

# Incidental vocabulary acquisition through watching movies with bimodal and standard subtitles: The case of L2 Swahili learners

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## ABSTRACT

The aim of this study is to identify the level of vocabulary that can be acquired by second language (L2) Swahili learners after watching a single Swahili movie with either Swahili or English subtitles. Thirty L2 Swahili students of the University of Ghana, ranging in age from 18–30, were divided into two groups. The groups watched the same movie in Swahili with either bimodal (BM) or standard (STD) subtitling. Those in the bimodal group watched the movie with Swahili subtitles and those in the standard group watched the movie with English subtitles. English is the medium of instruction at the University of Ghana and the official language of Ghana. Participants were tested on vocabulary taken from the

movie both before and after watching the movie. They took a pre-test before watching the movie, and a post-test right after watching it, and data were analysed using MS Excel. Results from the post-tests showed an increase in all participants' vocabulary levels after watching the movie, with those in the standard group making statistically significant gains. The study suggests that watching a movie in L2 and visually seeing the subtitles in their first language (L1) has a greater effect on vocabulary acquisition than watching and seeing the subtitles in L2.

**Keywords:** second language learning, incidental vocabulary acquisition, subtitling, bimodal subtitling, standard subtitling

## CITATION

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## 1. Introduction

Technology, specifically multimedia technology like TV, computers, and laptops, has played a key role in teaching and learning of second language (Gorijan 2014). It has allowed accessibility and portability, which has made it very easy for students to watch movies. Movies are authentic materials, and their visuals often provide a lot of comprehensible input (Gorijan 2014). The video content provided by movies provides language learners with authentic input that gives them a long-lasting mental representation by providing a high degree of immediacy and reinforcement through subtitles of new and old lexical items, making it a highly comprehensible and accessible tool for vocabulary teaching (Talavan 2007). Teachers, therefore, encourage students to watch movies in the target language to improve their level of vocabulary.

According to Aksu Ataç and Gunay-Koprulu (2018), learners usually have three options when watching movies in the target language: watch the movie in its original language without subtitles, watch it in its original language with subtitles in the source language, which is standard subtitling, and watch the movie in its original language with subtitles in the target language, which is bimodal subtitling. Several studies have been done on the incidental vocabulary that can be acquired by second language learners after watching movies and TV shows by focusing more on English, and very little on other languages, but no research has been done focusing on Swahili. This study, therefore, explores the incidental vocabulary that is acquired by L2 Swahili learners as they watch a Swahili movie, focusing on bimodal and standard subtitling.

This study extends the findings of previous research conducted on vocabulary acquisition through watching movies. These studies suggested that learners gain vocabulary after watching movies in the target language while highlighting the importance of subtitles. Also, since most of the studies focused on the English language, the present study looked at vocabulary that will be gained after watching a Swahili movie. This will provide Swahili learners and instructors with an understanding of how watching Swahili movies with subtitles can influence the vocabulary gain of learners, and which subtitling modality will be best for an even higher vocabulary gain. In so doing, the study answered the research questions (RQ) below:

**RQ 1.** Does watching Swahili movies with English subtitles lead to incidental vocabulary acquisition for L2 Swahili learners?

**RQ 2.** Does watching Swahili movies with Swahili subtitles lead to incidental vocabulary acquisition for L2 Swahili learners?

**RQ 3.** Does the language of the subtitle have an effect on the amount of L2 Swahili incidental vocabulary acquisition?

## 2. Literature review

This literature review will discuss research that has been conducted on movies and L2 learners' vocabulary acquisition. It first discusses research on subtitles, vocabulary acquisition, vocabulary acquisition through watching movies, then incidental vocabulary acquisition through watching movies with subtitles. It examines extensively studies on English as an L2 through watching movies with subtitles, and studies on other target languages. The review concludes by showing the gap the present study hopes to fill.

### 2.1 Subtitles

According to Canning-Wilson and Wallace (2000), subtitles are the textual versions or printed translations of the dialogue in films and television programs that can be read at the bottom of the screen when watching a foreign film. Reich (2006) defines subtitling as a branch of translation called audio-visual translation where viewers can read statements of the dialogues on the screen together with watching the images and listening to the dialogues. Gerzymisch-Arbogast (2008) also gives a definition for subtitles and construes them as the written translation of film dialogues that appear synchronously with the corresponding dialogues that are produced on the screen.

Gottlieb (1994) posits that subtitling of televised foreign-language material changes the language as well as switches it from the spoken to the written mode in real time as a dynamic text type. He examines subtitles in the context of language transfer and refers to interlingual subtitles as diagonal subtitling. Gottlieb refers to them as diagonal because the dialogues are translated from one language into another which causes a shift from the oral mode to the written mode. Additionally, Talavan (2007) identifies the main forms of subtitles as bimodal subtitles, standard subtitles, and reversed subtitles. According to Talavan, bimodal subtitles are where the audio is in the foreign language and subtitles are in the same language, which is the foreign language. Standard subtitles refer to when there is audio in the foreign language and subtitles in the mother tongue, and reversed subtitling refers to when the audio is in the mother tongue and subtitles are in the foreign language. The list below illustrates the definitions in much simpler terms (L1=first language; L2=second language):

- Bimodal Subtitles – L2–L2
- Standard Subtitling – L2–L1
- Reversed Subtitling – L1–L2

On the advantages of subtitles, Danan (2004) argues that audio-visual material coupled with subtitles leads to incidental language acquisition because viewers learn the language heard in

subtitled programs without conscious and systematic effort. Danan further asserts that the translation that subtitling provides links image, sound in one language, and text in another. This leads to better processing and recall because of the presence of both image and translation which helps to retrieve information from visual traces as well as the two verbal traces.

## 2.2 Vocabulary acquisition

Studies show that second language learners need a large number of words to be able to operate in the target language. According to Alqahtani (2015), vocabulary knowledge is often seen as a critical tool for second-language learners and that learners need to master vocabulary to be able to express their ideas and understand other people as they speak. Vocabulary plays a vital role in language learners' reading, listening, speaking, and writing abilities, and several researchers have investigated this phenomenon. Stæhr (2009), Vafae and Suzuki (2020), and Zhang (2012) studied vocabulary knowledge and advanced listening comprehension, the relative significance of syntactic knowledge and vocabulary knowledge in second-language listening, and vocabulary and grammar knowledge in second-language reading comprehension respectively. They found that vocabulary knowledge is a crucial factor for successful listening comprehension and reading comprehension abilities. These further deepen the assertion that vocabulary knowledge is needed for successful second language acquisition and lead to the question of how learners can acquire vocabulary. There are several ways of acquiring vocabulary and watching movies has been proven to be one of them. According to Albiladi et al. (2018), movies are one of the effective ways used to encourage language learners to develop their language competencies. Similarly, Al-Sarhan (2013) asserts that through watching movies, students get the chance to master and improve their vocabulary.

To examine the impact watching movies has on vocabulary acquisition, Karimah et al. (2019) researched the amount of Japanese vocabulary that can be acquired through anime. This was a case study observing a female college student at the State Islamic University of Jakarta studying Japanese in an informal setting. The researchers of the study observed and interviewed the participant together with conducting an aural vocabulary test. Based on the interview the researcher had with the participant, it was identified that the participant does not use the strategy of watching Japanese anime to learn vocabulary but ends up acquiring it incidentally through repetition by watching one anime more than once. The participant noted that she could remember many words from watching the animations.

Additionally, Peters and Webb (2018) examined the level of incidental vocabulary that can be acquired through watching L2 television programs and the factors that affect learning incidental vocabulary. The participants of the study were 63 Flemish business students whose L1 was Dutch and L2 was English. They were randomly assigned to two groups, an

experimental group to watch the television (TV) program, and a control group to only take the tests. The researchers selected an authentic full-length TV documentary program called *Keynes*. The target items were sixty-four (64), and they were taken from the documentary. Learners took a test consisting of form recognition and meaning recall to measure their knowledge of the target items. The same test was used as a pre-test, post-test, and delayed post-test. The items were also presented in both written and aural forms. Results of the study showed that watching a full-length TV program can lead to learning new vocabulary that can be useful in developing L2 learners' vocabulary size.

Watching movies with subtitles has also been investigated with several researchers claiming its effectiveness in vocabulary acquisition. Zanon (2006) posits that subtitling motivates and makes learners secure and self-confident while gaining new vocabulary. To study the impact of subtitled animated cartoons on incidental vocabulary learning, Karakas and Saricoban (2012) divided 42 EFL student teachers in Turkey into two groups of subtitle group and a no-subtitles group. The subtitling modality used was bimodal subtitling. Both groups were given the same pre-and post-tests, and the target items were twenty-four (24) verbs. The study found that frequent encounters with words make learners become acquainted with the words due to repetition, which in turn caused an incidental improvement in vocabulary. It further noted that although there was no statistically significant difference between the results of those who watched with subtitles and those who did not, watching the cartoons led to an increase in participants' vocabulary knowledge.

Moreover, Koolstra and Beentjes (1999) studied children's vocabulary acquisition in a foreign language through watching subtitled television programs at home. The researchers conducted the study using 125 boys and 121 girls from grades 4 and 6 in Netherlands. They designed the experiment to have 3 groups; those who watched a 15-minute English television program with Dutch subtitles, those who watched the same program in English without subtitles, and those who watched an 11-minute Dutch television program without subtitles. The results of the study showed that children who watched the subtitled television program had higher vocabulary scores than those who watched the Dutch television program. The study indicated that children could acquire elements of a foreign language through watching subtitled television programs. They further asserted that English spoken television programs supported with subtitles and visual images provides Dutch children with an opportunity to pick up the meanings of some English words.

Similarly, Goriyan (2014) investigated the effect of movie subtitling on incidental vocabulary learning among Iranian EFL learners. This study employed bimodal subtitling, standard subtitling, and reversed subtitling techniques. The researcher used 90 English translation students as participants and assigned them to three equal experimental groups: A (bimodal

group: for bimodal subtitling), B (standard group: for standard subtitling), and C (reversed group: for reversed subtitling). Participants watched three English animated movies whose duration was 80 minutes, 70 minutes, and 96 minutes. The movies were shown for about 30 minutes twice a week to the three groups and lasted for eight sessions in all. The participants were given forty (40) multiple-choice items as a pre-test. The items in the pre-test were constructed based on the movies. At the end of the treatment period, a post-test of forty (40) multiple-choice was given to the participants. It contained a target word from the pre-test with different construction. In all, the study found that reversed subtitling was the most effective mode of subtitling in learning vocabulary through watching movies, followed by bimodal subtitling, making it more effective than standard subtitling.

Also, the study by Sadiku (2018) researched the role of subtitled movies on students' vocabulary development. The participants of the study were of different ages and levels at the University for Business and Technology in Prishtina in the Republic of Kosovo. The participants' English proficiency level was the same regardless of the difference in age and university levels. They were randomly divided into three groups where one group watched movies with Albanian, that is standard subtitles, one group with English subtitles, which is bimodal subtitles, and the third group without subtitles. The participants watched the movie *Bruce Almighty* in a formal and institutionalized setting, and the movie *Click* in an informal and natural setting. The acquisition of 12 words was measured in both the formal and informal settings through pre, post, and delayed post-tests. The results indicated that subtitled movies have a great impact on L2 learners' vocabulary acquisition. It further showed that those who watched the movies with standard subtitles performed much better than those who watched with bimodal subtitles, which meant that Albanian subtitles helped the participants acquire more vocabulary than English subtitles.

To understand the perceptions that English as a Second Language (ESL) students have towards the role of English subtitles in vocabulary learning, Hashim and Aziz (2022) investigated the perceptions of 132 ESL undergraduates at the University of Putra Malaysia, on learning vocabulary through English-subtitled movies or shows using an online survey questionnaire. Bimodal subtitling was the focus of this study. The results of the study showed that the participants had a positive opinion of learning vocabulary through watching subtitled English movies or shows and that they could learn many new words by watching these movies or shows. The researchers stated that the participants said that the contextual clues embedded in the subtitles help them to figure out the meaning of the words, and they view the English subtitles in movies or shows as a contributing factor in learning new vocabulary. This, therefore, showed that vocabulary learning is possible through watching English-subtitled movies or shows.

The study by Ina (2014) examined incidental foreign language acquisition by Greek children learning Italian. The study was action research, a quasi-experimental study. It was done using Greek students in three different age groups who were in the fourth, fifth, and sixth grades. They were divided into experimental group 1; for watching the television program (a 15-minute cartoon) in Italian with Greek subtitles, making it standard subtitling. Experimental group 2; for watching the program in Italian without subtitles, and a control group; for watching the same program dubbed in Greek without subtitles. The researcher assessed the acquisition of Italian vocabulary through a multiple-choice test that asked for the Greek translation of 35 Italian target words that were used in the program. The results of the study indicated that incidental vocabulary acquisition was higher in experimental group 1, that is those who watched with standard subtitles, followed by those who watched without subtitles, and those who watched in Greek. Ina, therefore, concluded that the Italian television program which is made up of the Italian target words that are heard in the program, its Greek translation that can be read in the subtitles, and the words supported by visual images on the television program helps Greek students to “catch” the importance of some of the Italian words.

As noted above, several studies have been carried out on vocabulary acquisition through watching movies and more specifically watching movies with subtitles. They all agree on the fact that watching movies provides the opportunity for incidental vocabulary learning and acquisition, with the study by Gorijan (2014) demonstrating that reversed subtitling is the most effective mode of subtitling in incidental vocabulary learning through watching movies, followed by bimodal subtitling then standard subtitling. These papers serve as the basis for this research, as they demonstrate the various findings put forward regarding vocabulary learning through watching movies. The methodology employed by these researchers also serves as a guide to the current researcher as they are similar to the methodology the current study aims to use. However, they show that there is still more work to be done to discover the amount of incidental vocabulary that can be learned from watching movies of various other languages, and which subtitling technique will be more effective in this instance.

The present study will therefore fill this gap by focusing on incidental vocabulary that will be acquired by L2 Swahili learners after watching a single Swahili film, focusing on bimodal and standard subtitling, because they are the commonly used subtitling modalities. Reversed subtitling will not be used in the study because the researcher could not find the film in the L1 with subtitles in the L2. Also, no subtitling will not be used in this study because the researcher sought to compare vocabulary acquisition through the two subtitling modalities of standard and bimodal. This will inform language learners and instructors whether Swahili movies will help in the acquisition of incidental vocabulary. And the subtitling modality that will be best when watching Swahili movies.

### 3. Methodology

The experiment used a quantitative research design with two experimental groups, a pre-test, and a post-test. The dependent variable was vocabulary gain, which referred to the increase in the number of words participants could recall at the end of the treatment compared to the pre-test. In this study, the participants were expected to correctly recall words from a list of ten (10) vocabulary items that were taken from the film script.

### 4. Research site

Participants were students at the University of Ghana. The university was chosen as a research site for several reasons. First, the researcher was an instructor of Swahili at the university and so had easier access to the participants. Second, Swahili is exclusively taught at the tertiary-level at the University of Ghana. English is the official language of Ghana and the medium of instruction at the university. All students are fluent English speakers in addition to their proficiency in an indigenous language. Swahili is taught as a foreign language.

### 5. Population and sampling

The population of the study comprised the L2 Swahili students at the University of Ghana. Convenience and purposive sampling were used in the selection of participants. The participants of this study were thirty (30) second-year students of Swahili. All students are bilingual speakers of a Ghanaian language and English. The participants were fourteen (14) males and sixteen (16) females, ranging in age from 18 to 30. They were randomly assigned to two experimental groups of bimodal subtitling (BM) and standard subtitling (STD). Fifteen (15) students were in the BM group and fifteen (15) were in the STD group. Those in the BM group watched the film with Swahili subtitles and those in the STD group watched the film with English subtitles. The subtitles were automatically created by the film.

### 6. Material

The Swahili film, “Hadithi za Kumekucha: Fatuma” (Riber 2018) was used in this study. It was selected because it is part of the top five Swahili films to watch and learn, and it has won several awards at international film festivals. It is an interesting movie, and learners encounter several new vocabularies that will aid in their Swahili learning. The film’s duration is 78 minutes, but participants watched up to the first 20 minutes. The viewing was limited to 20 minutes because the researcher felt it was as long as the students could pay attention, and hence didn’t want to make the process hard for them.



## 7. Data collection procedure

First, after receiving approval from the University of Ghana, an initial flyer was sent to all the second-year Swahili students, seeking their willingness to participate in the study by responding by email to the researcher. Then, the researcher generated a demographic questionnaire on google forms and sent the link to the participants to be filled out. The questionnaire consisted of questions on participants' gender, age, number of years they had studied Swahili, if they have ever lived in a Swahili-speaking country before, and the number of languages they speak.

Second, the participants met in their respective groups in two classrooms at the University of Ghana. They took 10 multiple-choice vocabulary questions online through google forms as a pre-test to measure their level of vocabulary knowledge before watching the film. The vocabulary items were taken from the film and comprised of both nouns and verbs. The criteria I used in selecting the vocabulary items was frequency of occurrence and their unfamiliarity to the students. The participants did not receive any feedback on the vocabulary items both before and after watching the movie.

Finally, the participants watched the first 20 minutes of the movie. Those in the BM group watched the movie with Swahili subtitles and those in the STD group watched the movie with English subtitles, with a proctor in each classroom. Immediately after watching the movie, participants did a post-test. The post-test used the same vocabulary items as the pre-test but with different wordings. An example is “mimi na familia yangu tunapenda *shamba*” for pre-test, and “mama yangu ana *shamba* kubwa” for post-test. The researcher made the participants finish the pre-test and post-test in one sitting to avoid any outside learning.

During the pre-and post-tests, the participants were not allowed to have anything on their desks except their laptops or phones to take the online tests. Participants accessed the tests via google forms. Participants were given 15 minutes to complete each of the tests. They were not allowed to talk or look at their peers' work. In all, the participants used 30 minutes to complete the two tests. The whole sequence of pre-test, watching the movie, and post-test took 50 minutes.

## 8. Ethical consideration

The research was approved by the researcher's Institutional Review Board and posed no risk and harm to the participants. Participants gave their informed consent and were given the option to opt out of the research whenever they wished to do so. Their data was anonymized and safely stored with password on a computer.

## 9. Data analysis

Data were analysed quantitatively. First, the results of the pre-test, and post-test were analysed using Microsoft Excel. A table of the descriptive statistics of the participants' performance for the tests in the two groups is presented in the study. To evaluate whether there was a significant increase in participants' ability to recall the words, a paired samples t-test between the pre-test and post-test was conducted for both groups. Although Microsoft Excel can be slow and unstable sometimes, the researcher employed it for data analysis because of its ease of use and familiar functions.

## 10. Findings

As the first step, the pre-test for both groups of bimodal and standard subtitles were analysed using Microsoft Excel. Table 1 shows the descriptive statistics of the participants' performance.

Table 1: Descriptive statistics of the pre-test

Groups	Mean	STD	Min. Score	Max. Score
<b>Bimodal (n=15)</b>	8.33	1.54	5	10
<b>Standard (n=15)</b>	8.2	2.01	4	10
<b>Total (n=30)</b>	8.27	1.76	4	10

The table above shows that the two groups were similar in their performance in the pre-test. The mean and standard deviations for both groups are approximately similar. It can also be observed from the table that the bimodal group performed slightly higher than the standard group, with a minimum score of 5 and a maximum score of 10. The average minimum score for both groups was 4 and the maximum was 10.

Table 2: Descriptive statistics of the post-test

Groups	Mean	STD	Min. Score	Max. Score
<b>Bimodal (n=15)</b>	8.93	1.28	7	10
<b>Standard (n=15)</b>	9.67	0.49	9	10
<b>Total (n=30)</b>	9.3	1.02	7	10

Table 2 represents the progress participants made after watching the movie. The mean for both groups increased, and the standard deviations decreased which means they all did better in the

post-test. This means that watching the movie with subtitles was beneficial for all participants. This beneficial effect was felt more with the standard group as they did better than the bimodal group, with a mean of 9.67 and a standard deviation of 0.49. The average minimum score for both the BM and STD groups also increased from 4 to 7.

To measure if the means between the pre-test and post-test of both groups were statistically significant, a paired samples t-test was conducted. Tables 3 and 4 present the findings.

Table 3: t-test for bimodal group

Test	Mean	Diff. in Mean	df	t-stat	p-value
Pre-test	8.33	0.6	14	1.547	0.144
Post-test	8.93				

A glance at Table 3 shows that the difference in the means for the BM group was 0.6, and a p-value of 0.144. This shows that although there was an increase in participants' vocabulary after watching the movie, it is not statistically significant.

Table 4: t-test for standard group

Test	Mean	Diff. in Mean	df	t-stat	p-value
Pre-test	8.2	1.47	14	2.509	0.025**
Post-test	9.67				

For the STD group, Table 4 indicates the difference in means as 1.47, and a p-value of 0.025 which is less than 0.05 (5% probability that the results obtained are due to random chance). This means the participants' ability to understand the words after watching the movie is significant. Thus, there was a significant increase in their performance on the post-test.

Table 5: Summary of scores and values

Groups	Post-test Mean	Post-test STD	t-stat	p-value
Bimodal	8.93	1.28	1.547	0.144
Standard	9.67	0.49	2.509	0.025**

The purpose of Table 5 is to present the scores and values of both groups for easy identification and comparison. It further illustrates the findings and observations conveyed in previous tables.

## 11. Discussion

This section discusses the findings presented in this paper, for the purpose of answering the research questions. The research questions are reiterated below for review.

**RQ 1.** Does watching Swahili movies with English subtitles lead to incidental vocabulary acquisition for L2 Swahili learners?

**RQ 2.** Does watching Swahili movies with Swahili subtitles lead to incidental vocabulary acquisition for L2 Swahili learners?

**RQ 3.** Does the language of the subtitle have an effect on the amount of L2 Swahili incidental vocabulary acquisition?

The results of the pre-test and post-test presented in Tables 1 and 2 indicate that participants performed much better in the post-test, and hence had acquired vocabulary incidentally. The results in Tables 3 and 4 also show the difference in means of the pre-test and post-test scores for both groups and demonstrate that those who watched with English subtitles, that is standard subtitles had achieved higher scores in the post-test compared to those who watched with Swahili subtitles, that is bimodal subtitles. This means that the incidental vocabulary acquired by the participants in the standard group was higher than those in the bimodal group.

By conducting a paired samples t-test and comparing the p-values for the two groups, research question 3 is also answered. Participants in the standard group performed significantly better in the post-test than those in the bimodal group, and thus the vocabulary gain for this group was statistically significant. For those who watched with Swahili subtitles, that is bimodal subtitles, even though there was an increase in their amount of incidental vocabulary learning, the increase was not statistically significant. This means that standard subtitling had a greater effect on L2 Swahili incidental vocabulary acquisition and has been the most effective mode of subtitling for incidental vocabulary acquisition. L2 Swahili learners can therefore watch movies with standard subtitles to understand and acquire more new words.

Examining these findings further, it can be stated that, watching movies and seeing the texts in the form of subtitles helps language learners interact with the movies more. They watch, listen, and try to read the texts in the form of subtitles for additional understanding, which in turn helps in their incidental vocabulary acquisition. Thus, this supports previous findings that the contextual clues embedded in subtitles lead to word recognition, identification of word meanings, and consequently vocabulary learning.

In this study, standard subtitles helped the participants in identifying these contextual clues for word recognition and meanings easier than bimodal subtitles. This is because learners hearing the words and visually seeing the subtitles in a familiar language, that is the L1, makes it easier for them to further understand the context of the movie scenes, and catch most of the words and phrases. This leads to an increased understanding of the spoken words, which in turn leads to more retention of new words. Moreover, since they are familiar with the language of the

subtitle, it could be that it reduces the cognitive load of reading and makes it easier to make connections with the audio input. However, when watching a movie with bimodal subtitles, learners hear the audio in the L2 and see the subtitles in the L2 as well, which can make it difficult to further understand the context of the movie scenes. They, therefore, may have to put more effort into making connections with the audio input, which increases the cognitive load, and they may not catch as many of the words and phrases, which consequently leads to less retention of new words. Therefore, it can be concluded that since the participants were only second-year students, they were more proficient in English reading than Swahili.

The findings of this research are in line with the study by Sadiku (2018), which researched the role of subtitled movies on students' vocabulary development using standard, bimodal, and no subtitles. Just like the current study, that study found that those who watched with standard subtitles performed much better than the bimodal and no subtitles groups, and hence acquired more vocabulary. Sadiku further pointed out that the standard subtitle group performed better than the bimodal group because it assists learners more in the level of production as compared to the bimodal subtitles which assists learners in improving their level of recognition. Moreover, the current study aligns with previous studies that show the importance of subtitling for incidental vocabulary acquisition. In the study by Ina (2014), participants watched an Italian television program with standard subtitles and found that learners could recognize Italian words and acquire vocabulary incidentally. Hashim and Aziz (2022) employed an online survey to understand students' perceptions of watching English-subtitled movies. The data that were gathered from the survey indicated that the participants could learn many new words when they watch subtitled movies.

Furthermore, the findings of this study contradict those of Gorijan (2014) who examined the effect of movie subtitling on incidental vocabulary learning among EFL learners using bimodal, standard, and reversed subtitling. The results of that study showed that bimodal subtitling was more effective in helping learners acquire incidental vocabulary than standard subtitling. Even though all participants in the bimodal, standard, and reversed subtitling groups performed better on the post-test and saw a significant increase in their vocabulary, the bimodal group achieved a higher mean than the standard group. Standard subtitling was the least effective of the three modes and could have been because of the participants' proficiency in the bimodal language than English. A number of factors can lead to this difference between the present study and Gorijan's study. It could be that because the participants of this study were in their second year and that of Gorijan's study were freshmen, the participants of the present study may have had better listening comprehension skills to be able to link what is said to its equivalence in the L1. It could also be due to the difference in language focus and movie. Gorijan's study examined Iranian EFL students, and this study examined L2 Swahili learners.

The above explanation does not, however, mean that this study was testing the participants' listening and/ or reading skills. Nor does it suggest that this research is categorically associating participants' vocabulary gain with their listening comprehension skills. However, watching

movies with English subtitles can be employed by language teachers as a way of testing and improving L2 learners' amount of vocabulary.

## 12. Conclusion and recommendations

This paper examined the amount of vocabulary that can be gained by L2 Swahili learners after watching a single Swahili movie with either bimodal or standard subtitles. Based on the results obtained, those who watched the movie with standard subtitles gained a significant increase in incidental vocabulary, while the incidental vocabulary gains of those who watched with bimodal subtitles were not statistically significant. This suggests that comparing bimodal and standard subtitling in this study, standard subtitling has been the most effective mode of subtitling for incidental vocabulary acquisition. Overall, it can be argued that watching movies and seeing texts in the form of subtitles lead to incidental vocabulary acquisition.

As mentioned above, the findings of the study imply that language teachers can use subtitled movies as teaching materials for learners to gain vocabulary. Teachers can do this by assigning learners tasks to watch subtitled movies and encouraging them to watch such movies, not only as a form of recreation but also with the idea of learning new vocabulary in mind. Even though standard subtitling was the most efficient in this study, teachers can have learners watch the movies using both bimodal and standard subtitles, and consequently settle on the subtitling modality that will be most efficient for the learner in acquiring incidental vocabulary.

Despite the efficacy of the study, it is not without shortcomings, and one of its limitations is that the number of participants was few and there was no control group. Additional research can therefore be carried out with more participants and a control group to verify the conclusion of this study. Moreover, the pre-test and post-test were carried out on the same day and hence there is no guarantee that that population could retain the new vocabulary after a couple of days. Hence, future research can be undertaken to include a delayed post-test to test participants' ability to recall the new words after some days. Furthermore, since this study used a movie that participants were likely to be unfamiliar with, future research can target a familiar movie in the participants' first language and have them watch it in the second language with subtitles to examine participants' ability to recognize and recall new words. Also, future research can study the use of extensive listening projects, and course curriculum with subtitled movies as part of course materials. Such a study can examine whether projects and activities with subtitled movies in the classroom leads to word recognition and meaning, and consequently incidental vocabulary acquisition.

This study adds to the existing literature on incidental vocabulary acquisition through watching movies with subtitles, and further reiterates the importance of using subtitled movies as part of teaching materials for second language instruction. The findings of this study can be beneficial for all second language learners and teachers, as it encourages the use of subtitled movies for vocabulary acquisition.

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