



Social Media Engagement: Can Video Captions Increase User Engagement?

Jiahui Li^(✉)

Haicang Experimental Middle School, Xiamen 361000, China
Joffrey1017@gmail.com

Abstract. With short videos becoming one of the main subjects of social media, how to promote user engagement in social media videos has become a widely discussed topic. This paper reveals a relationship between captioning and viewer comprehension, and the degree of input to the creator, and combines the two with factors that influence the engagement phase of social media users. The impact of captions on social media user engagement was derived. Using quantitative research methods (i.e., questionnaires), the study invited 203 participants to join the experiment and ended up with 202 responses about whether their understanding of the video and the level of authorial input reflected in the captions influenced them to engage in the behavior. After analyzing the feedback, we can find that (1) subtitles can, to a certain extent, eliminate viewers' misleading perceptions of the video content due to the actors' accents, thus helping them understand the video content more deeply and indirectly enhancing social media user engagement. (2) Subtitles reflect the author's level of dedication and commitment to the video product, and users can often discover the author's level of dedication and thus make user engagement behaviors. Contribute to the research caption for the direction of social media user engagement.

Keywords: caption · social media · user engagement

1 Introduction

Captioning is an essential component of video, and captioning videos can be effective in boosting the attention span and comprehension of content for non-native speakers, children, and adults [1]. Moreover, subtitling can also assist deaf and hard-of-hearing people to appreciate and interpret videos [2]. Dual encoding theory states that presenting content in multiple formats helps people understand and absorb information [3]. It was revealed that approximately 85% of users would turn the volume off when watching social media videos [4]. Based on this phenomenon, subtitling videos that are posted on social media may increase user engagement. Social media user engagement can also be understood as user stickiness, a concept that attracts users with features such as attention, and persistence [5]. However, there are few, or even no, people or teams studying the impact of captions on social media user engagement. This paper reports feedback on video content understanding after 202 participants were divided into two groups, one

watching a video with subtitles and the other watching a video without subtitles. Next, feedback based on participants' content understanding and attitudes toward videos with captions were combined with factors influencing social media user engagement.

2 Literature Review

Following the development of social media, an increasing number of video platforms (e.g., TikTok, Instagram, etc.) have emerged. However, about eighty-five percent of users turn on silent mode when viewing videos on social media [4]. In this case, captioning the video is a necessity. Dual coding theory mentions that viewers understand the content better when it is presented in multiple formats [3, 6]. Subtitling is usually the presentation of the sound in the video in the form of a dynamic textual description below the video, and the appearance and disappearance of subtitles in the video are enough to make the viewer involuntarily move his or her gaze to the area where the subtitles are located and produce reading behavior [7]. Captioning allows viewers to enhance their comprehension of the video while watching it and positively impacts most populations, such as children, adults, and non-native speakers in almost all cases [1]. In addition, a major beneficiary population of captioning is the deaf, hard of hearing, and some other people who suffer from hearing impairment, etc., and whose comprehension is generally lower than normal [8]. If the video is not captioned, then it will largely hinder the understanding of the content by these specific people [9]. Therefore, video producers need to provide channels for hearing-impaired people to understand the content [10], i.e., to caption the videos. Previous surveys found that most viewers also see subtitles as an important factor because it helps them follow and understand the film [11]. In summary, subtitles are a highly significant part of the video as one of the factors that can play a role in helping users understand the content of the video.

A review of previous research revealed that social media user stickiness refers to "the quality of user experience characterized by challenging, positive impact, persistence, aesthetic and sensory appeal, attention, feedback, variety/novelty, interactivity, and perceived user characteristics that influence the quality of user experience" [5] and behavior, and that these factors are interrelated [12]. The evolution of social media has benefited highly thanks to the refinement of technology, among which is the availability of social interaction in social media, which satisfies the needs of users [13]. User engagement is not only a behavior but also a psychological state [14]. When users satisfy their demands on social media platforms, their user stickiness increases subsequently [13]. Users engage in social media through actions such as liking, commenting, and retweeting [15, 16], i.e., social media user engagement. Furthermore, Prahalad and Ramaswamy (2004) defined social media user experience as social and technical interactions. Users further generate user engagement by absorbing and understanding the knowledge they need or are interested in from social media, therefore. Therefore, media workers are required to establish more powerful user engagement by creating content that is more valuable and appropriate for the audience [17, 18]. In conjunction with current social media developments, high-quality social media products (e.g., high-quality videos) are effective in boosting user engagement [19]. Moreover, the degree of content completeness that social media offers to users, the higher the flexibility, the higher the user

engagement [13]. According to previous literature on social media user engagement, captioning increases user attention, content integrity, and interactivity, and succinctly increases user engagement (i.e., user stickiness).

Through the analysis of previous studies, I discovered that the level of effort that producers invest in their products largely influences users' attitudes toward them [20–24]. Novel and high-quality social media content send signals of endeavor to users, possibly thereby affecting users to engage in appreciative behavior. Studies have revealed that the majority of users are able to discern from media elements whether or not the creator has made an endeavor, e.g., the inclusion of captions, FX, and other elements in a video is the author's effort code [25].

Therefore, I make the following hypotheses based on previous research:

H1: Adding subtitles to a video can greatly improve user comprehension and reduce confusion about the content due to factors such as the actors' accents and language level.

H2: Media content with captions increases engagement with social media users because it promotes understanding of the content and adds richness and interactivity to the content.

H3: Producers may be able to signal an effort to users by including captions in their videos, thereby generating engagement behavior.

H4: When viewers watch a subtitled video, their eyes subconsciously focus on the subtitle area.

In a nutshell, adding captions to videos can increase engagement with social media users.

3 Methodology

The study predicts that adding captions to videos posted to social media can be effective in increasing social media engagement. Moreover, we predict that there is a relationship between the video maker's effort to produce the video and user engagement. We plan to recruit 203 volunteers whose native language is American-accented English to help complete the experiment (volunteers who are not native speakers of American-accented English will be prompted at the beginning of the questionnaire to withdraw from the questionnaire) and to divide the participating volunteers equally into groups A and B. We will show a short video interview in English (with subtitles) to Group A volunteers, and Group B will watch a video interview in English without subtitles. Afterward, volunteers were asked to answer a questionnaire about video content and social media engagement. Questionnaires are an important method of collecting data [26], and not only can questionnaires be published online to allow more people to participate in the experiment and greatly improve the validity of the experiment, but they can also save the researcher's costs and improve the efficiency of the survey. After receiving the questionnaire, we categorized the volunteers' responses (reflecting their level of understanding

of the content and whether they interacted with that media content) and their attitudes toward the subtitles in the video. In terms of content understanding, we divide the results into four categories: completely understand, can understand half, can understand some, and cannot understand at all; we also divide users' attitude towards subtitles in videos into three categories: subtitles are important, subtitles are optional, and subtitles are not important. In addition, we set some questions in the questionnaire about whether viewers would like or comment on the video because of the level of effort the video maker put into the video. The variable in this experiment is the subtitles, and we keep factors other than subtitles consistent (e.g., video clarity, video size, etc.). The participants in this experiment we set up as volunteers whose native language was American-accented English. Because the questionnaire material uses English with a British London accent, inviting volunteers with American-accented English to participate in the experiment can greatly eliminate the bias that language brings to the results. We chose a directed study (questionnaire) because, first, questionnaires are simple to administer and more efficient compared to other methods. Second, questionnaires are easier to obtain a large amount of data to ensure the degree of accuracy of the experiment. The study's research methods and data collection were obtained from Litman, L., Robinson, J., & Abberbock, T [27].

4 Result

There are 203 participants who participated in this experiment and 202 questionnaire results have been obtained. We analyze the results of the questionnaire's section on participants' questions and answers about the video content using the T-test. Quantitative data analysis revealed a significant difference in the level of understanding between participants in Group A (videos with subtitles) and Group B (videos without subtitles) [$t_1(200) = -2.196, p_1 = .029$; $t_2(200) = -2.083, p_2 = .039$]. Taking one of the questions related to testing participants' understanding of the video content as an example, 62.28% of participants in the group with subtitles (Group A) answered the question correctly, while only 45.45% of people in the group without subtitles (Group B) chose the correct answer, proving that subtitles increase people's comprehension of videos to some extent. The results are similar to those of a previous study done by Gernsbacher and Morton Ann [1].

The questionnaire asks participants if they consider that the producer's inclusion of subtitles in the production of the video reflects his or her degree of effort. The findings are: 73.46% of the participants believe that subtitles reflect the author's input, while another 26.24% do not. In addition, 71.78% of the participants indicate that they would be willing to like or comment on the video (i.e., social media user participation) if the video is made with care (which can be seen as including subtitles). In summary, the findings of the above two questions are found to be highly correlated ($p = .032$). Moreover, 73.76% of the participants respond that they subconsciously focused their eyes on the area where the subtitles are located while watching the video, while another 26.24% do the opposite. Furthermore, 38.12% and 45.05% of participants show that they frequently and often mute videos while watching social media videos, while another 16.83% show that they never watch videos with the media muted. These data lead the researchers to conclude that the inclusion of captions in videos, reflects the level of commitment of the producer and affects social media user engagement.

5 Discussion

The purpose of this study is to examine whether captioning increases social media user engagement by providing feedback on participants' video viewing and some social media use habits. The study finds that captions in videos are effective in helping viewers overcome several factors (e.g., the actor's accent and the actor's acting ability) to gain a better understanding of the video content. Furthermore, in a summary of previous studies, it was found that users are prone to engagement behaviors when they understand the content [13], therefore, adding captions to videos tends to increase social media user engagement. Another important finding is that captions in videos reflect the level of commitment of the producer, and users tend to like or comment on videos that are made with care (i.e., user engagement behavior). The most interesting finding in this study was that about 74% of users involuntarily focused their eyes on the subtitle area while watching the video. Most of the above findings are in line with our guesses before the experiment started. However, before the study begins I speculated that viewers would be distracted when watching videos without captions, and it was not confirmed. More than half (65.84%) of the participants said they were not distracted when watching social media videos without captions.

This study goes in the same direction as Gernsbacher and Morton Ann's (2015) study, both of which explored the effects of captioning on comprehension. Yet, the difference is that we combine comprehension with social media user engagement behavior and find that captioning improves viewer comprehension and indirectly increases user engagement. Additionally, this study explored the relationship between authorship effort and engagement behavior, similar to the study by Modig, E., Dahlén, M., & Colliander, J [25], but compensating for the probes and findings therein regarding authorship input on aspects of social media engagement. Additionally, the experiment validated Patel's (2016) survey on whether users mute audio while viewing social media. The results were similar, with approximately 83% of participants indicating that they would mute audio when viewing video media.

However, there are some limitations of the study. Firstly, the experiment only invited 203 volunteers and obtained 202 questionnaire results. There may be no significant difference in the results because the experimental sample is too small. Secondly, the participants of the experiment are set to be native English speakers with American accents, which is intended to better represent the effect of subtitles on the actors' accents (London-accented English in the video material of the experiment) on the viewers' understanding of the video. However, it was not ruled out whether these participants were familiar with London-accented English. Third, the test was only faced with native speakers of American-accented English and was not highly representative of regions with other language systems.

6 Conclusion

The purpose of this paper is to investigate whether the inclusion of captions in a video can improve user engagement. We start with two main aspects, first, the effect of captioning on comprehension. Second, whether the subtitles reflect the author's input. The analysis of the results of the experiment with 202 participants in this thesis reveals, firstly,

that captioning improves viewers' comprehension and thus increases user engagement. Secondly, captions reflect the level of commitment and dedication of the author, thus attracting users to engage in social media user behavior. In academic terms, this study contributes to the study of the field of social media engagement and its relationship to captioning, filling some theoretical gaps. Combining captions in terms of influencing comprehension and reflecting the level of engagement with social media user engagement. In reality, the paper's findings have implications for social media workers, especially those working with video. Helping video workers gain a deeper appreciation of why adding captions to videos can increase social media user engagement. However, the main shortcoming of this paper is that the sample size of the experiment is too small and it is a specific group of people (native English speakers with American accents). The results are not highly distinguishable or representative to a large extent. Future research should focus on studies that target audiences in other regions. It is also possible to explore the impact of bilingual captioning or sign language captioning on user engagement on social media for international populations (e.g., Chinese and French) or populations with disabilities (e.g., deaf, dumb, and hard of hearing).

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