The Literature Review on The Features of Danmaku that May Facilitating Learning

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INTRODUCTION

Danmaku, a new video commentary system, originated from Niconico in Japan and is exceedingly popular among Chinese video sharing websites, such as Youku, iQIYI and Bilibili（Zhao et al.,2017）.

BACKGROUND

Danmaku is a new online emerging medium that allows viewers to generate scrolling marquee comment on videos, and to instantly share and exchange small elements of the video content while watching, such as feeling and opinions about a moment in a video. It encourages viewers to participate into videos by sending Danmaku and join a specific community anonymously (Bai et al.,2019). Researchers have verified that building online learning communities based on the Danmaku, to a certain extent, can improve the learning efficiency (Xie, & Lei,2015).

RELEVANT THEORIES

Uses and Gratifications Theory(UGT)

UGT is an approach to understanding why and how people actively seek out specific media to satisfy specific needs. UGT is an audience-centered approach to understanding mass communication. UGT theory assumes that the selection and usage of media is a goal-directed, purposive, and motivated action.

Social constructivist theory

A social learning theory developed by Russian psychologist Lev Vygotsky, posits that individuals are active participants in the creation of their own knowledge.

Cognitive load theory

In cognitive psychology, cognitive load refers to the used amount of working memory resources. There are three types of cognitive load: intrinsic cognitive load is the effort associated with a specific topic; extraneous cognitive load refers to the way information or tasks are presented to a learner; and germane cognitive load refers to the work put into creating a permanent store of knowledge.

YOUR RESEARCH METHODS AND WORK

This aritical used literature research methodology is to read through, analyze and sort literatures about Danmaku in order to identify and attribute the materials to support my hypotheses: The features of Danmaku can facilitate learning.

Synchronous: The most notable feature of Danmaku videos is the users send the comments at the same timestamp, which overlays directly on the videos, flies on the screen, and synchronizes to a specific playback time (Shen,Chan,& Hung,2014). Danmaku's synchronous overlay would make uses recall more interesting comments (Yu, & Watts,2017). One of the most important finding is that Danmaku enabled knowledge sharing in a complement manner. More specifically, compare to the tacit knowledge, more explicit knowledge was shared in Danmaku comments. (Wu et al., 2018). Danmaku not only raise other video users' awareness of the upcoming video content, but also catalyze users who have par asocial interactions by posting imaginary story comments. It also enriches the content of the videos (Moegirlpedia,2017). Some Danmaku can mark the key loci of the video using the Danmaku features, such as font color, which may attract learners' attention to specific learning content, and send their questions by Danmaku instantly.

Pseudo-synchronic: Danmaku provides a "pseudo-synchronic" co-viewing experience. Danmaku video viewers can read comments of all the viewers who watched the same video before. This pseudo-synchronic experience removes the constrain of synchronicity in social media and extends the scope of co-viewer communities. As a video is watched by more audiences, more interesting comments may be generated, which may lead to repetitive viewing of the same video. The pseudo-synchronic experience can provides common ground for discussing issues specific to the current context of the content. As a result, viewers can exchange detailed, specific, and real-time information, instead of more general impressions and post hoc reflections (Chen, Gao, & Rau,2017). Some of the learners' questions may be answered by other users as pseudo-synchronic comments.

Anonymity: Anonymity encourages users' early and continued participation (Dorine,2002) and the sense of safety, and encourage students to share their thoughts more freely (Dorothy, Canon, & Grant,2000). Anonymity have a positive impact on users' participation (Craig, Barrett, & Frick,2010). Through a scenario-based experimental study, researchers found that anonymous groups participated significantly more in chatting than groups with identification (Haines et al,2014). Likewise, research also shows that more users were involved in Danmaku communication and they posed Danmaku comment more frequently than forum comments, which could see who sent them (Wu et al ,2018). It may be that anonymity can reduce the peer pressure and encourage the learners to put their comment without warrying about making mistakes. Meanwhile, it enhances learners' interaction with other learner.

Affect the learners' Emotion: Damaku design can make online users feel socially and emotionally connected with others and users may be able to construct and confirm meaning quickly through sending short Danmaku comments (Wu et al,2018). A survey reported that, in virtual communities, reputation and reciprocity have positive impacts on users' participation and the expression of their emotion. They also seemed to post the same comment repeatedly or type longer comments to express their emotion (Horng,2016). In a recent study, data analysis and text mining of Danmaku indicated that Danmaku can promote the emotional exchange between instructors and learners, and between learners, narrow the distance between learners and instructors, enhance their social telepresence, and reduce the loneliness produced in the process of online learning(Zhang, Yang,& An,2017).

Interactive: Social constructive theory suggests that learning is the process of constructing one's own knowledge structure within social interactions (Qiu,2005). Using Danmaku comment system, learners were allowed to cocreate learning content with their instructors and peers by adding comments that are helpful to explain the learning materials (Yao,Bort,&Hung,2017). The interactivity of Danmaku is associated with the learners'

cognitive processes. Through meaningful interaction and interactive coconstruction, Danmaku increases learning achievement and cognitive load for learners. The instructors' Danmaku can help learners deepen the understanding of learning materials. The interaction is developed through iterative construction and plays a role in the learning process (Damsa, & Ludvigsen, 2016).

Future Directions

According to the literature review of the Danmaku over Video l-earning, we conceive that future research exploring what feature s of the Danmaku can facilitate learning. Then, we can design t-he instructional videos with Danmaku that guide leaners with us eful information and enhance the learners' interaction with the learning content, and improve their academic achievement.

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