Reflections & Literature Reviews
Mingyu Li

I.   *Video in Teacher Education*

I have strong interests in integrating multimedia elements into daily face-to-face or online teaching and learning. It's also a good chance for me to explore research papers and augment my theoretical basis. To better understand the topic, eleven research papers were included in the answer, including one commentary article, two former literature reviews, and eight research studies. The papers were collected from various countries, running through North America, Europe to Asian, which on the other hand verifies the wide application of video in teacher education.

The studies share a consensus that is only after the advent of high-speed Internet can the video be disseminated in teacher education field, since the development of technology makes it possible for less time being used for transmitting and downloading the videos (Clarke, 2009; Gaudin & Charliès, 2015; Kay, 2012; Masats & Dooly, 2011). In addition, thanks for the cheaper service of Internet as well as the availability of devices, a study done by Kleiner, Thomas, & Lewis in 2007 (as cited in Han, Eom & Shin, 2013) shows that 85 percent of teacher education programs in US higher education institutions offer educational technology courses. What's more, in the past 10 years, multimedia, video element especially, is increasingly being used in pre-service and in-service teacher education all over the world (Gaudin & Charliès, 2015). Although there are some challenges existed in the development of video being used in teacher education, the benefits of it cannot be ignored. The studies explored for this question covered several angles of the topic and the detailed analysis can be retrieved in the following paragraphs.

Based on the literature review done by Gaudin & Chalies (2015), among all the two hundred and fifty-five papers being examined, there are mainly six ways or objectives to use videos in teacher education including (a) showing example teaching practices, (b) presenting teaching contexts, (c) analyzing teaching practices from different points of view, (d) students' reflections, (e) coaching teaching, and (f) evaluation and assessment. The research studies explored for this answer fall into several categories listed above but according to the origin of the video resource, there are two types: videos prepared by teacher educators and videos prepared by student teachers. Video in the first type, which means prepared and showed by the teachers, are used either for showing teaching practices or for assessment. The second type of video is created by students themselves for the purpose of recording their reflections after teaching practices. According to the requirements of the question, the research studies are supposed to be analyzed from research questions to conclusions.

Purpose of The Research & Problems Being Investigated

No matter what kinds of problems the researches focused on, all of the studies aimed at finding ways to scientifically integrate videos into the current teacher education programs of university level. The problems contain several aspects of the topic, such as the instructional strategies for integrate videos in teacher education programs (Masats & Dooly, 2011; Seidel, Blombeg & Renkl, 2013), the effects of video case-based learning on student teachers' knowledge integration

(Han, Eom & Shin, 2013; Marsh, Mitchell & Adamczyk, 2010), the advantages and challenges of reflective videos created by student teachers themselves (Clarke, 2009; Kitiyanusan & Soontornwipast, 2011; Yang, 2014), the effects of using a video-based standardized assessment (Wiens, Hessberg, LoCasale-Crouch & DeCoster, 2013), etc.

Literature Cited

Among the 11 research papers examined for the question, the researchers cited over 600 papers and articles in total. Resources come from various means including magazines, international journals, books and national databases. For example, they have references cited from the book *Using Video in Teacher Education* and the international journal *Journal of Mathematics Teacher Education*. Also, as is mentioned at the beginning of the answer, the researches are done under international contexts thus the resources of their citations stem from different regions but mostly written with English.

Research Questions

As is described in the section of "Problems Being Investigated", the research questions can be categorized into several types. For the *videos prepared by teacher educators*, research questions include: what are the impacts of two different instructional strategies for using video on pre-service teachers' pedagogical knowledge (Seidel, Blombeg & Renkl, 2013), how to effectively integrate videos in guiding student teachers towards their professional development (Masats & Dooly, 2011), what are the effects of case-based learning on pre-service teachers' consciousness of using technology in teaching (Han, Eom & Shin, 2013), and what are the effects of implementing the Video Assessment of Interactions in Learning as a standardized measure of pre-service teacher learning (Wiens et al, 2013). As for the other category, which is videos prepared by student teachers themselves, research questions are similar to each other, which can be summarized as what are the effects of teacher students creating reflection video of their own (Clarke, 2009; Kitiyanusan & Soontornwipast, 2011; Yang, 2014).

Research Design

Most of the research studies explored for this question belongs to the case study, although some of them are also combined with methods of the survey study. For example, in a case study done by a group of Britain researchers (Marsh, Mitchell & Adamczyk, 2010), they investigated the effects of a teacher education project at the University of Sussex, during which student teachers watched and discussed the class teaching practice videos recorded lively in a local elementary school. During the two-year study, they surveyed and interviewed student teachers and teacher educators individually as well as collectively. They also investigate how student teacher performs during the video viewing and discussing.

There are also other two research studies applied experimental methods, one of which was taken with student teachers in a private university of South Korea (Han, Eom & Shin, 2013). Researchers chose student teachers upon some similar characteristics such as the same grades, and then separated them into two groups. Before dividing them, researchers also used survey

method to make sure student teachers' beginning knowledge level were not so disparate. Then the student teachers started to take the same course along with the same tutor. The only difference was the teaching methods applied. One group of them experienced watching case-based videos during the class and joining in the discussion. On the contrary, the other group of student teachers only followed normal teaching methods without any video viewing. Thus it formed the experimental research design.

Participants & Settings

Since the purposes of the researches are basically united, which is exploring aspects of effectively integrating video learning into teacher education, there is little difference concerning the participants and settings. Even the studies were done in various countries or regions, researchers all set higher education institutions as the basic setting. One of the reasons for the decision is that no matter in which country, most of the teacher education programs are only for institutions of university level.

Talking about the participants, following the rule of voluntarily participating, researchers applied methods such as the survey study, to collect participants' personal information needed for the research. According to the studies, the largest size of the participants is 267 in a research done at a Mid-Atlantic university's teacher education program (Wiens et al, 2013). The smallest size of the participants is 42 in a research done in a teacher education program in a Canadian university.

Data Collection & Data Analysis

Numerous methods are employed in the researches for the data collection thus quantitative as well as descriptive data are all available in the studies. Some papers applied prior knowledge tests to collect and analyze data for the purpose of making sure that the participants are at the similar starting points. For example, the study done in South Korea applied revised TPACK (Technology, Pedagogy and Content Knowledge) survey to do the pretest (Han, Eom & Shin, 2013). Individual and group interviews can also be seen in the studies (Marsh, Mitchell & Adamczyk, 2010). Besides, some individual productions during the study are collected and analyzed as well, such as videos created by the student teachers and descriptive interview transcripts (Yang, 2014). Also, in the research done by a group of US researchers, they incorporate an assessment called VAIL assessment, which means Video Assessment of Interactions and Learning (Wiens et al, 2013). The method is not only their major source of date but also the key focus of their research questions.

Following the data collection here comes the process of data analysis. Just as mentioned in the last paragraph that several methods are incorporated during the data collection stage, various ways of data analysis are borrowed by the researchers to test their hypothesis. For example, mean, standard deviation and linear regression are used by the study researching on the standardized video-based assessment (Wiens et al, 2013). Correlation analysis is employed in the study exploring instructional technologies for using video in teacher education (Seidel, Blombeg & Renkl, 2013).

Conclusions, Implications and Recommendations

It's not difficult to be aware of the fact that the conclusions and implications provided by the studies all approved the great advantages of using video in teacher education. No matter for the videos prepared by the teacher educators for viewing and discussing as the case learning or for assessment, or the videos prepared by students themselves to reflect their teaching practices, they are advantageous for the teaching knowledge integration. The advantages include (a) student teachers learning experiences from professional teaching practice and transferring them to their own future teaching (Gaudin & Charliès, 2015), (b) student teachers being more activated in group discussion and thus community-engaged scholarship will be established (Gaudin & Charliès, 2015; Yang, 2014), (c) developing critical and descriptive reflections (Gaudin & Charliès, 2015), (d) enhancing technological confidence (Yang, 2014), (e) cultivating multiple abilities such as aesthetic sensibilities and audiovisual techniques (Yang, 2014), (f) video cases being more dynamic and able to present student teachers with multiple angles thus being possible to evoke much more discussions and reflections (Han, Eom & Shin, 2013).

Except for the evident advantages of using video in teacher education, the studies, on the other hand, forward several challenges that may cause obstacles, for instance, (a) the unfamiliarity of using new software to create videos may add more pressure on student teachers (Yang, 2014), (b) some contents are not easy to be edited into videos such as clickable hyperlinks (Clarke, 2009), (c) technical issues as well as unplanned talking in the video reflections may cause more time waste than in the normal paper-based reflections (Clarke, 2009), (d) it requires teacher educators to spend more time searching for videos with proper contents and length (Kitiyanusan & Soontornwipast, 20).

Researchers also provide detailed information towards the limitations and recommendations for the future research on the topic. Some of them include (a) no longitudinal data. The study on the instructional strategies for integrating videos in student teacher preparation recommends that future research should put more emphasis on the long-term effects as well as how the knowledge gained by video would help student teachers' future teaching practices (Seidel, Blombeg & Renkl, 2013). (b) sampling errors. The same study mentioned above also suggests that other researchers should not be limited to one type of learner group (Seidel, Blombeg & Renkl, 2013). In addition, the research on the effects of using multimedia, which means video in the study, admitted that they used a convenience sampling. Future researches should randomly select participants from a large base number of people (Han, Eom & Shin, 2013). Since the research only studies two instructional strategies, more investigations towards single strategy or mixed strategies are needed (Seidel, Blombeg & Renkl, 2013). (c) video types. A study mentioned that since they noticed some teaching practice videos can be presented with avatars, or to say animations, future studies can expand their exploration on the effects of those type of videos instead of limited within videos recorded in real settings (Clarke, 2009). (d) psychological interference. One of the case studies puts forward the idea that student teacher's performance may be influenced by their psychological activities. Viewing videos in public or in private may generate different responses (Masats & Dooly, 2011). Thus later researches may want to take the idea into consideration.

Self Reflections

Since my grandpa and my parents are all former teachers in China, I was dreamed about being a teacher myself, which drives me to be interested in all of the topics related to the keyword, teacher. Reading these articles concerning video using in teacher education taught me a lot. Except for the paragraphs discussed above, I was impressed by the following two points which I could use and be careful with in my future learning and teaching:

1. Minimizing the gap between technology and methodology.

Several studies I explored for this question present the idea that nowadays, one of the major problems in teacher education field is the isolation between technology and methodology (Han, Eom & Shin, 2013; Martinez, 2010). Personally, I feel related to the thought. The idea reminds me of my undergraduate study in China. At that time, we were required to design a website guiding students to attend a virtual online course. All of us know how to build a website but being the lack of the support of methodology, we all had something missing such as the assessment instruments or the pre-tests. Just as what is said in one of the studies, "video is not effective in itself" (Seidel, Blombeg & Renkl, 2013). The key point should be how could teacher educators integrate the video into daily curriculum scientifically to realize the teaching objectives instead of simply learning a new program (Gaudin & Charliès, 2015). It teaches me that in my future learning of instructional technology, especially when I learn a new program, the related instructional strategies should be elicited accordingly. Everyone can learn a technology application but what deciding whether he or she can be regarded as an instructional designer is whether he or she possesses methodology in mind to integrated the application with real teaching or training needs.

2. Influence of the former experience.

I was also inspired by the other two points from a study in which the author cited from Pajares (as cited in Masats & Dooly, 2011) that student teacher's teaching philosophy and technology used are generated based on their own learning experience. In addition, McKinney, Goldsby & Fazal (as cited in Masats & Dooly, 2011) also pointed out that student teachers would prefer to apply technologies in future teaching practices if they have learned the technology themselves when they were at school. I totally agree with the idea. Based on my experiences, I would be much more confident if I have learned something in class before when I need to teach my students the same thing. Confidence is so important for a teacher since one of the teacher's responsibilities is to make sure the students understand what he or she is delivering. Being familiar with a program provides teachers with the confidence that he or she can make students understand and be ready to answer any possible questions. They would not intimidate themselves thus they can choose to teach students the technology they have learned when they were in the teacher preparation stages themselves.

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II.   *Social Networking & Education*

The topic I choose for this question is Social networking, which is one of the hottest topics in the 21st century. We are actually living in a world in which people would not only care about their real life business but also be busy with creating online profiles for themselves. The development of technology makes it so easy that we just need to swipe a few times on the phone screens with our fingers then a bunch of information will be shared with friends or strangers in the social

networking world. It's easy to notice that social networking has been penetrating into areas of business and entertainment but besides which, education area is also adopting the application of social networking.

Social networking sites, known as SNSs, are services provided by the Internet for people to establish their profiles, make connections with online users and share messages (Boyd and Ellison, 2007). One of the major functions of it is to build virtue communities (Lester & Perini, 2010). Living in China for more than twenty years and staying in the US for one year makes me be able to experience people's different views towards several social networking sites and their possibilities towards being used in education.

Renren vs. Facebook.

Born in 2004, Facebook has become the most welcomed SNS with millions of users located in every corner of the world (Aydin, 2012; Huffman, 2013; Tess, 2013; Veletsianos & Kimmons, 2012). Several researches list a series of figures to prove its popularity. However in China, since the website is blocked by the government, billions of population have no choice to join the Facebook family. But at the same time, they have their own "Facebook" but in Chinese. The name of the platform is Renren, which means "Everyone is connected". Renren is established in 2005, just one year later after the born of Facebook. It requires users to register with their real names and profile photos, just like what Facebook do. Since the two websites are all popular among students, I was thinking there would be tons of research studies concerning the topics however the fact is that I was kind of wrong.

There are some studies concentrated on the effects of Facebook in education but all of them agreed that the research studies concerning the topic are comparatively thin (Buzzetto-More, 2012; Jain, et al., 2012; Manca & Ranieri, 2016; Veletsianos & Kimmons, 2012; Zaidieh, 2012). Not to mention studies on the influence of Renren, it's difficult to find articles researching on the topic. Some researches uncovered the fact that higher education faculty members do have the impression that using social networking sites, Facebook for instance, would be beneficial to student's academic performances but they just didn't put the idea into practices (Gewerc, Montero & Lama, 2014; Aydin, 2012; Veletsianos & Kimmons, 2012). Possible explanations and hypothesis are included in the later description in *Challenges* section of the answer. According to my own understanding and former experiences, education is a learning field that always goes with the newest technologies thus it's researchers' responsibility to study the effects of using these products in the education field. Think about the developing history of our education, telegrams, broadcasting, television, computer and Internet were all being applied to assist education researches. As of now, the hottest keywords are 4D and VR technologies. I have already seen products of 4D being developed by the companies, such as the 4D blocks of chemical elements (http://elements4d.daqri.com/), to be used for helping kids remember the elements.

However in China, just as I mentioned before, not so much studies works on the social networking sites and its influence in education. All of the articles I found are mostly discussing the negative effects of SNSs to college students' views of the world (Feng, 2011). They think students would accept any information posted in the online social world cause anyone could

register as a user and post messages there. In my mind, the studies are kind of overreacting. Another reason for the shortage of studies in my country is that even the distance learning has already started and still under development, face-to-face interactions and learning communities in the real world are the mainstream. People won't consider about using social networking sites in regular curricular. But, the researchers in the western world do suggest that more studies should focus on the topic since the predominant users of Facebook are students, then promoting students' engagement in the academic life with the integration of social networking sites may be a good choice (Aydin, 2012; Lester & Perini, 2010).

Weibo vs. Twitter.

Twitter is definitely the top three ones in people's mind when they see the word, social networking sites. Although having the limitation of 140 words for each single post, it still attracts over millions of users after being founded in 2006 (Gao, Luo & Zhang, 2012). What China has is a similar one, the name of which is Weibo meaning Microblogging. It also has a limitation of 140 Chinese characters for each post. Studies towards using Twitter in education are not large in number. For example, one study from China mentioned that there are more than 300 hundreds of research studies and literature reviews concerning the topic but they are not really focused on the common academic education (Yuan & Zhang, 2013). What they care about is how the college administrations can use Weibo as a window to disseminate thoughts and values of the Chinese Communist Youth League but definitely not using it in class as an assisting educational tool.

For the studies found in the western world, they paid more attention to the use of Facebook because compared with Twitter or other social networking sites, Facebook has more functions that may be applied to assist school education. When researchers mentioned Twitter, they are more inclined to use it as a complimentary tool in education, such as faculty members using Twitter to maintain their online profile and contacting with other professionals in the area, or students using Twitter to conduct self-study and share course information (Gao, Luo, Zhang, 2012). Talking about using Twitter for personal learning and exploration, I do have a little experience to share. One of my former assignments requires me to use some images from several online free programs. Being worried about the time limit, I didn't choose to use email to contact the companies asking for permission but directly tagged them in Twitter and it turned out that they replied me in a short time. This is how I get my learning resources on Twitter. More findings and implications of using SNSs in education will be followed in the next section.

Leaning Management System vs. Social Networking Sites

Several studies commented on the different uses of common Learning Management Systems (LMSs) as well as Social Networking Sites (SNSs) (Jucevičienė & Valinevičienė, 2010; More, 2012; Veletsianos, Kimmons & French, 2013). Usually when higher education teachers plan to transfer their traditional courses into online ones or hybrid ones, they may first seek help to put materials and assignments on the LMSs. The decision is primarily based on the fact that the institutions have available LMSs for their use. But it doesn't mean there's no pitfall in using LMSs to manage the course and connect students. Both of LMSs and SNSs have pros and cons when being applied to assist teachers maintaining their online courses.

The first significant aspect is the ability to reduce social isolation feelings of online students. According to our own experiences and also some studies researched for this answer, the faculty members admit that although the LMSs, such as Blackboard, are prevailing currently, because of their lack of efficient communication tools, they tend to create "single-user learning environments" (Conole & Culver, 2010). It's important to add more tools for quick and easy online synchronous or asynchronous communications (Jucevičienė & Valinevičienė, 2010). Considering about our own experiences, tools we use in Blackboard are Blackboard Collaborate, Message, Voice board and some other similar ones. The problem is that compared with hundreds of free communication applications online, they were very outdated no matter in the UI (user interface) design or the functions possessed. The designs are not user-friendly and not eye-catching. Everything seems needed to be updated. In addition, what's more annoying is that because receivers usually cannot read the messages immediately, it's very time-consuming and inefficient to use the Message function of Blackboard. Thus when we have group works to do, all of our group members choose to communicate out of the LMSs. Social networking sites, on the contrary, provide learners with efficient means of communication (Veletsianos, Kimmons & French, 2013). Instructors and learners are able to stay connected and exchange course information and questions in a much more effective manner.

However on the other hand, researches also showed that even the LMSs are lack of means for timely communication, faculties would not want to see that LMSs being replaced by SNSs (More, 2012). Several reasons are provided for this choice including the course management functions lacked in SNSs and other challenging issues existed in SNSs if being used for education, such as the protection of privacy and influences to faculties' professional career. These drawbacks are generated because of the inherent characteristics of social networking sites.

SNSs & Worldwide International English Education

One of the implications interested me a lot in the researches is that using social networking sites in English education has several benefits (Aydin, 2012). As noted in Tess (2013), a survey done in Malaysia by Kabilan, Ahmad, and Abidin showed that 74% of students responded that involving in social networking sites such as Facebook raises their interests in learning English as a second language. Another study done in Shanghai also received responses from students that more than 70% of them agree that Twitter was effective for the development of their English language skills (Borau, Ullrich, Feng and Shen in Tess, 2013).

I feel related to the implication that integrating social networking sites into international English education would be a good idea, of course the premise should be students are able to access the foreign SNSs. Involving students in the SNSs means they would be encouraged to post their daily status or share images there, which means they need to write sentences in English each time they post. And because of the fact that posts can be seen by anyone who is friend with them online, students would be more careful about the word choice and grammar use. No one wants to embarrass themselves in SNSs. In addition to posting more contents in English, the study also shows that more mutual communication in English has been elicited (Jain, et al., 2012).

Social Networking Sites in K-12 context

Most of the studies and literature reviews are done under the context of higher education institutions. However we cannot ignore the other important group of students who are K-12 learners. Since most members of the group are immature, they need more supports and protection when they get in touch with social networking sites. As noted in Huffman (2013), Arkansas Professional Licensure Standards Board drafted some guidelines for the SNSs tools under K-12 context, including providing students with accounts pre-set by the school instead of using personal accounts and teachers preparing detailed explanation towards why the social networking sites are incorporated in the curricula. Huffman (2013) also provides us with a model for the SNSs integration. Although the model is created under the context of K-12 stages, it has many implications for the instructors in higher education institutions. The model is called SIMPLE model, which includes (a) student/staff assessment, (b) inventory, (c) measurement, (d) planning, (e) leadership, (f) evaluation.

Some people may wonder about how can younger-aged students be involved in the social world for their education but in reality, its' happening. According to a study done in Macau (Kio, 2016), researchers found that the social networking sites used in secondary school are welcomed by the students and they want more school activities to be channeled within SNSs. In addition, one of the free online programs called Seesaw is a social networking site, in which children's accounts are assigned by the teacher and all of their posts can only be seen by their peers and teachers. The popularity of Seesaw is realized not only because of students' own enthusiasm on showing their projects in SNSs but also because of the suitable protection of their privacy.

Other Implications

There are also some other important implications in the studies I explored. The attitudes towards using SNSs in education can be influenced by the disciplines. Some studies found that scholars in areas of Humanities, Arts and Social Studies use SNSs more often than those in natural science fields (Dahlstrom & Jacqueline, 2012; Moran et al., 2012). What's more, social networking sites are crucial to the success of pure distance learning students for its functions of creating virtue community. A key point in distance learning is how to construct one's online social presence. Compared with communication through email or LMSs, SNSs provide platforms where learners are able to post images, videos and other materials that can help them build a more completed profile (Lester & Perini, 2010). With the establishment of social presence, more communications between learners would be generated and thus social isolation in distance learning will be reduced.

A consensus in the studies is that the researches towards using social networking sites in education are still under development and we need more references and evidence (Aydin, 2012; Tess, 2013). The researches also helped us to identify various challenges concerning the topic. Some of the challenges are generated by the educators and learners but others can be regarded as being elicited because of the intrinsic characteristics of SNSs themselves.

Faculties' Attitudes

As mentioned above, most of the studies agree that faculties possess positive attitudes towards social networking sites' benefits on education. However the members actually using it in

academic teaching practices are rare (Veletsianos & Kimmons, 2012). There are some worries towards faculty members' career development. Higher education institution faculties responded in the study that over exposure of themselves in the SNSs may cause adverse influence to their career profile. It's possible that their online connections to students and other colleagues may influence their institutional hiring and career promotion. Another concern is that there are not enough technological and methodological supports (Tess, 2013). Not like LMSs which experts have studied for a long time and most of the institutions are able to provide supports for using LMSs to manage online or hybrid courses. However, social networking sites in education are comparatively new to the field thus not enough supports and training are available. Faculty members worried about having no idea of how to integrate SNSs into the curricula. Besides, although social networking is so popular and already penetrated into every aspect of our lives, some scholars still haven't got in touch with it thus worried about the problems and challenges caused by the unfamiliarity (Gao, Luo, Zhang, 2012).

Intrinsic Deficiencies of SNSs

The existence of several drawbacks of SNSs reduces the possibilities and expectations of integrating them in learners' academic life. Privacy would be the first keyword jumping into our minds dealing with SNSs. Several studies showed concerns from the faculties and school administrations that students' privacy cannot be well protected (Gewerc, Montero & Compostela, 2014; Veletsianos & Kimmons, 2012; Zaidieh, 2012). Using SNSs in the curricula means that the information would be stored on third party servers, which is not a thing that the schools want to see (Lester & Perini, 2010). To protect learners' privacy, some studies mentioned a way of everyone creating a new and separate account for only course use (Lester & Perini, 2010; Huffman, 2013; Veletsianos & Kimmons, 2012). But even in this way, there are still some concerns such as how to deal with the friend requests (Veletsianos & Kimmons, 2012). You wouldn't want to hurt others' feelings by denying their request but you have to make sure the account only accept requests from members inside the course. In addition, if we substitute the LMSs with SNSs, there would be so many expected challenges. SNSs don't allow direct upload of documents such as word, PDF and PPT slides (Tess, 2013). Students would rely on other tools to receive documents from instructors and share documents among students, which makes it more complicated for the course management.

As for trends, after exploring the research studies and literature reviews concerning the topic, I have an impression that researchers tend to use the SNSs for additional supports to assist learning and teaching instead of using it exclusively. Also, most of the studies are under higher education context. The main contributions of SNSs in education are promoting class engagement, communication and information exchange among teachers, students and school administrations.

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