Visualizing Education: Utilizing Short Films in the Post-Pandemic World

Tianran Qin

University College London, Gower Street, London WC1E 6BT, UK
*Corresponding author Email:uclztqi@ucl.ac.uk

ABSTRACT

With the outbreak of the COVID-19 pandemic worldwide, many countries were forced to shut down human contact-- the most familiar way of learning. In-person learning, one of the major learning and teaching methodologies, has been replaced temporarily by distance learning. Online Education has grown at an unprecedented speed around the globe. Institutions keep reiterating that learning is only a temporary solution during a volatile time. Schools and governments constantly announce the return of in-person learning. However, according to Lockee (5-6)[1], a professor of distance education and instructional design argued that online learning is here to stay. Weighing the impacts of in-person learning versus online learning, educators arrive at an intersection of reimagining the new landscape of post-pandemic learning. There has always been a prejudice against short films due to their condensed commercial and entertaining values; however, long-distance learning has become the new norm since the global pandemic. Therefore, short films can be adopted as a tool to bring about a more engaging atmosphere in virtual classes. In this study, I will look at the rising medium of distance learning through the art of the short film to argue it may open up new doors for learners and educators that exceed the traditional means of learning in a post-pandemic world.

Keywords: Education, short films, distance learning, pandemic, COVID-19

1. INTRODUCTION

The advent of digital media has changed how we, as human beings, perceive and learn information from the world. Ways of learning are shifting from conventional methods where the teacher acts as the primary source of information to flexible learning methods engaging with information all over mass media. The worldwide pandemic of Covid 19 accelerates this shift into media-mediated learning. Due to the strict rules of social distancing, teaching and learning methods have no way but to break the conventional restrictions of traditional teaching in terms of restrictions on space and time. There is an urgency in answering these pertinent questions: How are we supposed to learn now that we no longer have a "class"? Where are we heading with education in the post-pandemic world?

From educational cartoons for children and MOOCs (massive open online courses) for higher education to fluid further education videos for adults, our world is incorporating and embracing a new form of learning through audio-visual devices, namely short film/video. Zoom, Masterclass, recorded lectures, etc., all types of video-based forms of teaching and learning have come to the rescue. All digital learning, like MOOCs, has been ongoing for decades. The most elite universities such as Harvard and Oxbridge have adopted this remote learning format to offer open classes to the public. While uprising structures of SPOCs, small private online courses, and the flipped classroom format also embrace video as a transmitter of teachings. Video-based distance education can gather the most outstanding resources to be easily distributed to less advantaged countries/territories. However, many problems remain with our current hastily installation of the remote learning. Most prominently problems are the access and engagement problems for students.

I propose using short films to counter these negative impacts to resolve these negative impacts. The current structure for online learning consists of the synchronous video system such as Zoom to mimic a regular classroom setting with instant feedback, asynchronous lecture recordings that allow students to engage their learnings independently in their time zone, or a hybrid model. Through evaluating case studies, I present my argument that these learning modes reflect some degree of engagement issue or negative psychological condition

such as exhaustion, frustration, and confusion. This article argues that using visual stimuli, such as short or medium video clips, is an effective method for teaching and learning. Utilizing visual stimuli in the classroom has several outstanding characteristics, including its short teaching time, conciseness, and simplicity that, thanks to the high efficiency of information transformation by using visual storytelling, it can also overcome distance restrictions.

My argument lies with pushing for visualization of education, forfeiting the stigmatization of the short film as an immature and heavily commercial medium but rather as an educational means to visualize information. This artic structures the arguments through three subject fields: education theory, film art theory, and case studies of the pandemic's effect on learning to answer the following questions:

1.How do we learn?
2.How is the pandemic changing the way we learn?
3.How can we learn through short films?
4.What are the problems? How to execute?

2. HOW DO WE LEARN?

From a neurological standpoint, the fundamentals of human learning lie within the neuroplasticity of the brain: the brain's ability to change and adapt. Our brains constantly change while we acquire new knowledge. This process of learning new information is formed by creating new synapses, connections within neurons that send electrical or chemical signals to each other (Sarrasin et al. 2-4)[2]. In order to learn, we need to remember, which goes through the three stages of memory processing: encoding, storage, and retrieval. Through repetition of the retrieval process, the neurological act of remembering, the connecting synapses become more vigorous and transmit information faster from time to time, which explains how people learn to get better at things.

From the education theory perspective, learning is the repetitive process of remembering useful information. Education is more than just learning, receiving knowledge; but also the act of teaching knowledge. Therefore, the way the learning process is structured makes difference. Educational theories developed from traditional, behaviorist teacher-led classroom structures to constructivist student-centered theories and beyond.

During the 1950s, educational theories focused on the teacher-led learning setting famously with Skinner's *Law of Positive Reinforcement*, or operant conditioning based on Thorndike's Law Of Effect (Moore). With the law of effect establishing a correlation between behavior and consequence, Skinner emphasizes the importance of reinforcing positive behavior, in that *"people learn best for being rewarded for 'right responses"* (Moore 3)[3]. Students were merely considered receptive and passive learners, allowing the teacher conditions acceptable behaviour/information. Though reasonable on animal experimentation on the "Skinner Box", a variation of Thorndike's puzzle box that conducts operant conditioning experiments by recording and reinforcing animal behavior, these theories of learning through operant conditioning now seem too simplistic by reducing the human learning process to mere behavioral conditioning, overlooking necessary concepts of failure, interaction, and the issue of motivation of the reward setting itself. Though simplistic Skinner's views on learning may be, the idea of reinforcing positive behavior and punishing negative behavior does set a foundation for understanding learning today.

Going forward to the 1970s, educators grew an emphasis on the active learner. Influential theorist on education theory, Jean Piaget, shifted the focus from behaviorism to constructivism, advocating for student-centred teaching as the active learner, recognizing students as independent and can "construct' knowledge" of their own (Moore 6; Doran and Cameron 15-23)[3][4]. Constructivism set the foundation for recognizing students as independent and actively learning, introducing learner autonomy through establishing cognitive development theories.

The active learning theory became the basis for education theories favored in the 1980s by Vygotsky. He furthered Piagetian theory by recognizing formerly overlooked aspects of the social and cultural effects on teaching and learning (Doran and Cameron 15-23)[4]. This propels another shift from the child to the curriculum, focusing on Vygotsky's "formal discipline" that teacher instruction can aid the student's development in various subjects not restricted to the subject taught.

Building off his predecessors, Vygotsky and Piaget, Bruner takes the curriculum's focus into more recent theories in the 1990s of metacognition that accentuates learners' self-perception, self-evaluation, and learning autonomy. The metacognitive approach centers on "reciprocal teaching" (Doran and Cameron 15-23)[4], following four learning strategies: summarizing, questioning, prediction, and classification. This strategy has similarities with the Socratic teaching method with incorporating questioning in the learning process, thus, allowing students to self-evaluate the learning progress through teacher supervision (Abrams 562-85)[5]. This partnership between the teacher and student encourages dialogue, connectivity, and intrinsic motivation, providing an ideal learning environment that offers learners greater knowledge and autonomy for learning. Acknowledging the importance of self-evaluation and reflection is the foundation of today's higher education learning structures.

Education theory is constantly updating and developing newer and better theories to create an ideal model of teaching and learning. However, these models

implicitly assume that education will continue to be in-person. As Covid 19 has been declared a worldwide pandemic in March 2020, schools and in-person learning have been forced into lockdown, compelling educators today to reevaluate how the teaching should be carried on under current status.

3. HOW IS THE PANDEMIC CHANGING THE WAY WE LEARN?

With the placing of quarantine and social distancing restrictions, schools face severe disruptive impacts, prominently with connectivity and widening academic achievements. As educators worldwide were forced hastily into forfeiting in-person instruction altogether, this drastic change in instructional mode created significant problems in teaching and learning.

According to UNESCO, 1.5 billion learners worldwide are affected by school closures ("Education") [6]. Most distance learning structures use the synchronous online conference to replace in-class lecture and seminar discussion, asynchronous recorded video lectures with short assessments throughout the course, or a hybrid model. All three of these structures are flawed to some extent.

Connectivity (social contact, student engagement) remains problematic with remote learning. Some arthors emphasize the school as is a place to build essential social and emotional skills (Felter and Maizland) [7]. Vygotsky's theories on education also rely on seeing learning as "*social activities*", stating "*human learning presupposes a specific social nature and a process by which children grow into the intellectual life of those around them*" (Moore 14)[3]. However, such social connection and dialogue changes dwindle with physical distance in all three structures. Asynchronous structures rely on textual communication and formal assessment to measure learning results. The lack of social cues in textual communication requires a higher degree of social skills to decipher ambiguity in communication that is natural in conversation (Hara 569)[8]. Distress in understanding instructions will lead to further misinterpretation resulting in negative consequences. The delay in response can also lead to an overwhelming feeling by the learner and inhibit further communication.

While synchronous structures have immediate responses and verbal communication during class, attention spans decrease tremendously online. Shrier defines this as a "cognitive bubble of focus" and "lack of effective collaborative spaces" with in-class environments that online conferencing cannot mimic (64-73)[9]. The toll on engagement is too big to consider these structures a replacement for in-person learning.

As connectivity is considered a significant part of education, "*Remote Learning and Digital Access*" Stresses the problem of the underconnectivity of remote learning (Katz Rideout, 19-22)[10]. Half of the students report being under-connected and unable to access remote learning. Besides students without access, 32 per cent of students with access to remote learning still report experiencing disruptions. To solve the lack of connectivity with fully remote instructional models, the hybrid model, having students online along with students in-person through synchronous online conferences were created. However, after one year in practice, the hybrid model may not be as successful as it previously thought

Shrier describes the current failures of the hybrid and "mixed-mode models" of teaching (64-73)[9].

Contrary to a common positive assessment of incorporating a mixed model rather than a fully online or in-person structure, Shrier also criticizes the mixed model by acknowledging the unique benefits of remote and in-person learning and the nullification of those benefits once mixed (64-73)[9]. The mixed-mode model does not guarantee teacher safety, as the teacher still must lecture in person; more importantly, the mixed-mode distracts group interactions and digital capabilities that can occur in in-person or fully online structures due to the lack of an engageable environment. Whether the hybrid model out of the picture means fully remote models are better is worth finding out.

Remote education did not just appear since the pandemic. Former experiments long before the pandemic have been carried out for decades in higher education institutions through MOOCs and massive open online classes. According to Shrier, the success reomote education implementation by the top universities such as Harvard, Oxford, and Cambridge, students worldwide were given new opportunities to study from elite institutions at no cost (64-73)[9]. However, studies show there was only a three per cents completion rate. A common problem with remote learning is students' lack of motivation to engage with the class fully.

Thiss article argues that other remote learning devices must be adopted to improve student engagement and learning motivation. Shrier stresses several elements essential to a possibly optimal solution to future education: serendipity/connection of the students, instruction/training to the educators for new models, and access/digital literacy of technology (64-73)[9]. Therefore, this article proposes that incorporating short films in an online structure will be ideal.

4. HOW CAN WE LEARN THROUGH SHORT FILMS?

It is almost an innate ability for humans to grasp the rules of comprehending motion pictures instantly. Dating back to the visual culture of the Upper Paleolithic period, humans have always exhibited a unique ability as a species to understand symbolic behavior and imagery through translating real-world, three-dimensional

existences (and possibly four-dimensional time) to two-dimensional representations in the form of drawings/images. Comprehension of these two-dimensional representations is what called *"pictorial competence"*, hence, learning through the visual (Nowell 889-899)[11]. However, the inaction of drawings meant cave paintings can only mimic movement and time and cannot grasp reality as does the moving images of the film. The multidimensional stimulus of the film format has great influence and potential in learning (Maghadasi) [12]. The neuroscience of film also supports this argument, showing a universally high influence of film on the human brain. A study by Hasson et al. measured "inter-subject correlation analysis", the similarity in brain activity of viewers watching a narrative, structured film, and unedited everyday video (1-26)[13].

Data shows that participants respond to movies with higher similarities in brain activity and eye fixation, while the unstructured video has the lowest. This outcome suggests that the structured film grasps the audience's attention and transmits information in a universally comprehensible way. However, the longer formats of the film are innately flawed to induce thinking. Maghadasi suggests cinema as capable of destroying free will due to its influence neurologically (180-184)[12]. The film, in nature, even in documentary cinema, is subjective and suspends disbelief contrary to the purpose of education, which should encourage the questioning of authorities. However, the short film structure dedicated to education is a very different format than the entertaining narrative feature and can be an appropriate tool for learning better than its longer forms.

The 94th Acadey Awards define the short film as "*an original motion picture that has a running time of 40 minutes or less, including all credits*"(1-4)[14]. In the early era of cinema, when the film was still a new technological invention, the short format, including actualities, newsreels, serials, travel films, and animation, dominated the period from mide 1890s till early 1910s until the advent of the feature-length. As the early era of cinema has been considered to be primitive nowadays, the short format has also grown out of domination, limiting to the student body as a practice format in preparation for longer lengths, noncommercial forms such as documentary, avant-garde, essay, educational, or commercial means for advertising products. However, it is precisely this short format that makes short films suitable for teaching and learning.

Some people defines the five essential parameters in narrative short films: Causality/Choice, Consistency/Surprise, Image/Sound, Character/Object, and Simplicity/Depth (Raskin) [15]. While Causality/Choice, Consistency/Surprise, Character/Object are consistent qualities in the feature, Image/Sound and Simplicity/Depth are elements more

evident in the short film format that can be more encouraging of learning processes.

Image/Sound, according to Raskin, is the dynamic interplay of image and sound. The film allows more room to communicate visually rather than verbally in the shorter format, as many of the best short films tend to keep dialogue to a minimum. Such visual communication allows viewers more interpretation and reflection upon the subject, which also stimulates better discussions, contradicts to the feature leading to a specific understanding.

Facilitating discussions through short films also plays into the Simplicity/Depth aspect. Since the format is succinct, the script must be simple enough to maintain the time limit. Such simplicity in format allows the audience time and space to reflect on the information presented. Presenting a straightforward short story allows better interpretation. Furthermore, simplicity, in this case, is not the antonym of depth. As depth is also needed in facilitating useful discussions necessary to learning processes, it can be presented in several ways through a short film. The depth can occur in a reasonable short as "*an inner space within a character*", "*temporal depth*", "*depth of feeling within the viewer*", or "*underlying meaning or openness to interpretation*"(Raskin) [15]. The multidimensional complexity in depth creates infinite possibilities of curating content. If a teacher can hone this device, it can allow teachers customization of content and flexibility with technology that maintains comprehension, attention, and engagement.

Vygotsky thinks of learning as "socioculturally and historically situated" (Basmadjian 14)[16], emphasizing the learning process to be interconnected with interaction within and beyond the individual. Building from Vygotsky's thinking, activity theory argues that the learner and the intended learning concept need to be linked through a tool. Traditionally, this tool would be language. However, considering the transition through the visual presents more possibilities. Using the short film as the mediation tool can act as a better tool of reality, surpassing language boundaries and ridding of the different translations of imagery but still with pictorial stimuli. Meanwhile, the visual needs no translation.

Bruner's intersubjective learning theory focuses on reflection as the fundamental learning process which is the self-understanding (Moore 24)[3]. Notably, Basmadjian uses videotaping discussions within the classroom to improve teachers' analysis of situations and student understanding (13-38)[16].Through watching the recorded discussion, a second discussion through reflection is formulated. Using film as a recording tool allows a chance for reflection and self-evaluation among students more directly than the traditional theory through assessment.

According to Shrier, eighty percent of video view time has decreased with video streaming post-pandemic. Hour-long lecture videos will not suffice to maintain learner attention spans throughout the class (64-73)[9].

Shrier also states that students gain only 20 per cent of knowledge on zoominar than the regular classroom structure (64-73)[9]. The truth is that current remote education structures are failing. With learning dependent on interaction and contact, we have never been so shunned from human contact entirely on such a mass scale. Professionals speculate the effects of the pandemic are not going to go away any time soon.

Engagement, attention, and creativity are paramount with an increasing sign of fatigue within a current distance structure. Over 40 per cent of individuals report being exhausted due to being on webcams, with "The younger the survey responder, the higher the degree of reported exhaustion". The structured and scripted short film is the future of distance learning, and it was already in use by creative teachers around the world decades ago. Burmester wrote his experiences as a teacher using film to teach for more than fifteen years in The English Journal (87-89)[17]. Through teaching experience, he contends the short film provides greater flexibility for the teacher to construct lesson times, stimulate writing and understanding of subjects. Kabadayi devised a study that directly states that the short film made for the class enhances memorization, comprehension, supports creativity, and is economical in creation (316-320)[19]. Although there will be several predicaments in adopting a new method to mediate learning, many theories today come up with solutions that outweigh the change.

5. WHAT ARE THE PROBLEMS, AND HOW DO WE SOLVE THEM?

So, what are the problems with adopting this change to the visual?

First, some researchers will propose that there could be student and teacher resistance in transitioning to a new way of teaching and learning. Students may not get used to learning through watching, as they are used to conventional structures in the classroom. However, this is simply not true as the neuroplasticity of the brain hypothesis argues otherwise. The neuronal recycling hypothesis of the brain contends that though our neuronal systems formulate with previous experiences, such as learning through reading, the plasticity of the brain allows us to learn with new stimuli such as learning through watching (Knowland and Thomas 106)[20].

Furthermore, younger generations are always more accustomed to media and technology. Burmester states "*average young people spend twice as much time watching television as they do attending class*" (66-72)[18]. With the film in constant contact throughout childhood and adult life, using the tools that learners are

familiar with will help grasp information more quickly and willingly.

Teachers are trained to teach in a certain way they are accustomed to, therefore, the strong resistance from teacher about implementing film in teaching is inevitable. Changing this pattern that is shown to be successful pre-Covid will be difficult, but this change is meant to be happened. Transition to distance learning was unavoidable when schools went into lockdown during the pandemic. Teachers have no choice but to reconstruct the learning model with the help from technology which they may never used in the class before, such as synchronous online conferencing. Jansen and Theola Claim the teacher in the post-pandemic era needs to be more adaptive to the new teaching tools (149-57)[21]. With the norm changing to an intrinsic technology society, teachers will need to apply new devices implementation into the teaching process. The solution to this problem is that teachers must be trained to use and make short films. Visual literacy, though inherent, will be essential to be embraced in teachings going forth.

Secondly, more preparation time will be needed to incorporate a visual model. The integration of film into daily teaching require both preparation for teacher and content producers. Since we are already forced into remote learning in mass, this is possibly the best time to experiment with new ways of learning. Teachers are already familiar with storytelling. Directed instructional videos can be made to instruct teachers on the fundamentals of filmmaking. Short films for education do not require large film crews or high artistic quality. They are tools to transmit information. Therefore, even a camera on the phone with one curator will be qualified for the making. Many phone companies are already encouraging using phones to shoot vedio. Another possibility is a collaboration between teachers and filmmakers. In a directed experiment, a platform that could be created to help teachers in this process to make films together, possibly placing film students that need experience filmmaking with a teacher in need of an instructional film.

Thirdly, accessibility of internet is also a big challenge. The digital divide is real. Anima Mohammed, UN deputy-secretary-general, stated that 3.7 million people worldwide lack digital access ("Don't Let the Digital Divide Become 'the New Face of Inequality'")[22].

Learners without access to the internet or interruptions in access will cause learning outcomes to be disappointing, causing a growing gap of education inequality through access to digitalization. Access is always a problem with education. However, adopting a visual model promotes access to higher education accompanied by technological advancements. On January 10, 2020, China's first self-built satellite mobile communication system, Tiantong System, officially

provides services fully covering China's territories, providing solid signals to people in remote areas. Shrier gave an example of a herder's child getting acceptance to MIT by excelling in an MIT MOOC course in Outer Mongolia (64-73)[9]. With technology advancing to provide IT infrastructure throughout the world, people around the globe will be able to get access to high quality education contents. Short films are particularly useful in information spreading since it can be kept and transmitted easily. The essence of solving these problems lies in front to the adoption of the flipped model to present films.

6. HOW TO EXECUTE?

The Flipped model explained by Herreid and Nancy as *"what is normally done in the classroom and what is normally done as homework is switched or flipped"*(62-66)[23]. The essential of the flipped model is that passive learning (lecturing) is done outside the class, whereas class time is used for active learning (seminar), which was not a novelty idea since many elte universities such as Harvard and Standford had been adated this tachnig method fro nearly a decade.

In visualizing education, teachers can assign short films about the course work beforehand or previewed by the teacher to students outside of class. Class time through online synchronous conferencing will be left for discussions of the content, even simulations or experiments. this kind of the new establishment for classroom education will encourage active learning processes while not leaving out the needed lecture in the form of film. Lecturing through film will catch students' attention and interest more easily, increasing the rate of preparation of students in class. Student attitudes are shown to be more positive, and students themselves find the flipped structure effective in learning complex information in a survey collected by Kay and Kleskin (Herreid and Schiller 63)[23]. Studies on the flipped classroom structure also support adopting the flipped structure. Data resulted in students attending the flipped structure with higher scores and success in learning than standard lecture-based structures (Herreid and Schiller 63)[23].

Online Education is an evolving study; therefore, there are still many uncharted territories in its research. A more extended study period will allow me to further this issue, albeit because of the limit of this paper, I cannot research the problems as comprehensively as I would like. My current research brings me to a conclusion of such, which should be updated in the near future of education and film research.

7. CONCLUSION

With current remote learning structures unsatisfactory, incorporating short films will incite liveliness in a fatigued group of distanced learners. Keeping that in mind, it is not to say that visualizing education will be entirely positive. Hara mentions a promotional bias of internet-enabled distance education courses that should be avoided (557-579)[8]. Focusing on the learner's perspective and possible negative influences of underconnectivity is important in enhancing the learning experience. In "Ars Poetica" by the Roman poet Horace, he says: "*The poet wishes to benefit or please, or to be pleasant and helpful at the same time*". As poems are meant to instruct but also entertain at the same time, so does learning. Vallerand states that model of intrinsic motivation, students need to feel encouraged and disciplined as well, all positive feelings are motivate students to gain autonomy in learning (312-318)[24]. As previous studies have proved, passive learning through lecturing will not bring joyful in the study, especially in a distance learning format devoid of social cues. Hara concludes that feelings of confusion and distress in web-based learnings are primarily due to the lack of physical cues leading to ambiguous instructions/comprehension and delayed responses (566)[8]. However, using a flipped format accompanying short films for learning should resolve these negative feelings because synchronous online conferencing now is already different from communicating fully through email in her studies in 1997. Although the feelings of psychical isolation cannot be resolved, confusion in instruction, self-evaluation, and low attention span should resolve with engaging video instructions.

People will benefit from further studies in the visual form of learning structure in neuroscience, behavioural psychology, education theory, and film theory. These studies will inform people more about the learning outcomes and learner psychology, which will teach educator to provide better access to students as an educational institution. It is up to academicians and educating practitioners to make the transition; in the process, students and teachers will gain more visual literacy. This research need to be held to gather more statistics on learning outcomes and learner psychology. Teachers need to be instructed on making films and provided access to these instructions. Visual literacy needs to be promoted and embraced among students and teachers. Nevertheless, some work still needs to be done because many theories, such as multimode deliveries, will become the norm in education post-pandemic (Lockee 5-6)[1]. Online education has a mass audience today due to Covid-19, and it will continue to have an audience surpassing the pandemic for its accessibility and the endless possibilities it provides.

Combining film and education has never been a new idea. Using entertaining film to educate has been a successful and creative vision since the 1970s when the U.S. education practitioners initiated collaboration with the filmmakers (with grants from the National

Endowment for The Arts and Humanities) on public broadcasting programs that many successful projects were developed, such as *Sesame Street* and *Mr. Rogers' Neighborhood*. Together, filming and education industry created new content based on learning theory with endearing outcomes. Bruner advocated incorporating imaginative activities in the coursework using visual aids like film and gaming through the American humanities teaching program, *Man: A Course of Study* (Moore)[3]. during that time, As filmmakers and educators have successfully combined their skills, why should we not pick up this tool for education today?

The ongoing pandemic is horrifying for humankind and destructive to the education industry, but online education in mass isn't necessarily so. Based on Horace's ideas, I believe entertainment is key to learning. The art of storytelling is similar to education, it needs to be capitative and nutritious. With the film being commercially contested, less emphasis on its social value and its educational possibilities will create new arisings. The combination of the entertaining form of film and distance education practices will be the future.

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