Chung, 1998; Edasawa et.

al., 1990). The possibility of vocabulary building has also not been thoroughly

researched. Although Terrell focused on listening comprehension, he gave students vocabulary lists and tested them on the lists. Despite student's claims that their vocabulary had improved, this was not the focus of the study and therefore no evidence was found to show a correlation between the videos they watched and their vocabulary (Terrell, 1993). Yet another overlooked area is grammar. Although researchers suggested that video can effectively teach grammar with proper instruction, no studies have been found that specifically examine how grammar usage correlates with authentic video (Darst, 1991; Liskin-Gasparro and Veguez, 1990). This therefore shows that there is much potential for future research using authentic video in language classrooms.

Some of Stempleski's insights regarding authentic video use have been implied through other studies, but have still gone largely ignored. Students in Terrell's study found that by listening to authentic language, they were better able to understand native speakers, but no empirical research of this nature was performed. Motivation seems to be a key factor in the effectiveness of authentic video usage. Edasawa et al.(1990) and Baltova (1994) both found that despite students' low level of comprehension, they were intrinsically motivated by the authenticity of the film and found that it was an enjoyable task. In her article "Using Foreign Films to Develop Proficiency and to Motivate the Foreign Language Student," Hennessey (1995) suggests a variety of ways that authentic video can be used to motivate students learning, but no empirical research was performed to test her theories. Although using authentic video is a popular and practical form of teaching, there still remains much to be researched to show its effectiveness in language classrooms.

Conclusion

Authentic video continues to play an important role in language teaching. Because students respond to its use, teachers continue to find ways to use it in the classroom. This chapter has shown that despite its popularity, little research has shown exactly how effective videos can be in teaching a foreign language. As previously stated, the purpose of this project was to design a computer system that increased the effectiveness of authentic video, specifically feature films, in foreign language classrooms. The next chapter will elaborate on how this project attempts to resolve some of the issues brought up by this review of literature.

CHAPTER THREE: RATIONALE FOR THE PROJECT

This chapter explains the rationale of the Electronic Film Review (EFR) project

based on the review of literature. In addition, the chapter explains the history of the EFR

project as well as briefly discussing some of the legal issues at the center of the project.

Rationale

According to Alan Melby, the team leader, the EFR project is based on several

basic assumptions. The first assumption is "student success is strongly influenced by

student interest, and student interest is increased by the use of stories in the form of

interesting films with an audio track in the language being studied" (Melby, 2003). As

seen in Chapter Two, researchers found that one significant reason to use authentic

videos in language classrooms is the interest students have in them (Stempleski, 1992;

Edasawa et al., 1990; Baltova, 1994; Branvold et al., 1986). Many teachers use movies in

the classroom because movies are popular among their learners. For foreign language

teachers, the issue of Krashen's 'comprehensible input' is a barrier in using authentic

films in their classes. When teachers bring in a film and play a movie, students in a

foreign language class are likely to be overwhelmed with new and difficult vocabulary,

thus creating an $i + 2$ or more situation for a language learner. This situation was

demonstrated in the study conducted by Edasawa et al. (1990) and Baltova (1994). The

material was far too demanding for their language learners, but still the students

responded positively because of their interest in film. Both studies concluded that a more

comprehensible movie might have proved to be more effective. The EFR approach is

based on the assumption that students are interested in film, but it takes into account the

realistic nature of authentic feature film. In keeping Krashen's '$i + 1$' theory in mind, the

EFR approach seeks make feature films fall within this range by providing wraparound material. Providing vocabulary help, cultural notes and comprehension questions, it is hoped that the film is brought closer to the $i + 1$ realm.

The second assumption that Melby makes is that although a film may be interesting, it is not likely that by simply watching it from start to finish, language learners would improve their listening comprehension (2003). Based on the research conducted by Branvold et al. (1986), learners prefer having control over the material they are using. The EFR approach allows a language learner to view the movie using small clips from the film. This is a type of Customized Video Playback (CVP). Customized Video Playback in the EFR approach allows the user to create a playlist and control what particular segments or clips in a movie wants to view. It also allows the user to playback a particular clip at any point or pause the movie to access the vocabulary and culture notes as well as the comprehension questions. This control over the movie, with the EFR approach, increases the potential for improvement in listening comprehension.

Another way of stating the second assumption is that with the benefit of optional subtitles as well as control over the playback of the film and access to clip-specific wraparound material, there is a much greater chance of improvement in listening comprehension (Melby, 2003). The EFR approach gives the language learner complete control over their learning process using the movie. The learner can turn the subtitles on and off as needed, select particular clips to watch or repeat, and stop and use the wraparound material as needed. Based on previous research (Edasawa et al., 1990; Baltova, 1994; Terrell, 1993; Weyers, 1999; Branvold et al., 1986), learners needed additional materials, such as comprehension questions, advanced organizers or

vocabulary lists, in order to help them understand more of the movie. Without these aids, the possibility of comprehension is reduced. Even with these helps, researchers found that their learners still struggled to comprehend. The control at the clip-level of the movie is an asset to the EFR approach. In addition, the wraparound material as a part of the program aids in comprehension.

Based on the motivating roles movies play, user-control over clip segments of the movie and access to additional wraparound material, the EFR approach seeks to enhance the learner's role in authentic video learning as well bringing the learner closer to the $i + 1$ range.

The EFR approach in ESL

The first film tested with the EFR approach was the movie *Chocolat*. The *Chocolat* project was designed for second year American students studying French. Because of the motivational affect movies have on students, this recently released feature film was chosen to pilot the EFR approach. *Chocolat* is a film whose primary language track is in English, but it also has a French soundtrack. It was filmed in France and is a good demonstration of the French culture.

For this project, the feature film movie *October Sky* was chosen based on a request made from instructors at Brigham Young University's English Language Center. The book *October Sky* is and has been taught in advanced reading classes (Reading Level 5) and the movie has been used to supplement the teaching of the book. The movie *October Sky* poses several challenges for ESL learners. Because the movie is trying to capture the sentiment of the late 1950's to early 1960's in West Virginia, the dialectal challenges for ESL learners can be imposing. The movie also uses archaic multi-word

expressions that are not commonly used today such as "a tick on a dog." Another

challenge is the 1950's/1960's culture that is so different from today's American culture.

Not only are ESL students trying to understand American culture today, but American

culture of yesteryear. As a result of these challenges, this EFR is best suited for advanced

language learners.

Legal Issues

The EFR approach takes popular recently released movies and creates

wraparound material specific to the movie as well as short, well-defined clips. Because

movies, like *October Sky*, are copyrighted, the issue of intellectual property rights is

relevant. It is believed that the EFR approach uses interesting movies in a way that does

not infringe or violate the rights of the copyright holder. The current law in the United

States allows DVDs to be purchased in a store and shown in a classroom without a

special classroom license. It is legal to show movies in a classroom for educational

purposes relevant to the subject matter of the course. However, the EFR approach would

violate copyright laws if it created what is called a derivative work.

A derivative work is the result of taking copyrighted material, changing it, and

then distributing it in its new form without permission from the copyright holder.

Currently, when a person purchases a book or a movie, it is legal to modify or change the

book or movie if it is only for personal use. For example, if a person buys a book,

modifies the plot and distributes copies of the modified version, this violates copyright

law. However, no copyright holder will object to someone modifying a book or movie for

personal use when the result is not distributed. The EFR approach is not considered a

derivative work because an alternative version of the film is not distributed. The DVD is

not physically modified. Instead, an EFR is provided, which is considered a 'review' or 'commentary' on the movie, not a replacement for the movie. This commentary is more than just a book or movie review. It is a review based on the material developer's perception of their audience and the instructional objectives. Because it is subjective, each materials developer would develop an EFR differently, even if it were for the same film. The subjective quality of the EFR is what qualifies it as a 'review' or 'commentary,' and thus gives it protection as free speech. It is up to the individual instructor or learner to customize the playlist and determine how the movie will be viewed.

Although a team of legal experts has researched the EFR approach, it has not been challenged or tested in the court system. Only the use of the EFR approach in classroom settings and subsequent court cases will determine the legality of the EFR approach.

CHAPTER FOUR: PROJECT AND MATERIALS DEVELOPMENT

In this chapter, two things are explained: how an EFR is authored and how the *October Sky* EFR was developed. The first part of the chapter gives a general overview of how an EFR is authored. The second part of the chapter explains how the materials developer in this project developed the vocabulary, culture and comprehension wraparound material for the *October Sky* EFR.

EFR Authoring

The purpose of this section is to explain how an EFR is authored. This will be a general overview of authoring, since the full documentation of how to develop an EFR has already been written by members of the EFR team. The full documentation can be found in Appendix B. The materials developer periodically refers to a particular chapter in the EFR documentation for a more specific look into EFR authoring.

The development of an EFR is a team effort. There are two key people who develop an EFR: the materials developer and the computer technician. The role of the materials developer is to decide on the materials needed for the EFR and create them. The role of the computer technician is to take the materials from the materials developer and process them into the appropriate files to be used for the EFRaid player.

There are six phases in the authoring and development of an EFR as seen in Table 1. The completion of an EFR is a joint effort with both the materials developer and computer technician playing key roles and working together at different stages to help each other figure out problems and further the development of the EFR.

Table 1

Phases in the Authoring and Development of an EFR

Phases	What is done in the phase	Who is involved
1	Select Audience and Movie	Materials Developer
2	Create Transcript & Segmentation File	Materials Developer
3	Carryout Compilation	Computer Technician
4	Create Wraparound Material	Materials Developer
5	Carryout Compilation	Computer Technician
6	Conduct Testing	Materials Developer & Computer Technician

Phase 1: Select Audience and Movie. The first step in creating an EFR is to decide on the target audience. The materials developer completes Phase 1. The target audiences for EFR's can be home or personal use, for foreign language teaching or for ESL. This is a fundamental step that will shape what the EFR will become. The phases explained below are descriptions of what occurs in the development of an EFR to be used in foreign language teaching or ESL.

The next step is deciding on a movie on which the EFR will be based. Again, the audience of the EFR is an important consideration in deciding on a movie. It is important to keep in mind the level of language difficulty as well as the cultural concepts presented in the movie. Another important thing to keep in mind is the amount of inappropriate language and visual materials used in the movie and the how that impacts the target audience.

Phase 2: Create Transcript and Segmentation File. After a movie has been chosen for the target audience, the materials developer must acquire a transcript of the movie. One way to acquire a transcript is downloading it from the Internet. Another way to acquire a transcript is through transcribing the movie. It is important to note that

because the transcript is copyrighted, the transcript cannot appear anywhere in the finished product for student access. The transcript can only be used by the materials developer to aid in the development of wraparound material.

The next very important step in the development of an EFR is the segmenting of the movie. Because the EFR approach uses Customized Video Playback (CVP), it is necessary for the movie to be divided into small segments so the user can control it. In an EFR, the materials developer divides the material into the following segments: chapter, scene, sub-scene and utterance. The definitions of the preceding terms have been determined by a team working on the EFR project under the advisement of Alan K. Melby. For a full definition and explanation of terms, see Appendix B EFR documentation Chapter Two: Segmentation.

The segmentation is done using the EFRaid player in the Authoring mode. It is left up to the materials developer to decide what constitutes a scene, sub-scene and utterance based on the definitions given above. Not all instances are clear-cut and it is up to the materials developer's judgment to determine the best possible division of the segmentation. It is important for the materials developer to be able to view the segments as a user would view them and divide the segments in the most logical way.

The segmentation file is created in a simple Notepad file. The segmentation file begins by indicating the start and end frames of the part that is being segmented. In parentheses next to the frame codes, the time codes of those frames appear. Beneath that line, the materials developer indicates what part of the segmentation the frames are in (chapter, scene, subscene, or utterance) and then gives it an appropriate title based on what is currently happening in the film. Below this comes the transcript, which must be

preceded by the code "//T:". The segmentation file also contains any other information

about the transcript that the materials developer sees fit to add. For example, the materials

developer might want to comment on obscene or offensive language in a particular clip.

The materials developer also uses codes to add comprehension questions and synopses.

Certain codes are used to make these comments on the transcript. For a full list and

explanation of the codes, see Appendix B EFR documentation Chapter Three: EFR

Maker. An example of a segmented Chapter from *October Sky* appears below in Table 2.

Table 2

An Example Segmentation from October Sky

0-4498 (00:00:00:00 - 00:02:30:02)
Chapter 1

0-4498 (00:00:00:00 - 00:02:30:02)
Scene 1 - Radio announcement of Sputnik

0-1013 (00:00:00:00 - 00:00:34:23)
Subscene 1 - Radio tuning in
//T:While most of President Eisenhower's advisors- Facts today are ominous-
Washington- If you have just tuned in to this special bulletin Washington has confirmed
that yesterday on the fourth of October 1957 the Soviet Union successfully launched
history's first man-made satellite into space orbit around the Earth.

1013-2180 (00:00:34:23 - 00:01:13:22)
Subscene 2 - Music with opening scenes

2180-3095 (00:01:13:22 - 00:01:43:08)
Subscene 3 - Man on radio with music
//T:The satellite which the Russians have dubbed Sputnik is being hailed as a milestone
in history. No one in our nation's capital could deny that the satellite has ushered in a
grim new chapter in the Cold War. And indeed a wave of national anxiety already seems
to be sweeping the country. Still maintaining its speed of 18000 miles an hour completing
an orbit of the Earth every 96 minutes.

3095-4498 (00:01:43:08 - 00:02:30:02)
Subscene 4 - Man on Radio with music continued
//T:Doctor Wernher von Braun Chief Engineer of the Army Ballistic Missile Agency
expressed the hope that the United States would soon be following the Russians into

space with our own artificial satellite. Dr. von Braun confirmed that there has still been no actual sighting of the Soviet satellite but the U.S. expects to be tracking it very soon. We are told that Sputnik will be visible to the naked eye about an hour after sunset and an hour before dawn as it traverses the October sky over the United States. What the beeping signal means we still don't know. It may be nothing more—

Phase 3: Carryout Compilation. The materials developer completes Phase 1 and Phase 2 independently. With the completion of the segmentation, the Notepad file is then turned over to the computer technician for the third phase of developing an EFR: compilation.

The computer technician uses the segmentation file to make two types of documents: an XML (Extensible Markup Language) document and a CSV (Comma Separated Values) file. The XML file is the core EFR. It contains only the segmentation without wraparound material. The CSV file is the starter vocabulary table. It is the basis for the vocabulary table that is later filled in by the materials developer. To make an XML document, the computer technician processes the segmentation file using the EFR Maker. The EFR Maker is a program designed exclusively for the creation of EFRs for the EFR project. The EFR Maker converts the Notepad segmentation file into an XML document needed for the EFR player to run the EFR. For a more detailed explanation of the EFR Maker, see Appendix B EFR documentation Chapter Three: EFR Maker.

The second type of file the computer technician generates is a CSV file. A CSV file is an abbreviated version of an Excel file. The CSV file contains the entire transcript from the film and is used in the creation of a vocabulary table (voc table) for the materials developer to provide definitions and explanations of the vocabulary.

The CSV file generates 4 columns from the segmentation file. These four columns (Columns A-D) automatically generated contain the chapter number, the token number, the token and the utterance. The materials developer does not make any changes to these first four columns. Table 3 gives a brief definition of what each column contains. Table 4 shows an example of the CSV file from *October Sky*. For further definitions and explanations of the 4 columns, see Appendix B EFR documentation Chapter Four: Vocabulary Table.

Table 3

Explanation of Columns A-D in a CSV file

Column A	Chapter Number	This identifies the chapter where the vocabulary word occurs.
Column B	Token Number	Each word is given a unique number, which is labeled the token number.
Column C	Token	This is the actual word. It is from the transcript of the movie.
Column D	Utterance	This shows the location of the word in the segmentation file.

Table 4

An Example of the CSV File from October Sky

Chapter Number	Token Number	Token	Utterance
1	1	While	C1-S1a
1	2	most	C1-S1a
1	3	of	C1-S1a
1	4	President	C1-S1a
1	5	Eisenhower's	C1-S1a
1	6	advisors-	C1-S1a
1	7	Facts	C1-S1a
1	8	today	C1-S1a
1	9	are	C1-S1a
1	10	ominous-	C1-S1a
1	11	Washington-	C1-S1a

Phase 4: Create Wraparound Material. After the computer technician has generated the XML and CSV files, they are turned back over to the materials developer. With the XML file, the EFR is complete. A fully functioning EFR, minus wraparound material, will run in the EFR player, EFRaid, showing the segmentation in the clip sequence. It is at this point that the materials developer turns attention to the development of the wraparound material.

With the XML file being used for the EFR, the materials developer now turns full attention to the CSV file. The materials developer takes the CSV file with the four completed columns and copies it into an Excel file. At this point, the materials developer creates an additional nine columns to be used in the process of developing wraparound material for the EFR. The materials developer fills in Columns E-M as wraparound material. The table below shows what each of the columns contains and a brief definition. For a full definition and explanation of the nine columns, see Appendix B EFR documentation Chapter Four: Vocabulary Table.

Table 5

Explanation of Columns E-M in a Vocabulary Table

Column E	Concept ID	The base word plus the grammatical category as well as which meaning of the word. For example, the verb "sit" would be "sit.V.1." Sit is the base of the word, it is a verb and it's the first meaning of the word in the movie.
Column F	Head Word	This is the base form of the token being defined. If in the transcript "sitting" occurs, the head word would be "to sit."
Column G	Grammar	This is the grammatical category of the word (i.e., Noun, Verb, Adverb, Adjective, etc…
Column H	Definition	This is where the materials developer writes a definition of the word.
Column I	Examples	This column contains an example or examples of the word used in another context than the context of the movie with the same meaning.
Column J	Optional Notes	This column is to add any additional information that the materials developer thinks should be noted. It is also used to further explain culture notes or give outside resources about a cultural item.
Column K	Translation	This is where the word would be translated into another language (if applicable to the type of EFR being developed).
Column L	Level	There are three levels: defined (explained with helps), mastered (mastered list with no helps), or nothing (not displayed at all). If it is defined, the materials developer fills out at least columns E-I. If it is mastered, "100" is written in this column. It is used to point out vocabulary a student should know, but might need to be made aware of. If there is nothing in columns E-I, it is assumed that the student understands the word completely and the word is not displayed at all.
Column M	Images	This column is used to refer to an image in an image folder. It is used to provide a visual representation of the word.

It is now time for the materials developer to start developing the vocabulary and culture wraparound material. The materials developer decides which vocabulary words or expressions need to be defined. The materials developer then goes about defining the word or expression. It is the job of the materials developer not only to define the vocabulary word with the same meaning but also to give an example of the vocabulary used in context. The movie provides one context of the vocabulary item being used and the materials developer provides an additional context. For every instance of that word occurring, the materials developer defines it. If the same word is used more than once with more than one meaning, the materials developer gives it another definition and a unique Concept ID. For example, if the word "believe" occurs multiple times throughout the movie and has two different meanings, one Concept ID would be "believe.V.1" and the second would be "believe.V.2."

The bulk of the effort and time spent developing an EFR project for foreign language or ESL is in the development of the vocabulary definitions and culture explanations. Most of the materials developer's time is spent deciding on the vocabulary that needs to be defined and then defining the vocabulary and adding examples. This takes countless hours of poring through the Excel file. It is crucial to make sure that when a word occurs multiple times, every instance of a word is represented in the vocabulary table. Doing this is very time consuming and takes precision on the part of the materials developer. Every word that is defined must be checked to be sure it is defined throughout the vocabulary table. The words that are not defined must also be checked to be sure that they should not be defined. Checking the vocabulary table is a crucial step in the proper completion of the wrapround material.

Phase 5: Carryout Compilation. After the vocabulary table is complete, the Excel file is handed over to the computer technician for compiling. The computer technician uses another programming tool in the set of EFR Authoring Tools named Vocabulary Tool or VocTool. The computer technician runs the previous XML file created from the segmentation file and the completed vocabulary tables in Excel in the VocTool to create WebPages for the EFR. These are the WebPages that open when playing clips from the movie that contain clip-specific vocabulary and culture items.

Phase 6: Conduct Testing. This is the last phase in developing an EFR, but one of the most crucial stages in the authoring process. Testing can and should begin after the first round of compilation is completed by the computer technician (Phase 3). Usually, the first round of segmentation is not perfect and needs revision. After the compilation, it is up to the materials developer to go through the EFR using the EFRaid player to detect any problems with the EFR. The materials developer looks for missing clips or poor clip quality. Sometimes the materials developer will have a problem with the segmentation file where clip numbers are off, which affects the final EFR. Another common problem is the quality of the division of clips. Often the beginning or ending of a clip will miss a part of the sound that is important to hear. The materials developer must go back and re-segment that part of the movie to make a more accurate and better EFR. It is vital that the segmentation is complete before the vocabulary table is created. To resegment after the vocabulary table is created adds a huge additional burden to the materials developer.

After the vocabulary file has been converted into WebPages, the materials developer needs to test all of the links to insure that they function properly. This requires

running the EFR and stopping at every segment to open the vocabulary pages and examine the vocabulary.

Testing is time consuming and requires the attention of both the materials developer and computer technician. The materials developer may have to fix the segmentation file or the vocabulary file, which requires the computer technician to compile both files through the EFR Maker and VocTool. This can go back and forth as many times as necessary to insure the quality of the EFR. After testing is completed, the EFR is complete.

The October Sky EFR

The first part of this chapter described how an EFR is authored. This part of the chapter describes how I, the materials developer, developed the *October Sky* EFR using the six phases of authoring and development. The development of the *October Sky* EFR project occurred over a period of 3 years—between 2001 and 2004.

I first learned about the EFR project from Alan K. Melby in the spring of 2001. His team was in the process of developing an EFR for the teaching of French to Americans. Dr. Melby wanted to develop an EFR specifically to be used for ESL. I joined the EFR team to be the materials developer in developing an EFR for a movie to be used for an ESL audience.

Phase 1 was complete when I joined the EFR team of developers. My job was to be the materials developer for an ESL EFR. The movie *October Sky* was chosen based on a request made from instructors at Brigham Young University's English Language Center. The book *October Sky* is and has been taught in advanced reading classes (Reading Level 5) and the movie has been used to supplement the teaching of the book.

I began Phase 2, transcription of the movie, in the fall of 2001. At that time, we did not know that transcripts of the movie could be found on the Internet, so I transcribed the movie through watching it, listening to the spoken language and reading the subtitles. There were quite a number of differences between the actual spoken language and the subtitles, so I spent a lot of time checking to be sure that my transcript contained the actual spoken language—not what the subtitles claimed was said. During the fall, I spent approximately 50 hours working on the transcript.

I worked on Phase 2, transcription, at the time I was working on segmentation. At that time, the definitions of chapter, scene, sub-scene and utterance were still evolving. A basic skeleton of the movie was segmented and then Chapters 1 and 2 were fully segmented. We completed Chapters 1 and 2, with a full EFR and wraparound material, to demonstrate the capabilities of the EFR project. A demonstration of the completed chapters of the *October Sky* project was given to a Linguistics class in December 2001 and two demonstrations were given again in March 2002—one to a Linguistics class and another at the TESOL Graduate Student Forum in Salt Lake City, Utah.

Because the process of segmentation was still being defined, one of the EFR team members, Michael Manookin, took over the responsibility of segmenting *October Sky*. It was partially completed when I re-segmented the movie in December 2003. During the time between the summer of 2002 and the fall of 2003, the definitions of the segmentation had been more clearly defined. The early work Michael Manookin had done on the segmentation was no longer in accordance with the new way of segmenting and therefore had to be re-done.

I began re-segmenting the movie in December 2003. It took approximately 40 hours to re-segment the movie. At times, segmentation can pose a real challenge to the materials developer. Although there are definitions of what chapters, scenes, sub-scenes and utterances consist of, not all instances in the movie are clear-cut. At times, I would make a determination based on what I felt would make the most sense. I would often try and segment the movie based on the topic that the characters were discussing.

One challenge in segmenting is the time lapse that must occur on both sides of the clip. In order for the sound in the clip to be heard in its entirety, both sides of the clip need to have approximately a 4-second sound pause. This is to be sure that when the clip is played, the completely sound bite is heard. On many occasions, this posed a huge problem for me. The movie *October Sky* is full of continuous dialogue. As a result, I used very few utterances and left many clips at the sub-scene level. I did this because I felt it was more important to hear the dialogue in its entirety than to lose part of it in order to make shorter clips. As the materials developer, I spent a lot of my time in the segmentation process defining the clip segments and then going over them repeatedly to make sure I had not lose any bit of language.

After the first version of the segmentation was complete, I handed over the segmentation file to Hans Nelson, the computer technician and part of the EFR team. Between December 2003 and January 2004, Hans and I worked together to come up with the final version of the EFR. It took several rounds of testing and recompilation before we reached a final version of EFR. Phase 3, compilation, was completed in January 2004.

During the testing of the EFR, I was also working on the vocabulary and culture Excel file. It was my responsibility to decide what vocabulary needed to be defined for

the advanced ESL learners who would be using the *October Sky* EFR. In order to help me decide, I first used Paul Nation's vocabulary concordancing software, RANGE, to examine the vocabulary in the movie. For advanced learners, I decided not to define the most common 2,000 words (words found in Base List 1 and Base List 2). Base List 3 contains words that are commonly found in university contexts. The few words that fell into that category were defined. Words that were not found in any of Nation's three lists were closely examined, and I determined whether or not they needed to be defined. After examining the vocabulary with the vocabulary concordancing software, I then went through the transcript and looked at multi-word expressions. Much of the language used in the *October Sky* film is multi-word expressions, such as "in a hurry" and "so be it". Those expressions that I felt were more uncommon or challenging for ESL learners I defined.

Words that did not occur on any of Nation's lists or multi-word expressions had to be examined individually to determine whether or not they would be defined. This was a very challenging aspect of the project. Over the course of four semesters, I had taught the book *October Sky* in my Reading Level 5 class. I spent a lot of time dealing with vocabulary from the book and the movie. Many of the words I chose to define were chosen based on my experience teaching the advanced classes at the ELC. It was through my experience with the students that I based a lot of my judgments. Many of the multi-word expressions I defined were expressions that are not commonly used today. I chose to define those based on the fact that they were not part of the language that I would use.

The words I chose not to define then had to be re-examined and I had to determine whether they should be placed in the "mastered list" or not displayed at all.

Words that were placed in the "mastered list" were words that I felt advanced students should know and understand, but may still need them pointed out to them. Again, I chose these words based on my personal experience from teaching the advanced class.

After deciding on the vocabulary items that needed to be defined, the task of actually defining them began. Although I wrote original definitions for all the vocabulary words, I referred to regular dictionaries, online dictionaries and ESL dictionaries to help me narrow down a good definition of the word or expression. This was very time consuming and required a lot of editing. Not only did I define the vocabulary, I also came up with examples of the vocabulary used in a context different than how it is used in the movie. The grammatical sense of the word was also provided. The example below shows a completed vocabulary item used in *October Sky*.

Table 6

Vocabulary Item from October Sky

Head Word	Grammar	Definition	Example
scholarship	Noun	This is an award of college tuition given to students who earn it. Athletes are often given athletic scholarships.	I received a scholarship for my good grades. Therefore, I won't have to pay tuition next year.

I also spent a great deal of my time comparing the words used in the movie. There were words that were used many times throughout the movie, but the meaning of the word was different in the different contexts. As a result, I had to review the transcript of the movie multiple times to be sure that each sense of the word had been defined correctly. For example, there were many instances of the word "believe" used throughout the movie. The word "believe" had two separate definitions based on the context. One

was defined as "to know something is true" and the other was "to think something is true." I also defined the expressions "believe me," "don't believe," "can't believe," and "believe in." I searched the transcript for every instance of believe and then determined based on the context, which definition of the word "believe" to use. Anytime a word was defined in the vocabulary list, I had to go through the entire transcript to determine if it was used again and if it was the same meaning. This was a very time consuming task. Over the course of several months, I spent approximately 200 hours working on the vocabulary table and testing it.

To further help the learner more fully comprehend the vocabulary, I also tried to provide a picture of the word portrayed in the movie if at all possible. I purchased rights to use clipart.com and I searched their database to find pictures to describe the vocabulary words that were defined. I was able to use approximately 140 pictures in the wraparound material.

In addition to defining vocabulary, I also defined culture items. Because the movie was set in the late 1950's and early 1960's, there were many historical events that needed to be explained. There were many references to the NASA program and those involved with the program. There were also references to the Cold War and the political situation of the time. These were some of the culture items that were explained. I provided a short definition or explanation of the cultural item as well as Internet addresses to links providing additional information for the learner on the subject. Due to the difficulty in programming, the links were not made to be hyperactive links. Due to the changing nature of the Internet, there is currently no way to tell if the links are still active.

This is a problem that could possibly be corrected in a later version of EFRaid. Below

shows an example of a culture item defined in the *October Sky* EFR.

Table 7

Culture Item from October Sky

Head Word	Grammar	Definition	Example
Sputnik	Culture	Sputnik is the name of the first satellite that went to space. It was sent into space by the Soviet Union on October 4, 1957.	See the following website for more information: http://www.hq.nasa.gov/office/pao/History/sputnik/ http://www.batnet.com/mfwright/sputnik.html http://www.nytimes.com/partners/aol/special/sputnik/J148

Phase 4, creating the wraparound material, began in the fall of 2001, but was

mostly completed between January and March 2004. Throughout the months of January

through March, I periodically turned the files over to Hans Nelson, the EFR computer

technician, to compile the vocabulary tables using the VocTool (Phase 5). The

wraparound material was compiled several times. I was simultaneously working on the

development of the vocabulary and the testing of the completed EFR wraparound

material. As a result, Phase 4, 5 and 6 concurrently were worked on through the months

of January to March 2004.

In addition to working on the vocabulary and culture wraparound material during

early 2004, I was also completing additional wraparound material such as chapter

synopses, comprehension questions and a character list. All 18 chapters of the movie

October Sky have chapter synopses which can be accessed using EFRaid. In addition, all

18 chapters contain comprehension questions for a total of 159 questions about the

movie. Last, but not least, a character list is also provided with a brief description of all

the major and minor characters in the movie as a part of the wraparound material.

CHAPTER FIVE: PILOT TESTING

This chapter describes the pilot testing that was done with the *October Sky* EFR. The purpose of the pilot testing was to gather information about how effective the EFR was in teaching vocabulary and culture as well as the usability of the EFRaid player.

Participants

The *October Sky* EFR was tested in May 2004 in Beijing, China. The participant pool were 40 native Chinese speakers considered to be advanced in their English abilities. The participants were among a group of students in Beijing studying Legal English at the National Judges College in a program run by Brigham Young University in conjunction with Temple University. The students were judges by profession. These students were chosen by their courts to study Legal English in Beijing from February to May 2004. In order to gain entrance to the program, students had to prove their advanced English ability by scoring high on an English test. According to the tests Brigham Young University administered, all students had advanced reading skills. Their listening and speaking skills ranged from intermediate to advanced. In accord with their placement test results, the students were divided into three groups: Group 1, Group 2, and Group 3 ranging from advanced to low. Official IRB approval was not required because the testing of this program was a part of their developed curriculum.

The students who engaged in watching and using the *October Sky* EFR volunteered to test the software. Due to the lack of computer access in China, only one computer was used for testing. Because of this limitation and the fact that participation was voluntary, only a total of seven participants used the *October Sky* EFR. Participants understood that their participation was voluntary and because of this knowledge some

chose not to complete the entire pilot test. All those that participated were first trained by

the researcher on how to use EFRaid. The researcher was also present or accessible while

the participants used the EFR to help or answer any questions that might have arisen.

Vocabulary and Culture Tests

To measure their gains in vocabulary and culture knowledge, participants were

given a vocabulary and culture pre- and post-test. Both vocabulary tests consisted of 50

partial-cloze test items. The reason a partial-cloze test was used is because the students

were familiar with the test format. Several weeks prior to the pilot test, the students had

taken the Test of Legal English (TLE), a part of the curriculum, with a vocabulary

section. The vocabulary section of the test used the partial-cloze format. The materials

developer felt that because this format was familiar to the students, it would pose no

threat to them. Test Form A (pre-test) and Test Form B (post-test) tested the knowledge

of the same 50 vocabulary words. The vocabulary items were words taken from defined

words in the *October Sky* EFR. Each of the fifty words tested occurred at least twice

throughout the duration of the movie. Although the same words were tested in both Test

Form A and B, the words occurred in different sentences and sentence order. See

Appendix A for a copy of the tests.

The culture test consisted of eight items in which the participants were required to

explain or define what the item meant. The researcher chose only eight items because

these items are specific to the movie. The researcher expected that the participants

understand few or none of the items before watching the movie. The same eight items

were tested in both Test Form A and B. All eight items were defined or explained at least

one time in the EFR.

Because their participation was voluntary, not all participants felt comfortable participating in the pre- and post-test vocabulary and culture tests. Out of the seven participants who used the October Sky EFR, only four completed the vocabulary and culture tests. The other three participants chose not to complete the post-test. Of the four who did complete the vocabulary and culture tests, two were in the most advanced level and two were in the low level.

Usability

To assess the usability of the computer software's interface EFRaid, the researcher sat down with the participants individually and discussed their interaction with the software. The researcher asked a series of opened-ended questions and took notes as each participant responded. The participants were asked about any problems they faced using the software, what they liked/disliked about the software, and what would make the software easier to navigate. Each of these interviews was done on an individual basis with the researcher. All seven participants participated in this part of the pilot testing.

CHAPTER SIX: RESULTS AND FINDINGS

A total of seven participants from the Legal English training program volunteered and used the *October Sky* EFR. As was previously stated, not all participants chose to participate in every aspect of the pilot testing. This chapter will report on results from the vocabulary and culture testing, the use of other wraparound material, as well as the information gathered about the usability of the EFRaid.

Vocabulary and Culture Tests

Four participants completed both the pre- and post- vocabulary and culture tests. The participants were familiar with the format of the vocabulary test, as they had previously taken a vocabulary test of their Legal English that also used the partial-cloze style of testing. For the culture test, the participants were asked to explain or define eight items. There was no time limit imposed on either the pre- or post-test and the participants were given the instructions to skip the questions they did not know. Participants were not allowed to use notes or dictionaries for either test.

After the participants completed the pre-test, they were then trained on how to use the EFRaid player and given time to use the *October Sky* EFR. Again, no time limit was imposed. Each participant was given as much time as they needed to watch the entire movie and use wrap-around material as they saw fit. The length of the movie is 1 hour and 48 minutes. The participants averaged about 3 hours to complete the movie watching at their own pace.

As shown in Table 8 below, the participants' vocabulary knowledge increased by watching the movie and using the wraparound material. All four participants used the

vocabulary help periodically throughout the duration of the movie and all four reported that the vocabulary wraparound material was useful to them.

Table 8

Scores on Vocabulary Pre- and Post-Tests

Participant	Score on Vocabulary Pre-Test	Score on Vocabulary Post-Test	Change
1	25	33	+8
2	31	41	+10
3	23	29	+7
4	29	37	+8

The results from the culture test also show a change in score as seen in Table 9 below. The participants who chose to stop and learn the culture items appeared to have acquired an understanding of those culture items.

Table 9

Scores on Culture Pre- and Post-Tests

Participant	Score on Culture Pre-Test	Score on Culture Post-Test	Change
1	2	8	+6
2	2	7	+5
3	2	4	+2
4	2	6	+4

Because the pre-test and post-test tested the same vocabulary, the improvement in test scores could be because of the practice effect. The participants were familiar with the form of the test and also the type of vocabulary tested and this could have had an impact on the change from the pre-test to the post-test.

The researcher observed the all seven participants use of the wraparound material. Each individual learner handled the wraparound material differently. One participant

stopped at segment to look at the vocabulary. This participant also took notes about the

vocabulary and wrote down definitions and examples while watching the movie. In

addition, the participant repeated the vocabulary words out loud and sometimes would

repeat the sentence to practice the pronunciation of the words. This participant was in

stark contrast to another participant who rarely used the wraparound material while

watching the movie.

Use of Other Wraparound Material

In addition to the vocabulary and culture notes, comprehension questions, chapter

synopses and a character list were also provided in the EFR. The researcher trained all the

participants how to use all of the tools available, but noted that only the vocabulary and

culture notes seemed to be of interest to the participants. When the researcher asked the

participants why they did not take advantage of the other resources, the participants had

several different responses. One participant said that the comprehension questions would

be more useful if they were in the form of a quiz where they could chose an answer and

get a score. Another participant responded that he felt it wasn't necessary—he understood

the movie well enough to not worry about his comprehension of the story. Most

participants reported that they had forgotten about the other tools such as the

comprehension questions, character list and chapter synopses.

One reason the researcher feels that these tools were not used was because of the

native culture and the emphasis placed on learning vocabulary. All 40 students had

recently taken BYU's Test of Legal English, which tested their reading, writing,

listening, and speaking abilities as well as their knowledge of legal vocabulary. Almost

all of the students' study time was taken by studying the legal vocabulary; despite the fact

they had been told it was the least important part of the examination. The researcher

suspects that the participants felt that learning the vocabulary from the movie *October*

Sky was more important than comprehension.

Usability

As indicated in Chapter 5, participants were interviewed about the usability of the

EFRaid. The researcher sat down with each of the seven participants upon their

completion of watching *October Sky* and discussed their reaction to both the movie and

the EFRaid player. Participants were asked four main questions and follow-up questions

to their responses. The four main questions participants were asked were: (1) What

problems did you face using EFRaid? (2) What did you like about EFRaid? (3) What

didn't you like about EFRaid? and (4) What would make the software easier to navigate?

The following section will give the participants' responses as well as observations the

researcher made while observing participants use the EFRaid player.

Question 1: What problems did you face using EFRaid?

The participants generally responded that they did not have any major problems

using the EFRaid player and in fact that it was easy to use. The researcher had trained

each participant before they began to watch the movie. Each training session lasted

between five and ten minutes, depending on the participant's comfort level with the

software. The researcher trained the participants on how to watch the movie at the

chapter, scene, sub-scene and utterance level. The participants were also trained on how

to use the vocabulary help, chapter questions, character list and chapter synopses. In

addition, the researcher trained the participants on how to navigate the EFRaid system.

Because the researcher was present or accessible while the participant watched the

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movie, the researcher was able to help and answer any other questions that arose about the software while the participant watched the movie.

Although the participants reported they had no major problems using the EFRaid player, the researcher noted several things during her observation. One issue one participant had with the player was the use of the vocabulary help. The participant would open the window and then minimize the window when she was finished. She would not close the window. As a result, there were many windows open at the same time, which seemed to slow the operation of the computer down. The researcher had to stop the participant and show her again how to close the windows.

One participant commented on the small size of the actual viewing screen. Because EFRaid divides the screen into three portions, the actual viewing size of the movie is quite small. One participant said this was a bit inconvenient and he would have preferred to have a larger screen on which to view the movie.

Another problem that several of the participants commented on while viewing the movie was the difficulty in getting the vocabulary helps. The bottom portion of the screen shows the wrap-around material and because there is so much material in that portion of the screen, a scroll bar must be used to get to the vocabulary help. Each time the movie is stopped for vocabulary help, the participant has to scroll down to click on the link. Several participants commented on the inconvenience this problem caused them.

Question 2: What did you like about EFRaid?

All participants reported they enjoyed using EFRaid. They enjoyed the movie and they especially enjoyed the wrap-around material. Six out of the seven participants used

the vocabulary helps extensively and reported that they learned a lot from the vocabulary help.

All participants also reported that being able to go back and listen to short segments of the movie they did not understand helped them immensely. Again, six of the seven participants reported they stopped the movie and repeated segments that they did not understand. The researcher noted that the participants did seem to repeat segments of the movie periodically throughout the duration of the movie and some segments were repeated more than once. One participant spent quite a bit of time repeating segments of the movie and reading the subtitles out loud with the movie.

The one participant who rarely used the wrap-around material and did not stop and repeat segments stated that he was enjoying the movie too much to stop. The participant said that he preferred to just watch the movie without the distraction of using the vocabulary helps or stopping to repeat segments. The researcher observed that throughout the duration of the movie, he stopped only 4 times to look at vocabulary and he did not repeat segments of the movie. This participant also refused to take the vocabulary/culture post-test.

Question 3: What didn't you like about EFRaid?

All participants reported that there was nothing that they did not like about the player. The participants were very enthusiastic about watching the movie and most of the participants enjoyed using the vocabulary help so much that they could not think of anything they did not like.

The researcher observed only a few problems the participants had with the player that have been previously mentioned. During observations, the researcher did not note any major complaints or frustrations from the participants about the EFRaid player.

Question 4: What would make the software easier to navigate?

As was previously mentioned in Question 1, the difficulty in navigating the scroll bar with the vocabulary help was a concern to several participants. By making all information fit into one window, the participants noted it would make the software easier to navigate.

Also noted above, the small viewing screen made it more difficult for the participants to enjoy the movie. One participant commented that by enlarging the viewing screen, the software would be improved.

Because the researcher set up the program for the participants, she noted a problem that would make it more difficult for the participants to control on their own. One problem is that when the program starts, the person watching the movie must start the movie and then open the actual EFR and restart the movie to bring up the wrap-around material. This would be difficult to explain to a participant who had no experience with the software. It was not a problem in this situation because the researcher set up the program before the participant began watching the movie and the researcher understood the program. Enabling the EFRaid player to automatically open the EFR would make it more efficient.

Another concern of the researcher with the EFRaid player is the confusing buttons at the bottom of the screen. The participant only needs to worry about several of the buttons (i.e., "Play," "Pause," and "Proceed"), but there are other buttons used in the

Authoring mode that can pose confusion for a participant. The researcher believes that for

Playback mode, only the necessary buttons for the participant should be available. This is

another item that would make the EFRaid player easier to navigate.

Concluding Thoughts

All participants commented extensively on how much they enjoyed watching the

movie *October Sky*. The researcher believes that the high rate of their enjoyment

influenced their thoughts on the usability of the EFRaid player. Because the participants

thoroughly enjoyed the movie, they did not make many negative comments about the

player. All participants were very happy with the movie and had nothing but good things

to say about the movie *October Sky*.

CHAPTER SEVEN: APPLICATIONS AND LIMITATIONS

Because movies are such a popular teaching tool in classrooms, the possibilities for applications of a program of this type are endless. The development of the EFR programs are technology that is so new that there are still problems and limitations that the programmers and material developers face. In this chapter, the applications and limitations of the *October Sky* EFR as well as the EFR technology will be discussed.

Application of this EFR at Brigham Young University's English Language Center

The *October Sky* EFR was developed with Brigham Young University's (BYU) English Language Center (ELC) in mind. The instructors at the ELC chose this particular movie because the book *October Sky* has been and is currently being taught by instructors in the advanced reading classes. It was also recommended because the movie version is a fairly recent release and was well produced. Many instructors who teach this book use the movie in their classroom to emphasize and reinforce the ideas and themes in the book.

The ELC at BYU also has state-of-the-art technology. The Center's computer facilities are among the best in the United States for an ESL setting. The 17 PC's enable EFRaid to be used simultaneously by 17 different students. The hope for this EFR is that it will be used in the computer lab by students who are reading *October Sky* in their advanced reading classes. It is the researcher's hope that instructors at the ELC will assign their students to use the EFR to supplement their reading of *October Sky*. The movie *October Sky* has potential to enhance a student's understanding of the book. The researcher also hopes that teachers will challenge students to compare and contrast the differences in the book and the movie to draw upon higher thinking skills in their students.

Even though the movie *October Sky* was chosen because it is read and used in reading classes, the *October Sky* EFR could be used in advanced Listening/Speaking classes to help students develop their listening abilities.

Another application of the *October Sky* EFR at BYU's ELC is in-class usage. Because the EFRaid player allows small clips to be played, the researcher hopes instructors will use small clips in their classes to demonstrate or emphasize certain points. The ability to play only desired clips in the movie makes the use of the movie in the class more effective.

Although this EFR was developed for BYU's ELC, the potential for use can be expanded to other ESL and EFL settings. The participants who participated in the pilot testing of the program in China responded very positively to the EFR. Several participants asked if there were more EFRs of this type available for them to use. This positive feedback leads the researcher to believe that this type of technology would be well received in a variety of ESL and EFL environments. The researcher hopes that this EFR will continue to be developed and used in a multitude of language-learning settings.

Limitations of this EFR

The movie *October Sky* is set in the late 1950's to early 1960's in rural West Virginia. As a result, the characters in the movie speak with a modified West Virginian accent using colloquialisms that are characteristic of the time period. Many of the expressions are not commonly used in today's standard American English, which increases the difficulty of comprehension for ESL students. Therefore, only advanced English language learners could be expected to achieve a high level of comprehension. Because of the content and register of the movie, many of the vocabulary helps define

uncommon expressions and colloquialisms. Only a high language learner would have the language threshold to learn these new expressions. The high-level language learner and unique language register of the movie are two major limitations of this particular EFR.

Future Possibilities for this EFR

Because the EFR technology has been developed over the past few years, it is still in its infancy. The *October Sky* EFR is the first EFR to be developed for a general ESL audience. As a result, there are many lessons to be learned and changes to be made in order to more adequately meet the needs of the ESL students using this product. The following two sections will discuss how the *October Sky* EFR and EFRaid player needs to be developed in the future.

Future Development of this EFR. The current *October Sky* EFR consists of vocabulary helps, chapter comprehension questions, chapter synopses and cultural notes. There are several other things that could be done in the future to further enhance this EFR. One potential addition is grammar notes. Certain grammatical structures could be identified and pointed out to help students obtain a deeper understanding of grammatical structures in English. This could be done the same way the vocabulary helps are done.

The content for the *October Sky* EFR would be strengthened if there were more assessment materials available. During the interview about the usability of the EFRaid player, one participant suggested an idea for expanding the chapter comprehension questions. It was suggested that it would be helpful to have the comprehension questions in a multiple-choice format where the learner would chose the correct answer and get a score, instead of only viewing all of the questions on a linked page as it currently stands. This would require more extensive programming done by a technician. The participant

indicated that this would draw the learner to use the comprehension questions to a greater extent.

Another participant added that vocabulary assessment would also be beneficial. After the learners study the vocabulary helps, there is currently no way to assess what they have learned. The material developer feels that adding vocabulary games and quizzes would help the learner check their understanding of the vocabulary and would increase the retention of that vocabulary. It would also help the students make their receptive vocabulary knowledge into productive vocabulary knowledge. Currently, no vocabulary assessment is included in this EFR.

In addition to vocabulary and comprehension assessment, the researcher feels that additional learning activities would be highly beneficial to the learner. Interactive activities related to the vocabulary helps and comprehension questions could aid the learner in a deeper understanding of the movie and the vocabulary.

A final possibility for future use of this EFR would be the development of a teacher's and student's guide. A teacher's guide could help a teacher maximize the use of this EFR in the classroom and the lab. A teacher's guide could include activities based on the book, different clip sequences to illustrate different points, writing ideas, as well as training on how to use the EFRaid player. It could also include instructions on how to prepare students to use the EFR in a lab setting on their own. A student's guide could train students on how to use the EFRaid player. It could also show the students the variety of tools available for them to use with the EFR.

Future Development of the EFRaid Player. As was noted in Chapter Six, there are several changes that could be made to the EFRaid player to make it better. One

possible change would be the actual viewing screen size. Increasing the viewing screen

would enhance the quality of the product.

Another possibility for change is the window where the vocabulary link is

displayed. As it currently stands, it is necessary to use the scroll bar to get to the link for

the vocabulary help. It would be more efficient to have all the links available to be seen

without using the scroll bar.

Another improvement that could be made to the player is the amount of buttons

accessible by the user. As it currently stands, there are only a few buttons that a user

would need, but the player is set up to be used in both the playback and authoring mode.

For a user, these other buttons are distracting and not necessary. All of these changes

would have to be made by a team of programmers of the EFRaid system.

Lessons Learned from the Development of October Sky EFR

I encountered many different problems throughout the development of this EFR.

Because I was working on a team, many of the problems I encountered could not be

solved solely on my own. The technology that is being developed by the team of

computer technicians and materials developers is constantly evolving and changing. As a

result, problems crop up that are unexpected and sometimes hard to deal with.

I learned that it is extremely crucial to have a good team working together. It is

often easier to work alone, but this sort of project needed skill people in a variety of

areas. Because of my lack of understanding of the programming that is so inherent to the

project, my need for good computer technicians was essential. I was lucky enough to

have a very good team working with me and helping me solve problems as they occurred.

Hans Nelson, my primary computer technician, met with me often and responded to my

phone calls and emails about the problems I was having. He was also very prompt with compiling the files I needed and returning them to me. I would not have been able to complete this project without his help.

I also learned a lot through the segmentation process. The segmenting of the clips was at times very tedious and very difficult. Although I had the definitions of what constitutes a chapter, scene, sub-scene and utterance , making judgments based on those definitions was challenging. Often how the clips were to be segmented was not clear and I faced the problem of how to best segment the clips. I used my background of an avid movie watcher and my knowledge of ESL students to help me "see" the best way to segment the movie. I feel strongly that my experience as an ESL teacher enabled me to more accurately see the needs of my audience and target things that this audience would need. A project such as this one, I feel, needs someone who has experience in ESL and is familiar with the level of the target audience.

The majority of work and time spent on this project was in the development of the vocabulary help. At the beginning, writing definitions for ESL learners was extremely challenging. I had to constantly keep in mind the level of my students and their vocabulary knowledge. My definitions needed to contain vocabulary words within their realm of understanding. I often referred to two ESL learner dictionaries, which helped me simplify my definitions. Most of my definitions were re-written at least twice to try and capture the definition in the simplest most straightforward way.

With the vocabulary and segmentation, a lot of my time was also spent in testing and re-working the material. In the field of materials development, I feel I have learned that there is never an end to what you are doing. There is always something that could be

changed to be made better. With the segmentation, I went through several rounds of

testing to try and establish the best possible segmentation file. The situation is also the

same with the vocabulary. I read through the vocabulary many times and re-wrote the

definitions and examples over and over. I also spent a lot of time going through the Excel

file checking to be sure that I had defined every instance of word and I had to check and

be sure the correct sense of the word was used based on context. From an ESL

instructor's standpoint, I learned how difficult it is to "know" a word. I have a better

understanding of the challenges ESL learners go through while trying to acquire English

vocabulary.

As I conducted my pilot test, I learned how important the movie *October Sky* was

in the creation of this EFR. I strongly feel that if the students who use the EFR do not

enjoy a movie, they will not learn from it. My small test group was so enthusiastic about

the EFR materials and I feel that a lot of the credit is due to the interest they had in the

movie. Each student commented on how much they enjoyed the movie and the message

the movie conveyed. I feel that the more interest the student has in the movie, the more

potential the movie has in aiding the students in their learning.

Possibility for Future Work

The purpose of this project was the development of the *October Sky* EFR.

Although a limited pilot study examined how effective the EFR was in teaching

vocabulary, a more extensive study needs to be conducted to evaluate the EFR

approach's effect on vocabulary acquisition. Research should examine the effectiveness

of the EFR approach in the areas of listening comprehension, vocabulary acquisition and

cultural understanding. Finally, another similar project could take the current EFR and

develop more supplemental materials. Additional materials in vocabulary and listening

could potentially take the learner beyond the receptive skill of listening and into a more

productive state.

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Appendix A

Student #_____   Test A

Directions: Fill in the rest of the blank with the appropriate word.

1. When you want to open the door, you must p_____ it towards you.

2. We wished Frank con_____ on his acceptance to the university.

3. Tunnels underground where people look for gold and coal are m_____.

4. The th_____ stole the jewels from the woman's house.

5. The student felt very pr_____ because he scored the highest on the math test.

6. The steel worker had to w_____ the two metal pieces together with a special

    instrument.

7. The police arrested the young boy and put him in han_____.

8. The plane traveled at an al_____ of 30,000 feet in the air.

9. The old house in the neighborhood has been ab_____ because no one

    wants to live there anymore.

10. The l_____ of the space shuttle was a very important moment in history.

11. The h_____ is so terrible that we must have the air conditioner on all day

    long.

12. The fire caused the tank of gas to bl_____ u____.

13. The difficult math eq_____ was impossible for the math student to solve.

14. The clothes were very ex_____, so I decided not to buy them.

15. The b_____ exploded and caused a lot of damage to the building.

16. Teachers get angry when student c_____ another student's homework.

17. Peter is five f_____ six inches tall.

18. My su_____ is so full that I can't put another thing inside it.

19. My parents wanted to travel to Russia, but they sac_____ their trip for me

to go to Europe.

20. My mother has a beautiful dis_____ of pictures of her children in her house.

21. My mother de_____ the book she wrote to her family.

22. My mother called the airline to con_____ our airplane reservation.

23. Men must always be gen_____ and allow ladies to go first.

24. Many young children look up to their parents as their h_____.

25. Many workers will go on s_____ if they are not happy with the conditions

of their work environment.

26. Many satellites or_____ around the Earth every day.

27. Many engines use gas as the pr_____.

28. Many children like to launch small r_____ into the sky.

29. Linda loves to get aut_____ of famous people and then sell them to her

friends.

30. Karen of_____ Paul a ride to school, but he preferred to walk.

31. It takes a lot of ef_____ to lift many heavy boxes.

32. In the winter, Johnny will sh_____ the snow on the sidewalk for his

grandmother.

33. In the United States, we weigh things by the p_____.

34. In the United States, people use m_____ instead of kilometers.

35. I wished my brother g_____l_____ before he took his examination.

36. I usually eat breakfast every day, but I sk_____ it this morning because my

    stomach hurt.

37. I like to get up very early. I usually get up at d_____.

38. I hate sleeping in the bas_____ of my house because it is cold down

    there.

39. I feel so as_____ of what I did. It was a big mistake.

40. I didn't in_____ to hurt her feelings. It was an accident.

41. I be_____ that all people are really good.

42. Her story ins_____ me so much that I decided to become a teacher too.

43. Cars are made out of very strong st_____.

44. Before going on vacation, it is necessary to p_____ your bags.

45. Because of the help Susan's teacher gave her, Susan appr_____ her

    very much.

46. A lawyer must pr_____ to the jury that his client is innocent.

47. A judge in a trial must always remain f_____ and impartial.

48. A j_____ determines who wins the competition.

49. A j_____ is a high school athlete that is very popular.

50. A company pr_____ products to sell to its customers.

70

Student #_____

Directions: Explain the following things, people, or ideas.

American Football

Hillbilly

Sputnik

Wernher von Braun

Apollo

NASA

Y'all

Ma'am

Student #_____   Test B

Directions: Fill in the rest of the blank with the appropriate word.

1. A high school j_____ usually gets all the girls because he is so popular.

2. B_____ are very dangerous and can cause people to die when they explode.

3. Because of the high al_____ on Mount Everest, it is hard to breathe.

4. Can I please c_____ your notes? I lost mine.

5. D_____ is my favorite time of the day. I like to watch the sun come up.

6. I can't wear my beautiful red dress anymore because I gained 10 p_____ last month!

7. I hate to p_____ boxes when I move into a new house.

8. I hiked five m_____ up the mountain.

9. I like to arrange flowers and dis_____ them in my house for people to see.

10. I pr_____ to the teacher that I was smart by getting a perfect score on the test.

11. I was in Hollywood last week and I got a few aut_____ from some famous people.

12. I'm taking three su_____ with me on my vacation. They all are very full.

13. If workers go on s_____ they refuse to work until their employer meets their needs.

14. It is common to wish people g_____l_____ before they do something difficult.

15. It is f_____ to allow boys and girls the same opportunities.

16. It is often a sac_____ for parents to send their children to college because college costs a lot of money.

17. It is very difficult to be a j_____ because you must remain fair in all situations.

18. It is very necessary to sh_____ snow from sidewalks in the winter.

19. M_____ are places where people dig for gold or coal.

20. Many people have their washer and dryer in the bas_____ of their house.

21. Many people watch the space shuttle l_____ at Cape Canaveral.

22. Math has many different kinds of eq_____ to solve.

23. Matt of_____ Jason his extra jacket because it was cold and Jason accepted it.

24. Michael prefers to fly home during vacations but can't because it is too ex_____.

25. My cousin works for a computer company that pr_____ software for video games.

26. My h_____ is my father. I look up to him and think he is a very good man.

27. My husband is a gen_____ because he allows always me to have first choice.

28. My teacher ins_____ me to continue my education and follow my dreams.

29. My uncle works building cars. He w_____ two pieces of metal together with a special instrument.

30. Russia was the first country to successfully launch a r_____ into outer

space.

31. Shane be_____ me when I tell him things.

32. St_____ is a very strong material used in building cars and buildings.

33. Stewart appr_____ his parents because they gave him a car for college.

34. The bomb bl_____ u_____ after it hit the target.

35. The child was frightened because he thought his mother had ab_____ him

and left him alone.

36. The children usually have basketball practice after school, but they sk_____

it today because their grandparents came to visit them.

37. The Earth or_____ the sun.

38. The h_____ from the fire is making me very hot.

39. The horse p_____ the wagon behind him with many people in it.

40. The monument was de_____ to all the men and women who died during

the war.

41. The new sidewalk is seven f_____ long.

42. The parents were very pr_____ of their children because they all graduated

from college.

43. The police caught the th_____ with the money at the store.

44. The police took the criminal away in han_____.

45. The students made a lot of ef_____ studying for the test, but still didn't pass

it.

46. The teacher didn't in_____ to make the test so difficult, but it was difficult

    because the students didn't study for it.

47. To launch a spacecraft carrier, it takes a lot of pr_____.

48. We need to call the hotel to con_____ our room before we leave.

49. We need to wish Harry con_____ on his new job.

50. When George took the money from his mother's purse, he felt very

    as_____ of himself.

Student #_____

Directions: Explain the following things, people, or ideas.

American Football

Hillbilly

Sputnik

Wernher von Braun

Apollo

NASA

Y'all

Ma'am

Appendix B

SECTION 1: INTRODUCTION

INTRODUCTION: THE EFR PROJECT
Films put language and culture in the context of a story. Feature films grab the attention of today's students. However, one difficulty is matching films with the ability level of the students, so that a film is at least partially comprehensible yet not fully comprehensible. At either extreme (very little understanding vs. complete understanding), the student benefits little from watching the film.

The Electronic Film Review (EFR) approach uses a Windows PC equipped with a DVD-ROM drive and suitable software to provide educational wrap-around material (vocabulary, grammar, and culture notes) available to the student on demand. A film thus treated becomes comprehensible to a wider range of students because the student can request just as much help as is needed to understand a clip and can easily watch the same clip several times if desired.

This interactive, one-computer-one student approach makes feature films into cutting edge language learning tools. This technology not only has applications for language learners, but for many other areas of disciple such as literature, history, film studies, and the sciences.

Further information about the EFR Project may be found at: http://efr.byu.edu

The documentation that follows contains information on the EFR Project. This paper documents the authoring process and the tools used to author an EFR.

EFR AUTHORING PROCESS OVERVIEW:
The following description is intended to be used by those who wish to author or create an Electronic Film Review (EFR) for a feature film on DVD. This authoring process involved a number of detailed intensive steps, from the initial segmenting of the movie into clips, to the final EFR production. There are two major Visual Basic 6 component programs involved in the EFR authoring process: EFR Maker and the VocTool. By using these processing tools, an entire EFR may be created for a particular DVD.
　　　The entire authoring process from start to finish is shown in figure 1 below. Each step in the process is dependent upon various constraints and specifications which must be followed in order to produce a final functioning EFR. The first of the steps involves the creation of a segmentation text file which outlines the clip levels within a movie (chapters, scenes, subscenes, and utterances). Please see the EFR User Documentation for further instructions on how to create a segmentation file. Once a segmentation file is given to you as a processor, it is imperative that the file is checked for any errors in the syntax of the file which may cause the first program component of the entire authoring process, EFR Maker, to not function correctly. Once you have done this, the

segmentation file will be the main input for EFR Maker. The EFR Maker will then produce four files: a CSV file (comma delimited file), a CORE EFR file (xml document), a transcript text file, and a log text file. The CSV file is then edited and populated using Excel. Once the CSV/XLS file is populated with entries, this file along with the CORE EFR file is used as input to the second main program, the VocTool. The EFR Vocabulary Tool will produce the final EFR and a folder containing the HTML Vocabulary WebPages to be used in EFRAid Build 90.

Figure 1.   EFR Authoring Process
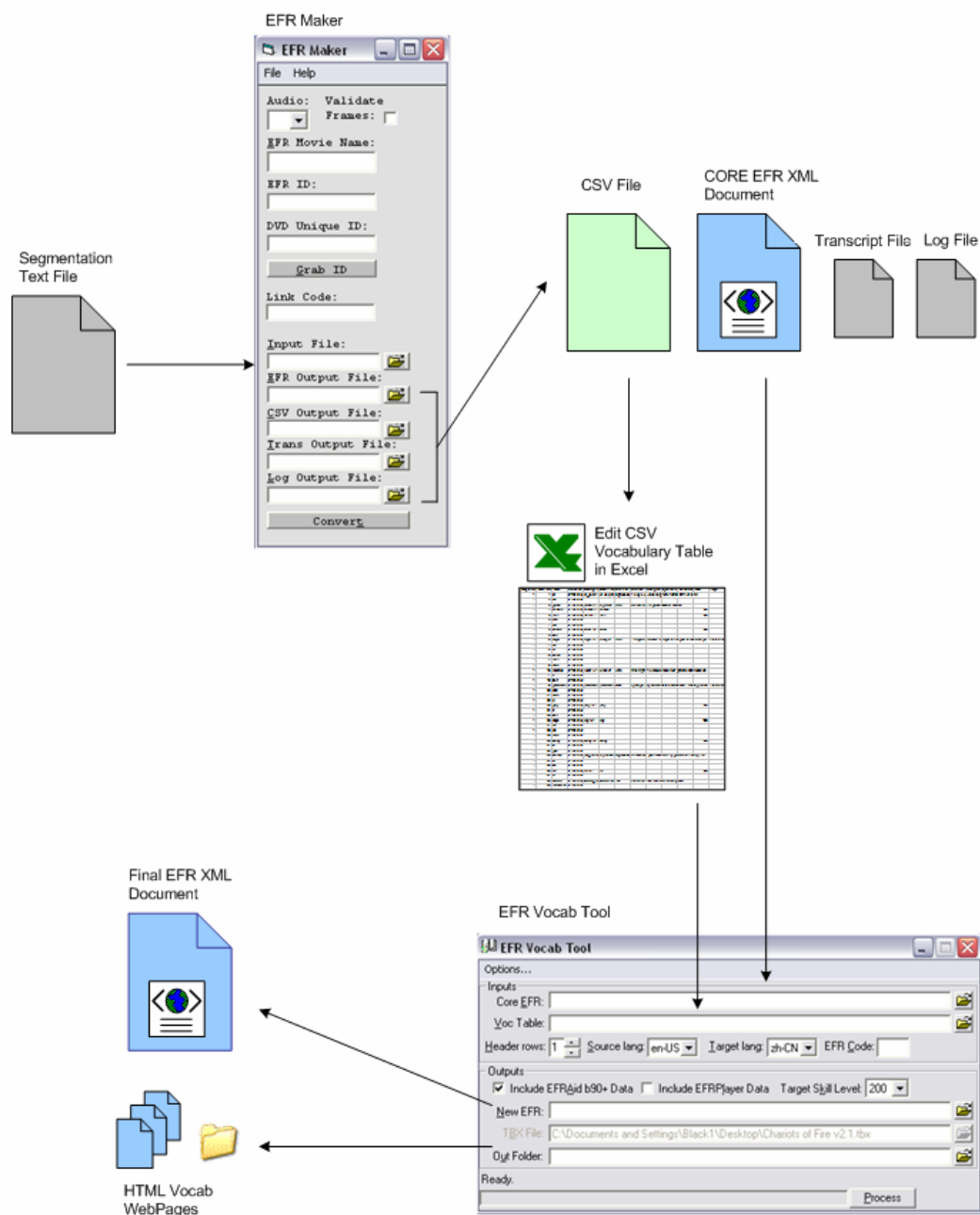
SECTION 2: EFRAID BUILD 90

EFRAID SYSTEM PREREQUISITES:

System Requirements:
- Windows 98SE, ME, 2000, or XP
- Intel CPU with 350 MHz and MMX, or AMD CPU with 450 MHz and 3Dnow
- DVD-ROM drive (Region 1 Setting for US Movies)
- VGA graphics card capable of DVD playback
- 128 MB system memory
- Internet Explorer 5.5 or higher
- DirectX 8.1
- MSXML 3.0 and MSXML 4.0
- InterVideo's WinDVD 3.0 or higher
- Intermediate Internet Connection

BEFORE YOU INSTALL EFRAID:
EFRaid requires some software support that must be installed before installing and running the player. Ideally, this process should take place in the following four steps: updating the windows operating system using Windows Update via the Internet, installing MSXML, installing WinDVD, and then the EFRaid player.

USING WINDOWS UPDATE TO UPDATE YOUR SYSTEM FILES:
Windows Update can update the system files on your computer with the most recent versions. It scans your system, generates a list of items that can be updated, and then installs the files for the items you want to update. For your system to function at optimum levels, it is important to stay current with Windows Updates.

To start Windows Update, click Start, and then click Windows Update.

You can also start Windows Update by clicking Start, pointing to Settings, and then clicking Windows Update.

Choose 'Yes' when prompted to install any required software or controls. You'll need the latest versions to update or restore your system files.

EFRaid Build 90 requires that you update your Internet Explorer browser and DirectX to the latest versions. All other Windows Updates are optional, but highly recommended before continuing. If you are not sure which version of Internet Explorer you are using and you don't have access to the Internet, then open your browser, choose 'Help' on the menu bar and click on 'About Internet Explorer'. If you are unsure which version of DirectX you are currently running then see below for further instructions.

INSTALLING WINDVD:
Please see Intervideo's WinDVD installation guide and documentation.

INSTALLING EFRAID BUILD 90:
At this point in the installation process you should have your operating system current with the latest versions of IE and DirectX, MSXML, and WinDVD should be installed. You are now ready to install EFRaid.

Place the EFRaid CD in the drive.

Double-Click the setup icon named "EFRaid Build 90". This will begin the installation process.

Follow all the on screen instructions until the install is finished. During this process EFRaid may ask you to restart your computer.

After installation has completed, browse to "C:\EFRaid" and create a shortcut of the EFRAid 0.8.90.exe file by right-clicking on the icon and choosing 'create a shortcut'.

Now drag your newly created shortcut icon to the desktop for easy access to the EFRaid Player.

CHECKING YOUR CURRENT VERSION OF DIRECTX:
Click START - RUN, type DXDIAG and click OK. When the DirectX Diagnostic Tool appears, read the DirectX version information near the bottom of the display as shown below. Some versions of DXDIAG may not show an obvious version number. If you see a long string of numbers, such as "4.06.02.0436", use the table below to determine which version of DirectX is installed.
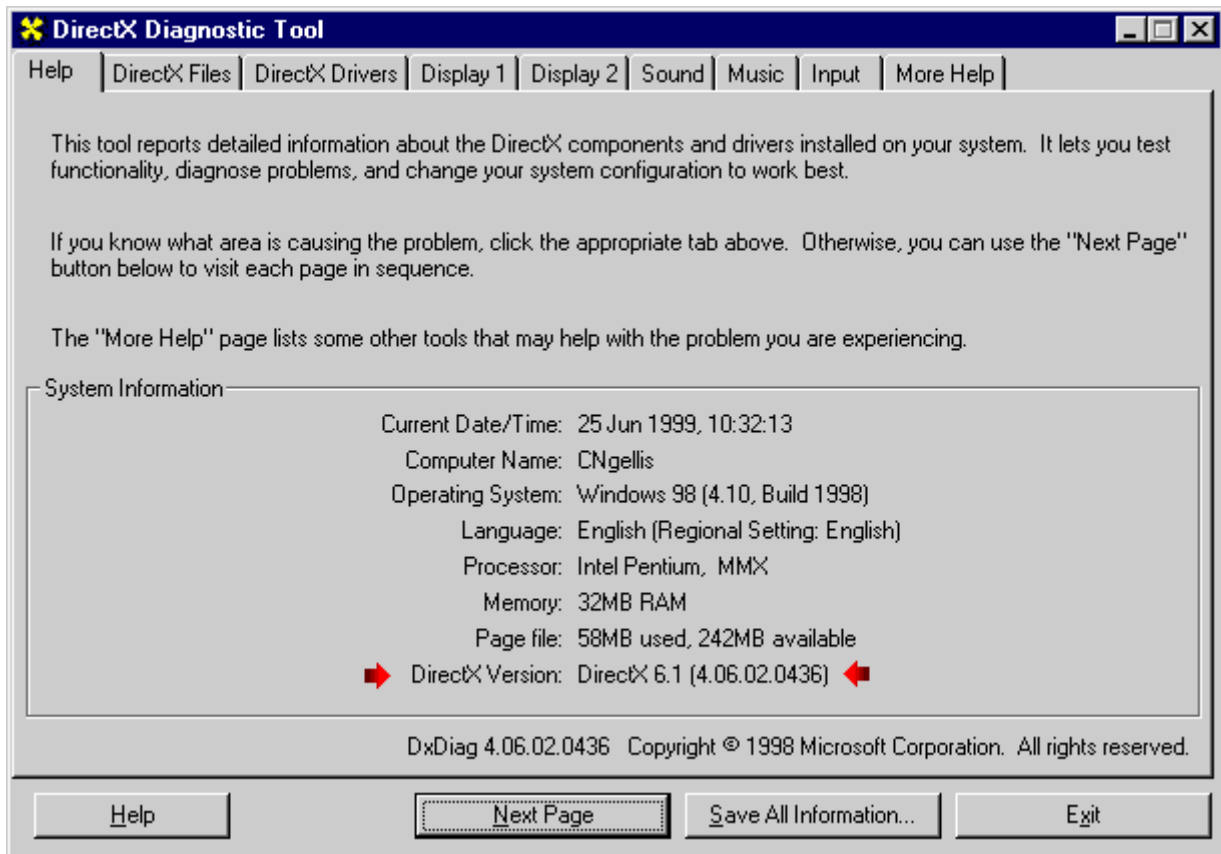
If don't have access to DXDiag, you can determine which version of DirectX is installed by comparing the "file version" information for DDRAW.DLL to the table below: 1. Locate DDRAW.DLL in the \Windows\System directory, using Windows Explorer, or Start - Find - Files or Folders. 2. Right click DDRAW.DLL, select "Properties" from the pop-up menu, then click the "Version" tab. 3. Read the file version number. 4. Locate the DDRAW.DLL file version number in the table below, and read off the corresponding DirectX version number.

DDRAW.DLL file version	DirectX version	Notes
4.08.01.0881	DirectX 8.1	DirectX 8.1 update for Windows 98/98SE/ME/2000
4.08.01.0810	DirectX 8.1	DirectX 8.1 is part of the default Windows XP installation.
4.08.00.0400	DirectX 8.0	
4.07.01.3000	DirectX 7.1	DirectX 7.1 is a part of the default Windows ME installation.
4.07.00.0716	DirectX 7.0a	
4.07.00.0700	DirectX 7.0	DirectX 7.0 is a part of the default Windows 2000 installation. This version was also released as a separate update for Windows 95/98.
4.06.03.0518	DirectX 6.1a	DirectX 6.1a is a part of the default Windows 98 Second Edition (version 4.10.2222a) installation

4.06.02.0436	DirectX 6.1	
4.06.00.0318	DirectX 6.0	
4.05.01.1998	DirectX 5.2	DirectX 5.2 is a part of the default Windows 98 (version 4.10.1998) installation
4.05.00.0155	DirectX 5.0	
4.04.00.0068	DirectX 3.0	
4.03.00.1096	DirectX 2.0	
4.02.00.0095	DirectX 1.0	

CHECK VERSION OF MSXML:

If you are running XP as your operating system, then MSXML 3.0 is currently installed on your system which meets the requirements of EFRAid. If using any other OS other than XP it is necessary that you install MSXML 3.0. To determine which MSXML version you are using please refer to the following Microsoft Article:
Microsoft Knowledge Base Article – 278674
http://support.microsoft.com/default.aspx?scid=KB;en-us;q278674

Both MSXML 3 and 4 may be downloaded from the efr website at: http://efr.byu.edu

EFRAID USER INTERFACE:

In order to create the segmentation file, you will need to become familiar with EFRaid. EFRaid can be used like any other DVD playback software where a movie can be viewed non-stop in full screen mode or it can be used by students (whether for foreign language, culture, history, literature, etc.) viewing one clip at a time and reviewing the notes that accompany each clip. EFRaid also has an authoring tool that is used in creating the segmentation file. The following is a description of the EFRaid controls.

The EFRAid player is divided into four main panels and one panel used only for authoring purposes. The size of each panel can be changed to suit your personal needs or preferences. The following is an introduction to these panels.

A - Player Panel – This panel displays the DVD video. To make the player panel full screen, push **F11**, or click on **Tools** > **Full screen** on the menu bar.

B - Playlist/EFR Panel – This panel shows the active EFR tree. This tree lets you select specific clips
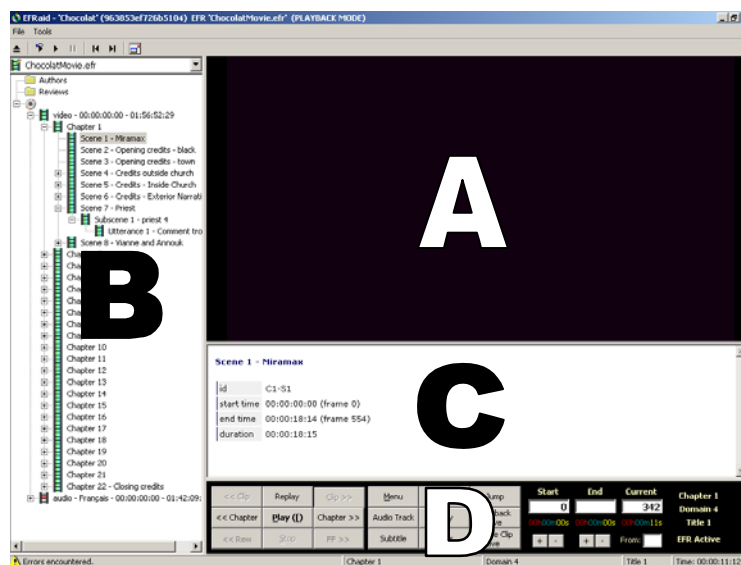
from the movie. There is a drop down menu at the top of this panel that will let you select which EFR playlist you want to use.

C - <u>Clip Help Panel</u> – This panel gives information about the selected clip. Depending on how complete the EFR is, there may be links to vocabulary help, questions about the material, summaries, and other useful information. Push **F2** or the **Show Help** button on the Control Panel to enlarge this panel and pause the movie.

D - <u>Control Panel</u> – This panel contains an array of buttons used to control the player as well as information about the current frame (frame information is found in the three text boxes marked "start," "end," and "current"). These buttons are explained below:

> ***Play/Pause/Proceed*** *– This button will start and stop the film, depending on the current state. The keyboard command is "[" for play and "]" for pause. After the current clip has finished, this button will become "Proceed" and can be used to continue to the next clip.*
>
> **<< Chapter >>** - Use these two buttons to move back and forth between chapters.
> **Replay** – This button will restart the current clip.
> **Menu** – This button will access the menu of the DVD
> **Audio Track** – For certain DVDs, the audio track can be changed directly by pushing this button. However, some DVDs require that the audio track be changed manually through the DVD's menu.
> **Subtitle** – This button is used to turn on and off the subtitles and to change their language.
> **Show Help** – This button has the same effect as F2. It will make the clip help panel appear full screen.
> **Copy** – This button copies anything written in the authoring panel (not shown) and the "start" and "end" frame text boxes (this button is used for authoring only).
> **Clear** – This button clears the information in the authoring panel (not shown)
> **Jump** – This button opens a dialogue box that allows you to jump to a specific frame or time.
> **Playback Active/Authoring Active** – This button allows you to switch back and forth between the playback mode and the authoring mode. When Authoring Active is selected the authoring panel appears next to the Clip Help Panel. Note: when authoring mode is selected several buttons in the control panel cannot be used.
> **Single Clip Active/Non-Stop Active –** This button allows you to select between playing the movie continuously or clip by clip (in conjunction with the EFR playback tree shown in the Playlist/EFR Panel).
> **"+" and "-" –** These buttons adjust the numbers in the "start" and "end" frame text boxes by an increment of 15.
> **Note**: there are some buttons in the control panel that are not used. EFRaid is still in development and these buttons should become available in time.

Not Shown – <u>Authoring Panel</u> – This panel only appears next to the *Clip Help Panel* when the "Authoring Active" button found in the Control Panel is selected. This panel is used to give clips a title in preparing the segmentation file.

USING EFRAID TO VIEW DVDS:

Take the following steps to watch a DVD using EFRaid:
1) Insert the DVD into the computer's DVD drive.
2) Launch EFRaid. (If the DVD has not yet spun up, a dialogue box will appear asking you to insert a DVD. Wait for this box to disappear. If it does not disappear, click cancel and try relaunching EFRaid. If this does not work, there may be a problem with your DVD or DVD drive.)
3) Once the EFRaid player has launched, the DVD may begin playing automatically. If it doesn't, click on the **Play** button in the control panel.
4) When the button becomes available, click on **Menu** to access the DVD's menu and change desired features such as languages or subtitles.
5) Use the DVD's menu to start the movie.
6) When the movie starts, the drop-list box above the EFR panel will become available. Click on the down-arrow and select the desired EFR. A tree will appear in the EFR panel containing the segmentation of the film into chapters, scenes, subscenes, and utterances.
7) Select the desired chapter or scene. The player will automatically play the clip. You may then use the Control Panel and the EFR Panel to control the playback.
8) During playback, information related to each utterance will appear in the Clip Help Panel. Push **F2** to enlarge this panel and pause the movie.

SECTION 3: SEGMENTATION

CREATING A SEGMENTATION FILE:
Creating the segmentation file is fairly simple, yet since it requires familiarization with software you've never used before it can take some time to get the hang of segmenting a movie.

The segmentation file is the launch pad in EFR creation. All other documents will be combined to or are generated from the segmentation file (with the exception of some *extra* documents that will be discussed later). The segmentation file is a .txt document where you define the length of each individual clip. There are four divisions of "clip" in a segmentation file:
1. Chapter – defined by the regular chapter divisions of the DVD
2. Scene – defined by a change in setting. If the setting changes within the chapter division then the scene changes.
3. Subscene – defined by the movement of the characters. If a character exits or enters the scene then there is a change in subscene.
4. Utterance – defined by the EFR author's preference. In order to maintain the educational purposes of the EFR, an utterance should be from 10 to 30 seconds in length (anything longer makes the clip too complex for the language student, anything shorter is insufficient).

These guidelines are just guidelines and there will be cases where the movie will not allow the divisions to be defined according to the rules above. Don't force your movie. Adjust the rules as needed but maintain consistency.

The segmentation file will also be combined with the transcript and extra documents (comprehension questions, schema, and others). This will be explained in more detail later.

OPENING EFRAID:
To open the EFRaid software, be sure there is a DVD in the computer's DVD drive, then double click on the EFRaid icon. A copyright dialogue box comes up. Agree to it. At this point one of two things should happen:
1. EFRaid will open and you can move on to the next section.
2. If there has not been an EFR created for this particular movie then a dialogue box will appear asking if you want to create a new EFR. Click <yes>. Another dialogue box will appear asking for permission to close EFRaid (This just creates a simple EFR file that EFRaid needs to operate. You won't do anything with it). Click <OK>. Open EFRaid again. (This time you should be able to move on to the next section.)

WRITING THE SEGMENTATION FILE:
1. Open a new notepad file

2. Save the notepad file (give it a name that identifies it as a segmentation file)
3. Open EFRaid
4. Adjust the notepad and EFRaid windows so that both are visible on the screen
5. Begin defining the segment lengths

CHAPTER SEGMENTS:

When writing the segmentation file, you are defining the start and end frame numbers in order to make an EFR clip. Since the Chapters are already defined in the DVD format, they are very easy to create in the segmentation file.

1. The movie should start playing when EFRaid opens. If it doesn't click the "Play Movie" section of the DVD's root menu to start the movie.
2. In the Control Panel click the [Chapter >>] button. This will advance the movie to the next chapter and will put the frame number where Chapter 2 starts in the "start" frame text box (if Chapter 2 starts at this frame then Chapter 1 will end on one frame before this frame).
3. Click the [<<Chapter] button. This will return the movie to the first chapter and will put the frame number where Chapter 1 starts in the "start" frame text box and will put the frame number where Chapter 2 starts in the "end" frame text box.
4. /*Chris note: I like to "test" the frame numbers for the end of the Chapters: into the "Start" box, put a number about 200 frames prior to what you think is the end; into the "End" box, but a number about 100 frames after the one you think is the end; click the "Replay" button to play from Start to End; try to get a feel for which frame the transition actually occurs on (you may want to Replay two or three times).*/
5. /*If you do the "Test" process, you'll want to condense steps 6 – 12 as follows: Switch to Authoring Mode (see step 7); put your fine-tuned Start/End number pairs, one at time, into the Start and End boxes; follow steps 8 – 12 as given. */
6. Change the frame number in the "end" frame text box so that it is one less than the number there (i.e., if Chapter 2 starts on frame 7899 then Chapter 1 ends on frame 7898). You can change this number by clicking on it with the mouse.
7. Click the button that says "playback active" so that it says "authoring active." This opens the Authoring Panel. When authoring is active the "Chapter" buttons will no longer be available.
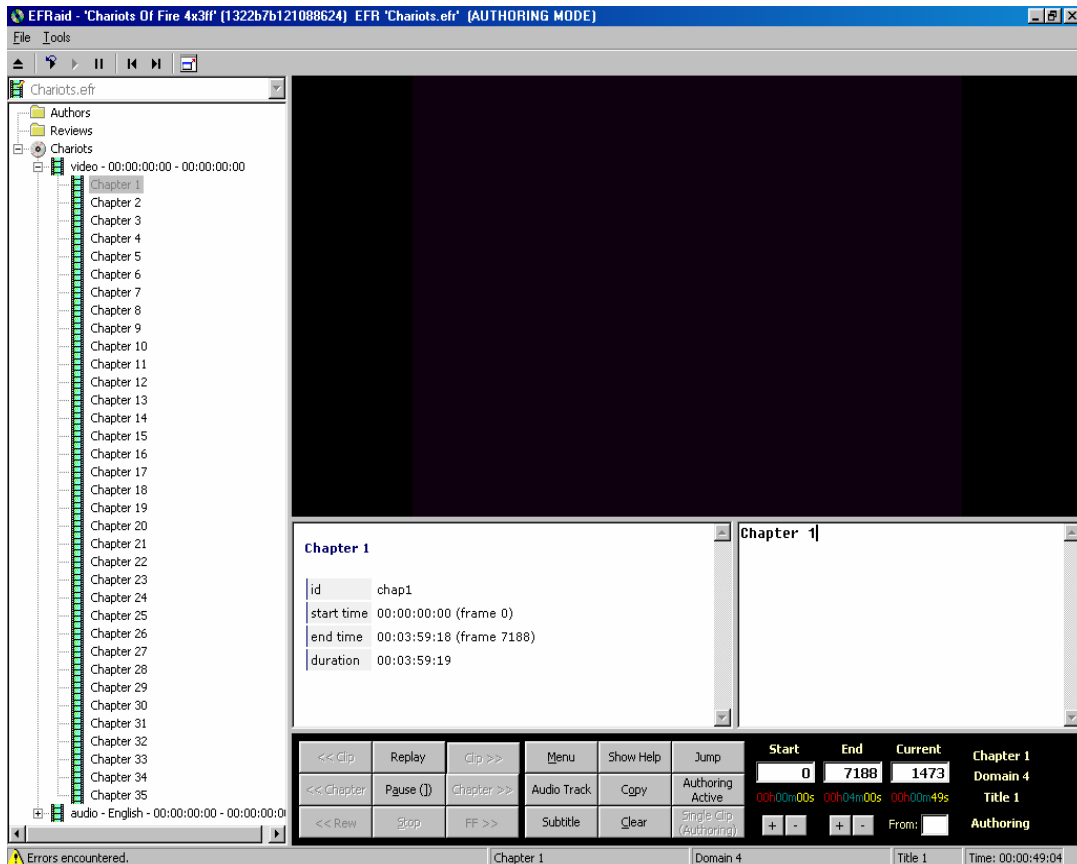
8. In the Authoring Panel that appears next to the Clip Help Panel when you click the "Authoring Active" button, write "Chapter 1". This is the title of the fist chapter. The exact syntax is "*Chapter*[Space]#" and must be followed exactly.
9. Click the [Copy] button. This button copies the text in the authoring window (i.e., "Chapter 1") and the numbers in the "start" and "end" frame text boxes.
10. Click on the segmentation file.
11. Paste the copied information ([Ctrl] + [v] or select "paste" from the "Edit" menu).
12. Repeat these steps to finish defining the chapters. Remember that each succeeding chapter should start one frame after the previous chapter. Also, when pasting text in the segmentation file, be sure that there is one carriage return between each body of text. For example:

> 0-9547 (00:00:00:00 - 00:05:19:16)
> Chapter 1
>
> 9548-12333 (00:05:19:17 - 00:06:52:15)
> Chapter 2

SCENE SEGMENTS:
Chapters are made up of several scenes. Authoring scene segments is similar to chapter segments except that the frame numbers are not predefined. You define those on your own according to the rules stated above in Unit I. The following explanation describes how to write the scene segments as well as how the Control Panel buttons affect the "start," "end," and "current" frame text boxes.

1. Make sure the "Authoring Active" mode is selected.
2. Beginning with the first chapter, press [Play] and begin watching your movie. When the setting changes, indicating a change of the first scene, press [Pause].
3. If you pass the change of setting before you realize it, press [Pause] and then [Replay] (the [Play], [Pause], and [Proceed] buttons are the same button. Their titles change depending on the current function).
4. When you have the frames lined up with the start and end of the scene, type the scene number and title in the Authoring Panel. (E.g., Scene 1 – The First of Spring). Again the syntax is critical and should be as follows: *Scene*[Space]#[Space]-[Space]*Scene Title.*
5. Press the [Copy] button to copy the text in the Authoring Panel and the frame numbers.
6. Click on the segmentation file and paste the copied information under the appropriate chapter.
7. Make sure that there is a carriage return between the Chapter information and the Scene information.
8. Repeat these steps to author the rest of the scenes in the chapter.

NOTES ON THE FRAME TEXT BOXES:

1. Each scene should have a frame number one more than the scene preceding it (i.e., if the first scene ends on frame "456" then the second scene should begin with frame "457").
2. Your first scene should have the same "start" frame number as the "start" frame number of the chapter (i.e., if it is the first scene of the first chapter they would both have "0" in the "start" frame text box).
3. The last scene should have the same "end" frame number as the "end" frame number of the chapter (i.e., if the "end" frame number of the chapter is "7565" then the "end" frame number of the scene should be "7565").
4. The [Replay] button will play the scene again starting with the frame number in the "start" frame text box and ending with the frame number in the "end" frame text box.
5. When you press [Pause] the number in the "current" frame text box is copied into the "end" frame text box.
6. When you press the [Proceed] button, the number in the "end" frame text box will be copied to the "start" frame text box leaving the "end" frame text box blank until you press [Pause].
7. The [Jump] button can be used to jump to any frame in the movie.

Note: This will make sense after you work with the frame numbers and Control Panel buttons a bit.

889-7128 (00:00:30:19 - 00:03:58:25)
Chapter 2

889-2443 (00:00:30:19 - 00:01:22:15)
Scene 1 - Plaintiff's Value

7129-11203 (00:06:16:29 - 00:06:14:24)
Chapter 3

SUBSCENE SEGMENTS:

Scenes are made up of several subscenes. Authoring subscene segments is similar to scene segments except that it is usually the exit or entrance of a character that defines a new subscene. The following explanation describes how to write the subscene segments as well as how the Control Panel buttons affect the "start," "end," and "current" frame text boxes.

1. Make sure the "Authoring Active" mode is selected.
2. Beginning with the first scene in a chapter, press [Play] and begin watching your movie. When a character enters or exits, indicating a change of the first subscene, press [Pause].
3. If you pass the change of character before you realize it, press [Pause] and then [Replay] (the [Play], [Pause], and [Proceed] buttons are the same button. Their titles change depending on the current function).
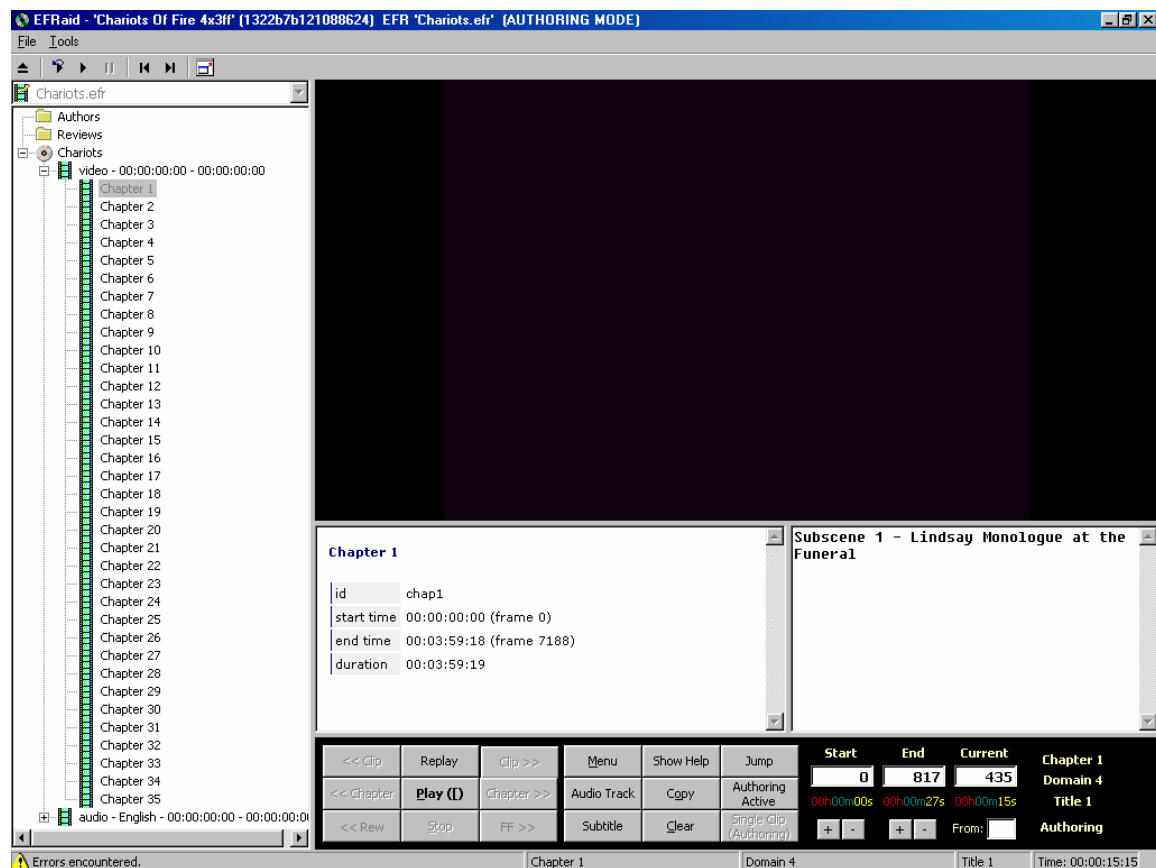
4. When you have the frames lined up with the start and end of the subscene, type the subscene number and title in the Authoring Panel. (i.e. Subscene 1 – Frank Gets Angry). Again the syntax is critical and should be as follows: *Subscene*[Space]#[Space]-[Space]*Subscene Title.*

5. Press the [Copy] button to copy the text in the Authoring Panel and the frame numbers.

6. Click on the segmentation file and paste the copied information under the appropriate scene.

7. Make sure that there is a carriage return between the scene information and the subscene information.

8. Repeat these steps to author the rest of the subscenes in the scene.

NOTES ON THE FRAME TEXT BOXES:

1. Each subscene should have a frame number one more than the subscene preceding it (i.e., if the first subscene ends on frame "456" then the second subscene should begin with frame "457").

2. Your first subscene should have the same "start" frame number as the "start" frame number of the scene (i.e., if it is the first subscene of the first scene of the first chapter they would all have "0" in the "start" frame text box).

3. The last subscene should have the same "end" frame number as the "end" frame number of the scene (i.e., if the "end" frame number of the scene is "7565" then the "end" frame number of the subscene should be "7565").
4. The [Replay] button will play the subscene again starting with the frame number in the "start" frame text box and ending with the frame number in the "end" frame text box.
5. When you press [Pause] the number in the "current" frame text box is copied into the "end" frame text box.
6. When you press the [Proceed] button, the number in the "end" frame text box will be copied to the "start" frame text box leaving the "end" frame text box blank until you press [Pause].
7. The [Jump] button can be used to jump to any frame in the movie.

Note: This will make sense after you work with the frame numbers and Control Panel buttons a bit.

Note: If you want to adjust a frame number in the segmentation file, you may do so. However, the segmentation file also stores the Hr:Mn:Sc:Fr codes that EFRaid calculated for you, so if you decide you want to adjust the frame numbers, you need to put the new numbers back into the Start/End boxes, click the Copy button, and then paste the new values into the segmentation file to replace the old ones.

889-7128 (00:00:30:19 - 00:03:58:25)
Chapter 2

889-2443 (00:00:30:19 - 00:01:22:15)
Scene 1 - Plaintiff's Value

889-2443 (00:00:30:19 - 00:01:22:15)
Subscene 1 - Plaintiff's Value

7129-11203 (00:06:16:29 - 00:06:14:24)
Chapter 3

UTTERANCE SEGMENTS:
Subscenes are made up of several utterances. Authoring utterance segments is similar to subscene segments except that it is defined by the author's preference and pauses in the dialogue. The following explanation describes how to write the utterance segments as well as how the Control Panel buttons affect the "start," "end," and "current" frame text boxes.
   1. Make sure the "Authoring Active" mode is selected.
   2. Beginning with the first subscene in a scene, press [Play] and begin watching your movie. When you feel that there has been sufficient dialogue, but not too much, and that it is a good time to begin a new utterance, press [Pause].
   3. When defining utterances keep them between 10-30 seconds in length and make the change occur during a 3-5 second pause in the dialogue. (If you try

to make an utterance boundary in the middle of ongoing dialogue, it won't work – DVD video control is not that precise!)

4. If you pass the appropriate time to define the end of an utterance before you realize it, press [Pause] and then [Replay] (the [Play], [Pause], and [Proceed] buttons are the same button. Their titles change depending on the current function).
5. When you have the frames lined up with the start and end of the utterance, type the utterance number and title in the Authoring Panel. (e.g., Utterance 1 – Caught in the Wire). Again the syntax is critical and should be as follows: *Utterance*[Space]#[Space]-[Space]*Utterance Title.*
6. Press the [Copy] button to copy the text in the Authoring Panel and the frame numbers.
7. Click on the segmentation file and paste the copied information under the appropriate subscene.
8. Make sure that there is a carriage return between the subscene information and the utterance information.
9. Repeat these steps to author the rest of the utterances in the subscene.

NOTES ON THE FRAME TEXT BOXES:
1. Each utterance should have a frame number one more than the utterance preceding it (i.e., if the first utterance ends on frame "456" then the second utterance should begin with frame "457").
2. Your first utterance should have the same "start" frame number as the "start" frame number of the subscene (i.e., if it is the first utterance of the first subscene of the first scene of the first chapter they would all have "0" in the "start" frame text box).
3. The last utterance should have the same "end" frame number as the "end" frame number of the subscene (i.e., if the "end" frame number of the subscene is "7565" then the "end" frame number of the utterance should be "7565").
4. The [Replay] button will play the utterance again starting with the frame number in the "start" frame text box and ending with the frame number in the "end" frame text box.
5. When you press [Pause] the number in the "current" frame text box is copied into the "end" frame text box.
6. When you press the [Proceed] button, the number in the "end" frame text box will be copied to the "start" frame text box leaving the "end" frame text box blank until you press [Pause].
7. The [Jump] button can be used to jump to any frame in the movie.

Note: This will make sense after you work with the frame numbers and Control Panel buttons a bit.

889-7128 (00:00:30:19 - 00:03:58:25)
Chapter 2

889-2443 (00:00:30:19 - 00:01:22:15)

Scene 1 - Plaintiff's Value

889-2443 (00:00:30:19 - 00:01:22:15)
Subscene 1 - Plaintiff's Value

889-1827 (00:00:30:19 - 00:01:01:28)
Utterance 1 - Live vs. Dead

1828-2097 (00:01:01:29 - 00:01:10:29)
Utterance 2 - Perfect Plaintiff

2098-2443 (00:01:10:00 - 00:01:22:15)
Utterance 3 - Imperfect Plaintiff

7129-11203 (00:06:16:29 - 00:06:14:24)
Chapter 3

MORE NOTES ON AUTHORING SEGMENTS:
1. If a subscene is too short to allow more than one utterance then it is not necessary to define an utterance. This applies to all levels of the hierarchy (i.e., a scene with only one subscene and one utterance need only define the scene and not the sublevels)
2. A scene with one subscene and several utterances will have all sublevels defined (i.e., If Chapter 1 has one scene and one subscene but four utterances, you must define all four levels. You can't skip the scene and subscene and just define the utterances).
3. When deciding on a clip title, avoid using direct quotes from the movie. This creates questions of copyright infringement. However, do try to use a title that describes the clip.
4. It is recommended that after defining all the chapters, you define the first scene and subscene with all the subsequent utterances. Then define the second subscene with all its utterances and continue in this manner to the second scene, first subscene and utterances. This will help you keep the segmentation organized and correct. It is very difficult to go through and rewrite the segments if they get out of order or the frame numbers overlap.

THE FOLLOWING IS A COMPLETELY SEGMENTED CHAPTER:

889-7128 (00:00:30:19 - 00:03:58:25)
Chapter 2

889-2443 (00:00:30:19 - 00:01:22:15)
Scene 1 - Plaintiff's Value

889-2443 (00:00:30:19 - 00:01:22:15)
Subscene 1 - Plaintiff's Value

889-1827 (00:00:30:19 - 00:01:01:28)
Utterance 1 - Live vs. Dead

1828-2097 (00:01:01:29 - 00:01:10:29)
Utterance 2 - Perfect Plaintiff

2098-2443 (00:01:10:00 - 00:01:22:15)
Utterance 3 - Imperfect Plaintiff

2444-7128 (00:01:22:16 - 00:03:58:25)
Scene 2 - Desperate Settlement

2444-3252 (00:01:22:16 - 00:01:49:15)
Subscene 1 - Watching Collateral

3253-7128 (00:01:49:16 - 00:03:58:25)
Subscene 2 - Final Offers

3253-4837 (00:01:49:16 - 00:02:41:11)
Utterance 1 - 1.2 Million

4838-5202 (00:02:41:12 - 00:02:54:17)
Utterance 2 - Judge Enters

5203-6042 (00:02:54:18 - 00:03:22:18)
Utterance 3 - 1.5 Million

6043-6910 (00:03:22:19 - 00:03:51:16)
Utterance 4 - 2 Million

6911-7128 (00:03:51:17 - 00:03:58:25)
Utterance 5 - Settlement Reached

7129-11203 (00:06:16:29 - 00:06:14:24)
Chapter 3

COMBINING THE TRANSCRIPT INTO THE SEGMENTATION FILE:

Creating a Transcript:
1. Open a new notepad file
2. Save the notepad file (give it a name that identifies it as the transcript)
3. Open EFRaid with your movie in the DVD drive
4. Arrange the windows so that both the notepad file and EFRaid are visible (you may want to watch the movie in full screen mode).
5. Transcribe the movie according to your preference (using subtitles only, listening to the dialogue, both, etc.)
6. Watch the movie again and compare your transcription with the dialogue (repeat this step several times)

You will need an electronic version of the transcript. The easiest way is to copy the transcript from the movie itself (though it may be possible to get the transcript from

the movie studio… for a price). Making the transcript is simple and will be explained later.

The transcript is combined with the segmentation file and the EFR maker uses it to create the voc. table. Your transcription becomes the basis for all vocabulary help provided in the EFR, which is why the transcript must be accurate.

NOTE: Accurate punctuation is unnecessary. In fact some punctuation can cause problems in the voc. table (i.e., because it's a comma separated file, commas are converted into empty cells that you will have to fill one by one). Also, don't use double spaces (the EFR maker creates the voc. table according to [SPACE] divisions. A double space will be converted into an empty cell).

With some movies it is possible to use a program that automatically takes the transcript from the movie's subtitles. Consult with your tech support on this possibility. Even if you can do this, you still have to make sure you compare the transcript with what the movie characters actually say.

The transcript must be combined with the segmentation file in order to generate the voc. table. The steps to combine the transcript are described below:

1. Convert the final segmentation file to an EFR. /*cel note: doc should say how to do that here, or at least provide a note about where that info is covered! E.g., see Section 3, especially the "**CONVERTING YOUR SEGMENTATION FILE**: R*UNNING EFR MAKER.*" bit…*/
2. Open EFRaid (with your movie in the DVD drive)
3. Open the latest segmentation file.
4. Open the movie transcript.
5. Arrange the windows so that all three are visible on your screen (this may be difficult but the process is much easier is all three windows are readily accessible).
6. In EFRaid select the most recent EFR from the drop down menu at the top of the EFR/playback Panel.
7. Watch your movie clip by clip.
8. As you watch each clip, highlight and copy the section of the transcript that corresponds to that clip's dialogue.
9. Paste the section of copied transcript into the segmentation file under the corresponding segment.
10. Precede the section of text with "//T:" like the example below

9019-9691 (00:05:01:28 - 00:05:23:10)
Utterance 2 - hottest day
//T:Let me give you a hand. That's it. You know something? I called the weather bureau this morning. This is going to be the hottest day of the year. You'd think they'd at least air-condition these places. What is your name? Oh, it's, uh... that one. Yeah, thank you very much.

11. After pasting the section of transcript into the segmentation file, make sure there is still a carriage return between the transcript and the next segment.

12. Note: there should be no space between the "//T:" and the first word of the transcript ("//T:Let" is correct; "//T: Let" is not correct).
13. After the transcript is combined with the segmentation file, give the segmentation file to your tech support person for final conversion.

COMBINING EXTRAS

Adding Synopses

Add the chapter synopses to the first utterance of the first subscene of the first scene of the first chapter. It is not necessary to add it to every clip in a chapter. If there is no utterance to the first scene and subscene then add it to the lowest level in the hierarchy that appears.

Along with combining the synopses with your segmentation file, provide an MS Word document with all chapter synopses to your tech support person.

Adding Comprehension Questions

There are two kinds of question: general and clip specific. All questions that refer to an entire chapter or span several clips are general questions and should be added to the segmentation file under the first utterance of the first subscene of the first scene in the chapter they refer to.

A clip specific question should be added to the segmentation file under the clip that it refers to. This should always be an utterance (otherwise, the question is a general question). Precede the question with the phrase "Utterance Questions"

Along with combining the questions with your segmentation file, provide an MS Word document with all questions and their answers to your tech support person. Make sure the questions are identified with the chapters and clips they refer to in the Word doc.

Adding Schema

There will be two kinds of schema: general and clip specific. General schema should be written in a word document that your tech support will link to the EFR. Clip specific schema should be added to the segmentation file under the clip that it applies to. If it covers an entire chapter, then add it to the first utterance of the first subscene of the first scene of that chapter.

Along with combining the schema with your segmentation file, provide an MS Word document with the entire schema to your tech support person. Make sure the schema is identified with the chapter or clip that it refers to.

Segmentation File Code

The same procedure used in combining the transcript to the segmentation file is followed for combining extra documents with the segmentation file. However, the code preceding the text changes according to the item you are adding.

Synopsis = //Y:
Comprehension Questions = //Q:
Schema = //E:

So a single segment may look like this:

889-1827 (00:00:30:19 - 00:01:01:28)

Utterance 1 - Live vs. Dead
//T:It's like this. A dead plaintiff is rarely worth as much as a living severely maimed plaintiff. However if it's a long agonizing death as opposed to a quick drowning or car wreck the value can rise considerably. A dead adult in his 20s is generally worth less than one who is middle-aged. A dead woman less than a dead man. A single adult less than one who's married. Black less than white. Poor less than rich.
//Y:Chapter 2 - Jan reviews the potential values of a plaintiff's condition in a lawsuit. Opening scene of a courtroom. Jan wins a major settlement.
//Q:Utterance Questions - Why is a rich plaintiff worth more than a poor plaintiff?
//E:Jan Schlichtman introduces the point of view of the personal injury lawyer. The worth of a plaintiff is calculated based on how much money a jury would grant the plaintiff. This takes many social considerations into account. A person who is alive and suffering because of an accident…

CONVERSION:

When all of the elements described above are combined into the segmentation file, give the segmentation file to tech support to be converted into an EFR and to generate a vocabulary table. The minimum that tech support needs to generate the voc. table is the segmentation file combined with the transcript. All the other extras are not involved in the voc. table. Because of this, it is recommended that the segmentation and transcript be combined and sent to tech support as soon as possible. The rest can be converted when the voc. table is ready.

SECTION 4: EFRMAKER (SEGXML)

EFR MAKER INSTRUCTIONS:
After you have completed your segmentation file, insert the EFR Maker installation CD into your CD-ROM Drive. There will be located on the CD, within the installation folder a "setup.exe icon". Begin installation of EFR Maker by double clicking this "setup.exe" icon. Now, follow the on screen instructions until installation is complete. For most users it is suggested that they follow the default installation options. In just a few seconds the program will finish installation and you will be ready to build your EFR. After installation has completed, browse to "C:\Program Files\SegXML" and create a shortcut of the SegXML.exe file by right clicking on the icon and choosing 'create a shortcut'. Now drag your newly created shortcut icon to the desktop for easy access to EFR Maker.

CONVERTING YOUR SEGMENTATION FILE: *CHECKING FOR ERRORS:*
Because EFR Maker is still in its testing phase, the tool does not account for all possible text and format errors in the user's segmentation files. So before the converting of your segmentation file into an EFR, you must review your segmentation file for any text and formatting errors which may cause the EFR Maker to malfunction or produce a non-working EFR. **Important: all text errors in the file must be corrected before EFR Maker will function properly.** These errors may include, but are not limited to: misspellings of keywords such as chapter, scene, utterance; any white-space or spacebar breaks required in the format such as if no space was entered after "Chapter" in the following example; any commas in the transcript (this will cause errors in the production of the CSV file); any formatting errors in which time and frame numbers may overlap or are not in their proper sequential ordering along with numbering of chapters, scenes, and utterances; or any other errors in overall formatting.

> 0-23663 (00:00:00:00 - 00:13:10:16)
> Chapter 1 - Qui êtes-vous?
>
> 0-1114 (00:00:00:00 - 00:00:37:05)
> Scene 1 - Paris
>
> 1114-3097 (00:00:37:05 - 00:01:43:10)
> Utterance 1 - Divers plans
> //T:I like traffic lights.
> //Y:They are playing in the street
> //Q:Chapter Question – What is the color of the light?

It may be necessary here to clarify the required and expected format in which the segmentation is to be done so as not to frustrate the EFR Maker. Above is an example of how the segmentation should be formatted. The first of the lines will always contain the frames followed by the times. The second line will begin with Chapter, Scene, or

Utterance followed by a space then a '-', and the title of the scene then the third line, if necessary will contain the transcript '//T:' followed by the dialog of the scene, if any. Any lines following these will contain any extra letter codes if needed. This pattern is to be repeated until you complete your segmentation of the entire movie. The final line in a sequence group will always remain empty. **Important Note: at the end of any segmentation file you must delete any extra new lines or carriage returns.**

Single Letter Codes: "//C:"   content
                        "//R:"   relevance
                        "//T:"   transcript
                        "//Y:"   synopsis
                        "//Q:"   question
                        "//E:"   schema
                        "//K:"   culture
                        "//L:"   legal
                        "//G:"   grammar
                        "//D:"   dialect

These codes may be placed in any order or combination of each other but must all be listed on separate lines. See Example File Below:

Segmentation will now look like this:

0-7189 (00:00:00:00 - 00:04:00:26)
Chapter 1 - test text

0-7189 (00:00:00:00 - 00:04:00:26)
Audio 1 - backstage
//C:language:rel:word:damn i
//R: 200

0-2343 (00:00:00:00 - 00:01:18:05)
Scene 1 - Eulogy of Abrahams
//C:Sex during entire scene
This needs a lot more work

0-2343 (00:00:00:00 - 00:01:18:05)
Subscene 1 - Eulogy of Abrahams

0-2343 (00:00:00:00 - 00:01:18:05)
Utterance 1 - Eulogy of Abrahams
//R:2 Overall
//C:exposure:skin:male:buttocks
//T:let us praise famous men and our fathers that begat us all these men were honored.
Needs some work

2343-7189 (00:01:18:05 - 00:04:00:26)
Scene 2 - Running on the Beach
//C:exposure:skin:female:chest, sex:intercourse:sex scenes, exposure:skin:male:buttocks
//R:Important

NOTES ON THE IMPLEMENTING OF S AND Q:

1. <u>Synopsis</u> – There is only one type:
    a. <u>Chapter Synopsis</u> – a summary of the entire chapter of a movie.
        i. <u>Segmentation Insertion</u> – This level will be inserted within the first viewable 'clip view window' of each chapter, whether that be at the subscene or the utterance level. It will be of the form: "//Y:This Chapter is about two star-crossed lovers." Every following scene will display only a link to an html page containing the Chapter Synopses for the entire movie.

2. <u>Questions</u> – There will be only two types of Questions:
    b. <u>Single Level Questions</u> – Those questions which refer only to a single clip level. If the question's response only requires the user to view a single clip.
        i. <u>Segmentation Insertion</u> – This level will be inserted within that single clip level of reference within the Segmentation File, as for example, in this form: "//Q:Utterance Question: What type of Chocolate did the child choose to eat?"
    c. <u>Chapter Level Questions</u> – Those questions which refer to more than a single level. If, for instance a question covers material from a scene composed of several utterances, then that question qualifies as a Chapter Level Question since more than one clip is referenced in order to answer the question.
        i. <u>Segmentation Insertion</u> – This level will be inserted within the first viewable 'clip view window' of each chapter, whether that be at the subscene or the utterance level. The form of such an entry will look like this: "//Q:Chapter Question: Who were the new characters in this chapter? For what reasons did Sally kill Bill?" Once the chapter level questions are inserted at the beginning of the chapter, every subsequent scene level will display only a link in the 'clip view window' which refers to an html page containing the Chapter Level Question for the entire movie. For any given scene within a movie there may be displayed in the 'clip view window' a chapter level question link along with a single level question. The chapter level questions were placed at the beginning of the chapter as opposed to the end of the chapter for a couple of reasons. One, in order to show location regularity of information between the Chapter Synopses and the Chapter Questions. If the student finds that the Synopsis information is located at the beginning of the chapter, the student would most likely intuitively look there once again for other information and not at the end of the chapter. Two, in order to more easily detect automatically if the chapter even contains questions, so that a link may be inserted in following scenes of that chapter. There are many textbooks and learning strategies that suggest and practice the placing of questions before material a student is about to view or read. Presenting the questions first primes the student, so they may more easily recognize the answer and have an idea of the topics to be discussed.

CONVERTING YOUR SEGMENTATION FILE: *RUNNING EFR MAKER.*

1. To run EFR Maker, use the shortcut on your desktop or go to Start Menu, Programs, EFR Maker, and then click the icon.
2. You should now see EFR Maker running on the left side of your screen.
3. We will now begin filling in the boxes and fields from top to bottom. Select the Audio Language of the film by clicking the down arrow on the combo box ('en').
4. Now name the movie you are currently converting ('Chariots of Fire').
5. Give the EFR an EFR ID that is specific to that particular EFR by typing it in the field ('Chariots v1').
6. Every DVD movie has its own unique ID. In order to get this ID you must have the DVD in the drive and click the Grab ID button. It is not necessary to play the DVD, but only to put the DVD in the drive for the EFR Maker to access. The unique ID will be placed in that field automatically once the Grab ID button has been clicked ('1322b7b121088624'). Please allow a moment for the system to recognize the DVD in the Drive before clicking the Grab ID button.
7. The Link Code is usually a two to four letter character code which will be a part of the link to the folder, not yet produced, which will contain the synopsis and questions HTML pages. For now, just know that this code is important to remember for use in the VocTool Program later in this process. Now create a code for the movie being converted ('CFv1').
8. The Input File will be the segmentation file you want to convert. Click the folder icon and browse to the folder that contains your segmentation file. This file will not be modified during the converting process.
9. The Output File will be the final EFR file after it has been converted. Browse to the folder where you want this file to be created. Give your file a name with an xml extension. For example, "MyOutputFilename**.xml**".
10. Now choose where you wish to save the output .CSV file. This file will consist of the vocabulary entries, token numbers, and Utterance IDs to be viewed in an excel spreadsheet.
11. The Transcript Output file will contain only a text transcript of the movie being processed. Chose the output location of this file by pressing the browse icon.
12. A Log File is also required in order to process the segmentation file. Browse to where you want to create the output log file. The log file, if the Validate Frames box is checked will list all missing and/or overlapping frames according to the segmentation file.
13. Check all the text fields and selections for any missing information or mistakes. Once you have completed these steps you are ready to convert the file by clicking the Convert button located at the bottom of the interface.
14. Your XML file will be located in the directory where you linked the output file to.
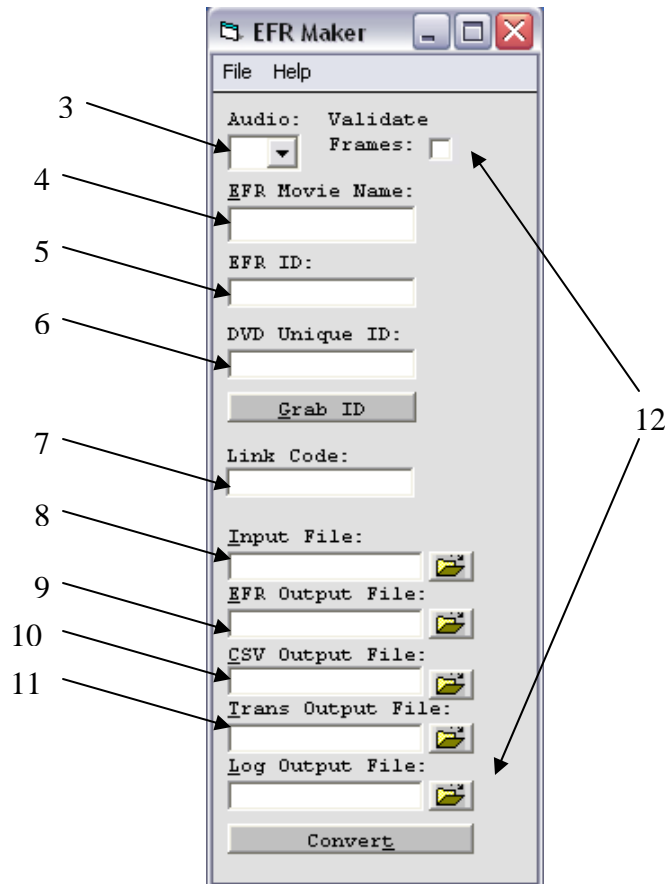
VALIDATING YOUR XML FILE: U*SING VALIDATE.HTM*.

Now we will check the XML file you have just created for any errors by double-clicking it, thus opening the file. Scroll down the entire file to check for any browser errors. If errors are found in the XML document, you may have to recheck your original segmentation file for text errors before EFR Maker will process the file correctly. Once you have rechecked your segmentation file for errors, repeat the converting process until the XML is without errors.

The XML file you have just created requires Validation for well-formedness. The Validate.html file checks the newly created XML file for any errors in its XML format. This information, if not fully understood, is not a requirement in order to complete this Validation process. You will need to have the XML document, EFRv03.dtd, and Validate.html page within the same directory folder. Please follow these steps in order to complete the conversion process:

1. In "C:\Program Files\SegXML" place your XML file you just created.
2. In this same folder, open the 'VALIDATE.HTM' file.
3. Now enter the URL or the name of your XML file and press the 'validate' button.
4. You may have to correct any errors which occur if the document is not valid.
5. You have now completed the Validating process.

RUNNING YOUR EFR:

Once you have a well formed and validated XML file ready for use in the EFRAid Player, you will place this file in the "C:\EFRAid\Data" folder. Next you must change the file extension from "YourFileName**.xml**" to "YourFileName**.efr**" for the player to read it. You will be prompted by Windows 'if you want to make this change', click 'yes'. Now place the movie you are currently working on in the DVD-Rom drive and open up EFRAid. Important **Note: Make sure the file 'EFRv03.dtd' is located in this data folder to avoid EFRAid Build 90 Tree Parse Errors**. The EFR will appear in the drop down menu of the Playback/EFR Panel in EFRaid. After your movie begins to play you will be able to select the EFR and test your segmentation.

SECTION 5: VOCABULARY TABLE

VOCABULARY TABLE:
The voc. table is generated from the transcript insertions in the segmentation file through the EFR Maker. Each token from the transcript creates a row in the voc. table. This token is identified by its place in the segmentation file (according to the chapter, scene, subscene, and utterance where the token is found). A token is the single occurrence of any word (counting terms like "sit down" as two tokens).

The Vocabulary and Explanation table is an excel file that contains an explanation and a translation for each relevant vocabulary word present in the movie script. This table is a necessary step to obtaining the web pages linked to the EFR that provide vocabulary help for the movie.

After your segmentation file has been combined with your movie transcript (this process is explained below), give the segmentation file to your tech support person. He/she will convert it to an EFR and generate a CSV file. This is an abbreviated version of an excel file.

Four of the columns will be filled in resembling Table 1 below.   When converting the segmentation file into an EFR, the EFR Maker takes the transcript from the segmentation file and inserts it in the *Token* column of the CSV file. If you scroll down the *Token* column you'll notice that it contains the movie script word for word. The other three columns are used in identifying the individual tokens.

ChapterNum	Token Num	Token	Utterance
10	4150	pardonnes-moi	C10-S11a-U1
10	4151	ils	C10-S11a-U1
10	4152	fondent	C10-S11a-U1
10	4153	avec	C10-S11a-U1
10	4154	une	C10-S11a-U1
10	4155	lenteur	C10-S11a-U1
10	4156	Folle	C10-S11a-U1

(Table 1)

Once you obtain the four columns as in table 1, in the Excel file, there are nine other columns to add for purposes that will be explained later. Your job is to take the CSV file, paste it into an Excel file, and fill in the other nine columns. This will be explained in Unit II.

FILLING IN THE VOCABULARY TABLE:
Your tech support person will use your segmentation file (including the transcript insertions) to generate a CSV file. Highlight all the cells that are filled in the CSV file

and *copy* then *paste* them into a new Excel document. Before doing this you may want to fill in the first row with the appropriate column headings. These column headings are:

Column A – Chapter #   Column B – Token #   Column C – Token
Column D – Utterance   Column E – Concept ID   Column F – Head Word
Column G – Grammar   Column H – Definition   Column I – Examples
Column J – Optional Notes   Column K – Translation   Column L – Level
Column M - Images

Four of these columns are filled in. It is your job to fill in the other nine columns. The following instructions will explain the columns and how to fill them in.

1. Chapter # - This identifies the chapter where the token is found. No action should be taken.
2. Token # - Each token has a unique number. No action should be taken.
3. Token – This is the list of tokens. This list consists of every individual word spoken in the dialogue. If you read down the column it will read just like the dialogue. No action should be taken.
4. Utterance – This shows the location of each token in the segmentation file. No action should be taken.
5. Concept ID – As you review the words in the token list you should begin to identify words that should be defined for the EFR user. This column is where you note the words that need explanation. To do so, write the base form of the word (no inflection or tense) followed by its grammatical category and a number that reflects its meaning (all separated by a period). For example, if my token is "hung," I would write "hang.V.1" meaning that "hang" is a verb and this is the first meaning. If later I had the token "hanged," I would write "hang.V.2" meaning that "hang" is a verb but this is a separate meaning from the first identified token. Also, note that multi-token words are connected in the Concept ID column with an underscore "_" (i.e., "shut up" would be "shut_up"). The single letter symbols for the grammatical categories are:

   N = Noun   V = Verb   A = Adjective
   B = Adverb   C = Culture Term   L = Locution
   E = Expression   T = Title

6. Head Word – This is the base form of the token you are defining. What you write here will appear in the voc. help in the finished EFR. You use this column to identify the word you are defining. For example, if my token were "hanged" then I would write "to hang" here. It is sometimes a good idea to write the token in parentheses if it is different from the base form of the word (i.e., to hang (hanged)). This helps the student identify the word spoken in the movie with the defined word. Note: do not connect multi-token words with an underscore in this column.

7. Grammar – This identifies the grammatical category of the word. In this column, simply type Noun, Verb, Adjective, etc. This just repeats the grammar category from the concept ID.

8. Definition – This is where the token is defined. Use simple definitions here. One of the unique features about the EFR is that it allows the student to see a word defined in the context in which it is used. That happens here. Make sure your definition fits the context.

9. Examples – In this column, reuse the token in a sentence that helps clarify the definition. This also helps the student see the word in another context than just the movie context.

10. Optional Notes – Use optional notes to make any further comments on the term. This might be a place where you can add notes on other contexts that the word might be used in or cultural aspects to the words usage or anything that might be of use to the student.

11. Translation – This is where you would give a translation of the word. Consult your advisor before filling this in.

12. Level – This column establishes whether or not your word will be placed in the defined list, the mastered list or no list.
   - The defined list: this list shows the word's definition and any other columns that you have filled in. If the word belongs to this list, leave the Level column blank.
   - The mastered list: this list is made up of words that the student should know but they are pointed out so that the student can listen for them during the movie. They are not defined, only pointed out. If your word belongs to this list type "100" in the Level column.
   - If the word is in neither list, leave the Level column blank (all the columns will be blank for this type of word).

   There are a number of useful aids to help you decide which words go in which list. Ask your advisor about these.

Images – There are a number of words that could be defined better with a picture. Feel free to use any royalty free images (like clipart) in your voc table. To do this, save the image in a folder titled "images" in the Data folder (C:\EFRaid\Data\Images). Then, in the image column of your voc table, write the name of the image file (i.e., scissors. jpg). The EFR will then link the image title in the voc table to the file name in "Image" folder (make sure the file name is spelled the same as the image title in the voc table).

SECTION 6: VOCABULARY TOOL

EFR VOCABULARY TOOL:
Once you have completed the population of the VocTable, the second main program processing component of the EFR Authoring Tools Process is the Vocabulary Tool or VocTool. The main purpose of this program is to create the final EFR file and the vocabulary WebPages for that EFR using the CORE EFR and the populated CSV/Excel file as input. Once again during this process all files must be checked for errors which may cause the VocTool to not function properly. Once you have started the program by double-click on its EXE, please follow the following instructions:

The first step in the process of using the VocTool is to view the options window by clicking on the Options toolbar menu button. Once done, the following window will appear. This window allows the user to set or assign the CSV/Excel columns to the categories listed below. If, for instance the Image Column will not be used in your Vocabulary Table or VocTable, the user will specify -1 so that the field will be ignored.

Once the user has checked to see if all the columns in the VocTable match the fields in the VocTool Options window, just press OK.

PROCESSING THE FINAL EFR AND VOC WEBPAGES: R*UNNING THE EFR VOCTOOL*

1. Load your CORE EFR file by clicking on the browse icon and selecting the file.
2. Browse to and select your populated VocTable/CSV/Excel file.
3. Select the number of Header rows in your VocTable. For instance some VocTable Excel files will have a field name as the first row in every column to identify the contents of each column. This is a Header row. Usually this number is set to one.
4. Now set the Source Language of your EFR. This is the default language of your DVD movie.

5. The Target Language is the language of the intended teaching audience of the EFR.
6. Now type in the EFR Code in the EFR Code field. This is the important link code used in EFR Maker. These codes must be exactly the same. For instance, if you used 'CFv1' as the 'Link Code' in EFR Maker then you must type 'CFv1' once again in the VocTool as the 'EFR Code'.
7. Within the Outputs frame, the next two check boxes allow the processor to create outputs for either EFRAid Build 90 and/or the new EFRPlayer. For now, only the checkbox for 'Include EFRAid b90+ Data' is checked. Leave the other checkbox unchecked until the new EFRPlayer is fully functioning.
8. The Target Skill Level sets the skill level for the target audience. The setting of the skill level has particular reference to the individual vocabulary items that will be determined and displayed in the HTML VocWebPages as either mastered or unmastered vocabulary. The program treats each vocabulary item as follows according to the fields in the VocTable: For a vocabulary item or token that has not a concept ID entry, it is ignored by the program. These will not appear at all in the VocPages as mastered or unmastered. If a token has a concept ID associated with it, then the program will step to the next level and check the level column of the VocTable for a level number (100, 200, 300, 400, or 500) for that particular word. If no level is listed or in other words if the level cell for a particular word is blank, then the program assumes that skill level to be the same as the Target Skill Level setting the user has set. So, lets say the Target Skill level is set to '200'. If a level number is associated with the word, like for instance '100' is written in the Level column for a word, then this level, being less than the skill level setting of '200', will show up as a mastered word. Once again, if the level cell is left blank, then it is assumed to be '200' level and will show up as unmastered. For now the procedure has been to set the default skill level to '200' when processing EFRs. This means that if the creator of the VocTable wants a word to show up as mastered then they must write in '100' for the level and if they want the word to show up as unmastered then they must leave the level cell blank.
9. Choose the location of your final EFR.
10. Choose the location of your folder that will contain the final Vocabulary WebPages. You must once again use the exact Link Code/EFR Code you have used before for the name of this folder. You can either create this folder and browse to it or browse to a folder where you want the output and type for example, '\CFv1' at the end of the output folder link.
11. Now check all the fields and press Process. If you are processing a CSV file then you will be prompted to choose your delimiter type: comma, tab, etc. Most file will be a comma delimited file.
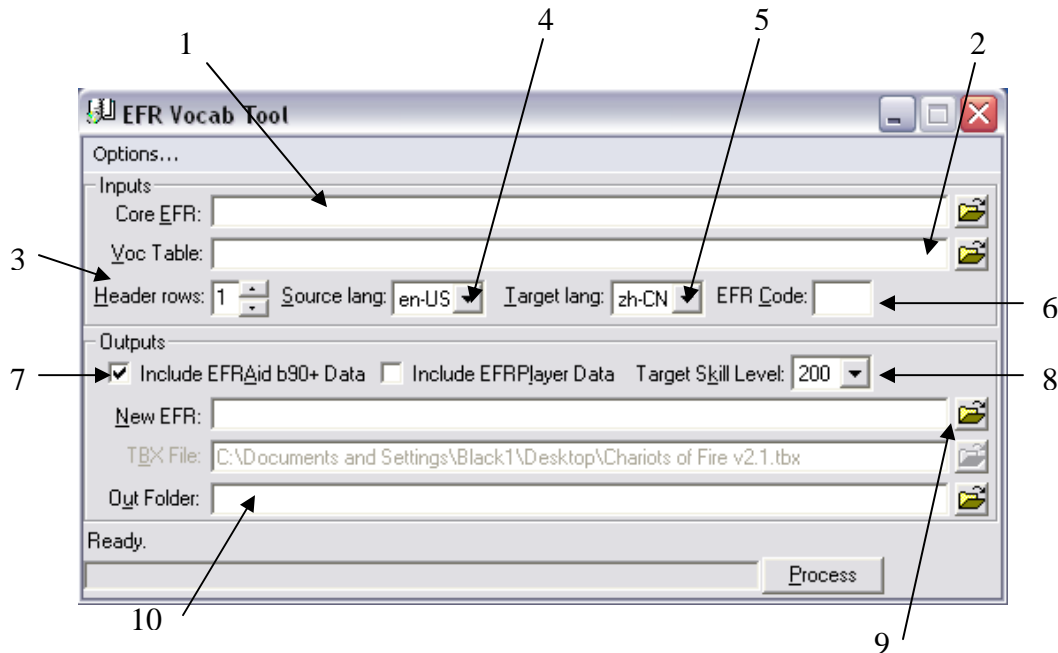
EXTRAS DOCUMENTS:
There are a number of possible extra documents that you will be asked to make. These are generally very simple but provide important information for the EFR viewer. Some of these are as follows:

Schema Building

Many aspects of the movies will require explanation to someone who doesn't speak the language of the movie. This helps the student follow the action better. This is especially true in cases where the student is not familiar with the culture of the characters in the movie. The schema building document is an MS Word document that provides background information, cultural notes, history, and any other information that could be of use to the student. It should be divided in two categories: general information, and clip specific information.

General schema is information that applies to the movie as a whole or events leading up to the movie or taking place after. This will be presented in a document that the EFR student can access at any time during the movie.

The clip specific schema is information that applies to individual clips that may explain something that a character says or does that may be unfamiliar to a foreign student. This information will be available to the student during the clip that it explains (an example of something that would need explanation is sarcasm). Clip Specific schema will be combined with the segmentation file.

Chapter Synopses

        Each chapter should be accompanied by a two to three sentence summary of the events of that chapter. This should be simple. The purpose is merely to give the student an idea of what is going on to ease the difficulty of interpreting the plot and the words at the same time.

Comprehension Questions

        Each clip (at least to the scene level) should be accompanied with a few questions that require answers about the movie. They can be both general questions and questions specific to that clip. The questions are to make the student think about what is going on and help the student focus on what is said. Therefore, the questions should ask for very specific answers (like what the characters say) and very thought provoking answers (like why the characters do something, or what the student thinks is likely to happen next). Remember the purpose is to help the student understand better and not to confuse the student. These questions will be included in the segmentation file as well as in a separate document that the students can access at any time.

Vocabulary Exercises

        In order to achieve mastery of the new words the EFR viewer will be learning, it is helpful to provide activities that will allow the student to practice the new words he/she is learning. These can be fill in the blank, synonym matching, matching word with definition, or any other number of activities that require the student to apply his/her knowledge of the new vocabulary words. This will be included in a separate document that accompanies the EFR. In time this may become part of a teacher/student workbook.

NOTES ON VOCTOOL:

Essentially, the generation of voc web pages is done by a single program, EFR_VocWeb.exe. (Get it here: ftp://ftp.ttt.org/OSCAR/EFR/EFR_VW10.zip). It takes as input the following 3 files:

(1)

Input File: Utterance ID list
Format: Text
Obtained from: Text-based segmentation file
Sample: --
C1-S4a-U1
C1-S4b-U1
C1-S5a-U1
C1-S5b-U1
C1-S5c-U1
C1-S5c-U2
C1-S6a-U1
C1-S7a-U1

----

(2)
Input File: Vocab table
Format: CSV
Obtained from: Terminologist's Excel vocab spreadsheet ("Save As CSV")
Sample: ---
Token #,Token,Utterance ID,Grammar,Concept ID
1,restes,C10-S1a-U1,,Rester.V.1
2,là,C10-S1a-U1,,Stop
3,J'ai,C10-S1a-U1,,Stop

----

(3)
Input File: TBX dictionary
Format: XML
Obtained from: See below
Sample: --

```xml
<termEntry>
        <langSet xml:lang="fr">
                <descrip type="definition"></descrip>
                <descrip type="example"></descrip>
                <note></note>
                <ntig id="Chocolat_blanc.N.1">
                        <termGrp>
                                <term>Chocolat blanc</term>
                                <termNote type="partOfSpeech"></termNote>
                                <termNote type="learnerSkillLevel">2</termNote>
                        </termGrp>
                </ntig>
        </langSet>
        <langSet xml:lang="en">
                <ntig>
                        <termGrp>
                                <term>white chocolate</term>
                        </termGrp>
                </ntig>
        </langSet>
</termEntry>
```


Created by Hans Nelson
November 2002, updated September 2003, updated April 2004, updated July 2004

Authoring Process Overview
EFR Maker Instructions Beta Version 1.6

EFR Vocabulary Tool Beta Version 20