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BRINGING MEDIA TO CLASSROOM: INTEGRATING DIGTIAL MEDIA INTO STUDENT-CENTERED LEARNING ENVIRONMENTS
A Case Study in one Elementary School in China

ABSTRACT

This study is a case study of one elementary school in China. The purpose of this research is to understand teachers' conceptions and practice of integrating digital media and the relationship between Media Literacy 3Cs model and Student-Centered Learning Environments (SCLEs).

The main research methods are classroom observation and semi-structured interviews. Through examining three lower elementary teachers' conceptions, practice of using media in the classroom and reflections generated after class, the study applied Media Literacy theory and Student-Centered Learning Environments framework to create theoretical coding. Content analysis is used to analyze all the transcribed data including field notes and interview transcriptions.

The findings showed that teachers hold positive attitudes toward media integrations and they used digital media in classrooms in different ways. It also proved that Media Literacy 3Cs model has a positive impact on the building of student-centered learning environments. The outcome of the research could be helpful for researchers to understand teachers' conceptions of media use and their practices of integrating digital media in the classroom and the interaction between media use and Student-Centered Learning Environment.

Keywords: digital media, media integration, media literacy, primary classroom, Student-centered learning, teachers' conception

CONTENTS

1 INTRODUCTION

Increasing interest in the influence of media has heightened the need for media education. Media education enables young people to use various forms of media for communication, information acquisition in different contexts (Christensen & Tufte, 2010). Among media education researches, digital technologies or ICT (Information Communication Technology) use in education has gradually become a heated discussion (Pelgrum, 2001; Pelgrum & Law, 2003; Smeets, 2005; Kumar, 2008). According to Buckingham (2007), "the advent of digital technologies has provided significant challenges and opportunities for media educators" (p.111), and the meaningful and effective use of digital media in education helps students to develop media literacies. Media literacy is the aim of media education (Burn & Durran, 2007; Buckingham, 2003), and it refers to "the knowledge, skills, and competencies that are required to use and interpret media" (Buckingham, 2003, p.36).

Teachers' roles in media education in classroom are highlighted in many studies (Berger, 2017; Weninger et al., 2017; Taiwo, 2009). Butler (2010) mentioned that well-intentioned teachers would use videos and technology to include media in their curriculum. It would thus be of interest to learn how teachers integrate digital media in classroom under their own curriculum and how they reflect on their teaching experiences. Furthermore, the connection between media integration and student-centered learning environments has also become an interesting topic for scholars (Hsiao, Mikolaj & Shih, 2017; Neo, Neo & Kian, 2003; Kurniawan, 2018; Motschnig-Pitrik & Holzinger, 2002; Muianga et al., 2018; Bond, 2016).

This research is a case study in a Chinese private primary school with three teachers and one group of students. The primary focus of this paper is on teachers' conceptions and practice of integrating digital media in classroom and investigating the relationship between media literacy 3Cs model and student-centered learning environments.

Context of the Study

The study took place in an elementary private school in China. In Chinese education, private schools are not funded by the government and the tuition fee is relatively higher than other public schools. Students in this school have more fortunate backgrounds.

The school started from 2016. I called this school 'Potato school' as the school has created nicknames 'little potatoes' for children. The specialty of this school should be elaborated for readers to understand the context better. The school is an innovative school in China. Instead of following traditional exam-oriented teaching, the school focuses more on core competencies. On its official website, the introduction started with following sentences:

> As an education innovation project, Potato school is dedicated to offering a student- whole-person education by combining the leading pedagogy from around the world with China's culturally-rich curriculum (Potato School website).

Under the main Chinese curriculum, the school is unusual for the following two characteristics:

Student-Centered Learning and Project-Based Learning

Different from traditional teacher-centered teaching, the school offers student-centered learning within progressive pedagogies, including emotion awareness, project based learning, and real-world inputs.

The most essential pedagogy is Project Based Learning (PBL) and it is a separate course (Project lesson) which is held 3-6 times per week. PBL is a systematic teaching method engaging students through student influenced inquiry process around authentic questions and designed products (Hallermann et al., 2011).

Teacher-centered school

Compared to other Chinese schools, teachers in this primary school have more autonomy for choosing their teaching content and pedagogy. Teachers are encouraged to design innovative learning environments.

Their teaching missions are very ambitious. WISE *(World Innovation Summit for Education)* illustrated the goal as

To continuously drive changes in the education ecosystem through social innovation, and more specifically, the gathering and reorganization of social resources for a shared goal of education innovation (WISE, 2018).

The reason for choosing this school is, compared with other public schools, this new school is more likely to implement new pedagogies especially for digital media integration.

The branch school where I am working has opened in 2017 and now it has ten students in Grade Two and twenty students in Grade One. There are ten teachers in total. There are two Chinese teachers, two Mathematic teachers, one second language teacher, two teaching assistants. Two teachers are responsible for kids who live in school and one administrate teacher.

2 LITERATURE AND THEORETICAL FRAMEWORK

This literature review addressed the most important and relevant themes and theories in this study. Under media education research area, this study focuses on digital technologies use in education. Given that Information Communication Technology (ICT) use in education goes beyond teaching or learning with technology, the research introduced media literacy to provide more comprehensive perspective to examine digital use in teaching and learning experiences. Among all the factors that affect ICT use in classroom, teachers are determinants of implementing digital technologies in classroom. This study aimed to analyze media integration from teachers' perspective including conception and practice. Connections between media integration and student-centered learning and theoretical frameworks are elaborated in the last part. Research questions are located in the end.

2.1 Expanding ICT Use in Education from Media Literacy Perspective

Media education is "the process of teaching and learning about media" (Buckingham, 2003, p.4). Under this definition, media education includes all the education experiences related to media including education for media studies, media pedagogies, media literacy education or media use in education. In this study, media use in education is the main topic. It is also recognized as the usage of Information Communication Technology (ICT) in education.

In recent years, when digital media including the internet, mobile phones, computer, interactive television have become an essential part of most children's and youngsters' lives, media education goes digital to engage with digital technologies (Buckingham, 2007). There is little doubt that digital technologies use in classrooms centers on its potential benefits for education (Livingstone,

2012). The importance of teaching digital media has been highlighted by media educators (Tyner, 1998; Hobbs & Moore, 2013). At primary level, the importance and benefits of ICT use in education are also highlighted (Goodison, 2002; Dawes & Wegerif, 2004; Selwyn, Potter & Cranmer, 2010; Leask & Meadows, 2012).

The main argument for this study is that digital technologies use in classroom is more than teaching technical skills. Selwyn (2010) noted that teachers' use of digital technology in school is inefficient and tends to focus on the delivery of information. According to Buckingham (2007, p.112), digital media and technologies are more than means of delivering information and tools for teaching and the teaching purpose should also contain media skills to help students understand critique media. Livingstone (2012) also noted that the benefits of ICT use in classroom are hard to evaluate through traditional test scores and it is necessary to introduce media literacy to analyze the learning process. Media literacy is one of the basic outcomes of media education (Kupiainen & Sintonen, 2010). Hoechsmann and Poyntz (2012, p.1) defined media literacy as a set of competencies and relate them to the ability to interpret media texts and institutions, media production, and the analysis of the social and political influence of media in everyday life. The introduction of media literacy could address the soft skills and expand the expectation in ICT education (Livingstone, 2012).

One problem with ICT education is that there various forms of educational technologies in the term of ICT. In this study, to specify the case, digital technologies in classroom, ICT use in classroom, media integration or digital media integration refers to digital media use in classroom including digital media devices (laptop, projector and iPads) and digital media texts (image, video, emoji, photos and so on) .

2.2 Digital Technologies Use from Teachers' Perspective

Current researches of media use in classroom focus on the teaching impact (Smeets, 2005; Passey et al., 2004), teachers' perception and practice (Loveless, 2003; Hermans et al., 2008), and students' experiences (Goodison, 2002; Aesaert & van Braak, 2014; Hall & Higgins, 2005). Among these researches, given that teachers play a central role in organizing learning environments, it is very important to understand digital media use from teachers' perspectives

(Weninger et al., 2017; Berger, 2017). Meanwhile, the usage of digital technologies in classroom broadens the possibilities for teaching and learning while also bringing about challenges and difficulties for instructors (Uibu, 2008). According to two studies of Estonian and Chinese teachers (Uibu, 2008; Zhu, 2010), educational technologies do not change the nature of teachers' role, but they require to change and add the proportion of the roles. This study aimed to capture teachers' perspective by analyzing the whole process of implementing ICT in classroom including conceptions (before teaching), practices (during teaching) and reflections (after teaching) of media integration in classroom.

In order to find the factors that affect teachers' digital media use in classroom, teachers conceptions of media and education should be taken into account. Teachers' attitudes toward technology in education have a significant influence on media integration in classroom (Jimoyiannis & Komis, 2007; Ha & Lee, 2019). A study of English teachers in Singapore presented the correlation between teachers' understanding of media and classroom practice (Weninger et al., 2017). According to a research of primary teachers' beliefs in Belgium, teachers' beliefs are significant determinants in explaining why teachers adopt digital technologies to the classroom (Hermans et al., 2008).

Teachers' media integration practice remains as a complicate topic and researches examined teachers' practice from school or teacher level (Divaharan & Lim,2010; Petras, 2010; Buabeng-Andoh, 2015). ICT integration was analyzed in three secondary schools in Singapore from school level (Divaharan & Lim, 2010) and examined from teachers' level by questionnaire and interview (Petras, 2010; Buabeng-Andoh, 2015). In this study, ICT integration in classroom was analyzed from teachers' level by classroom observation of teachers' practice and interviews after class. A thorough analysis of teachers' perspective could be used to the further development of ICT use in classroom in future.

2.3 Media Integration and Student-Centered Learning Environments

Student-centered Learning Environments comes from Carl Rogers (1969) who recognized learning as a quality personal involvement. According to Brandes and Ginnis (1986), student-centered learning has following features: "the ownership

of learning is with the student; teacher acts as the facilitator and a resource-person; students are responsible for choosing and planning the curriculum" (p.12). The purpose of Student-Learning Environments (SCLEs) is to "provide interactive, complimentary activities that enable individuals to address unique learning interests and needs, study multiple levels of complexity, and deepen understanding" (Hannafin & Land, 1997, p.168). The focus of SCLEs is the question that learners attempt to solve so it could be also constructed as problem-based learning (Jonassen & Dawsonera, 2012).

Researchers have found that technologies could contribute to student-centered learning (Sandholtz, 1997; Wang, Myers & Yanes, 2010; An & Reigeluth, 2011; Tucker, 2012). According to Selwyn (2016, p.26), "a key advantage of technology-based education is seen to be its positioning of the learner at the center of the learning process". Digital technologies played a vital role in students' learning process and learning environments especially for the presentation of authentic tasks and the fostering of active and autonomous learning (Smeets, 2005). Media empowers students to express their ideas and act as active learners (Neo, Neo & Kian, 2003; Kurniawan, 2018), and the combination with media could fully achieve the benefits of student-centered learning (Motschnig-Pitrik & Holzinger, 2002; Muianga et al., 2018). Among all the technologies, iPad integration in classroom is recognized as an effective way to enhance student-centered learning (Jahnke & Kumar, 2014; Sharick, 2016). Further updated research on how digital use influences student-centered learning could help teachers and educators understand their interactions.

2.4 Theoretical Framework

There are two main theoretical frameworks used in this research : 3-Cs model of Media literacy generated by Burn and Durran in 2007, and basic values of Student- Learning Environments (SCLEs) addressed by Land, Hannafin, and Oliver (2012).

2.4.1 Media Literacy 3Cs model

Consistent with Buckingham's theory, Burn and Durran (2007) produced a media literacy model by addressing the most important features and social functions of media literacy and Kupiainen (2013) also elaborated it. The model is shown as follows:

TABLE 1.   3-Cs model of Media literacy (Burn & Durran, 2007, p.12-16)

Cultural context	Social Functions	Semiotic processes
Lived	Cultural	Discourse
Selective	Creative	Design/Production
Recorded	Critical	Distribution
		Interpretation

The central part social functions are as follows:

Cultural function: It is about the cultural practice that people are engaged in with a highlight of the development of identity and selfhood. It refers to the media and popular culture around and cultural practices (Kupiainen, 2013).

Creative function: it is about the capacity of the creative acts to transform the creator through creating something different and valuable (Burn & Durran, 2007).

Critical function: it is the greater ability to read the text critically.

3 Cs model illustrates the social functions of media literacy and helps the researcher to understand media integrating practice in classroom and categorize various lessons.

2.4.2 Basic Values of Student-Centered Learning Environments

According to Land, Hannafin and Oliver (2012, p.8-15), basic values and assumptions of Student-Centered Learning Environments are identified as follows:
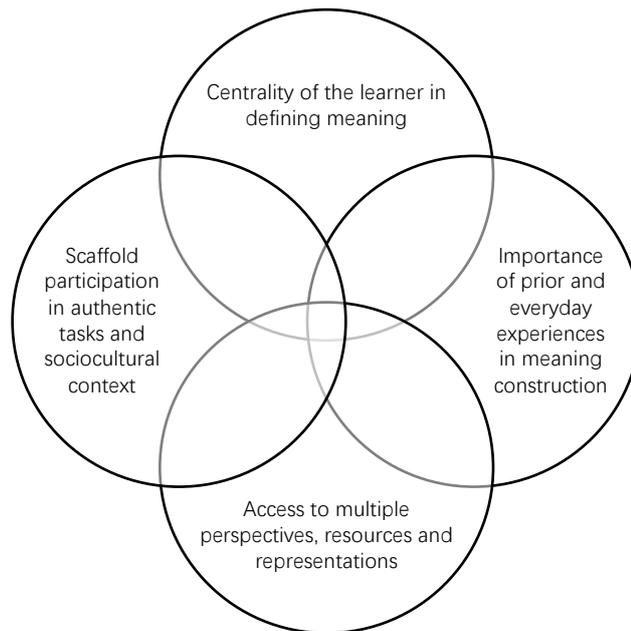
FIGURE 1.   Core values of SCLEs theory (Land, Hannafin & Oliver, 2012 p.8-15)

Land, Hannafin, and Oliver (2012, p.8-15) elaborated on these four vales:

a. The centrality of the learner in defining meaning

In student-centered environments, learners evolves more responsibility to choose learning content and pursue individual interests. It also assumes that learners have a participatory role and they are more motivated and active (Tudor, 1993).

b. Scaffold participation in authentic tasks and sociocultural context

Student-centered environments promote authentic practice and facilitate students with practical utility. Authentic context reflects the knowledge and skills used in real life (Gulikers et al., 2005).

c. Importance of prior and everyday experiences in meaning construction

Student-centered learning environments link learners' everyday experiences and build knowledge upon what they know. Teaching is connected to students' experiences and designed to increase relevance and engagement.

d. Access to multiple perspectives, resources and representations

Student-centered learning environments enrich and extend learning by providing various perspectives, representations and resources. Inaccessible concept and ideas are supported through multiple resources such as visual aids.

The basic values of SCLEs are considered as the foundation of the theoretical coding of teachers' reflective comments on teaching. The coding outcome presented the evaluation of the teaching effect and SCLEs building process.

2.5 Purpose Statement and Research Questions

The purpose of this research is to examine three lower elementary teachers' conceptions, practice and reflections of integrating digital media in classroom and understand the relationship between Media Literacy model and Student-Centered Learning Environments (SCLEs).

Based on the aim of this research, the research questions are as follows:

1. What are the teachers' conceptions and practices of integrating digital media in classroom in Potato School?

2. What is the relationship between Media Literacy Model and Student-Centered Learning Environments?

3 METHODOLOGY

The purpose of this research is to examine three lower elementary teachers' conceptions and practices of integrating digital media in the classroom and gain insight into the role of media literacy in constructing Student-centered Learning environment (SCLEs). The studies applied media literacy cultural-semiotic model (Burn & Durran, 2007) and basic elements of SCLEs theory including the centrality of the learner, scaffold participation in authentic tasks, prior experiences and multiple resources (Jonassen, Land & Dawsonera, 2012). This chapter will provide a description of the whole research design, participants, data collection and data analysis.

3.1 Design of the Study

The study is a qualitative study, as "qualitative researchers are interested in how people interpret their experiences" (Merriam & Tisdell, 2015, P.5). Using qualitative methods, the study consists of two main methods: classroom observations and semi-structured interviews. Observation is a direct and powerful way of learning classroom and teachers' practice, while the interview is an efficient and valid way to understand teachers' perspective (Maxwell, 2005).

To deeply understand the classroom practice, the research is conducted in a private school with three experienced main subject teachers. To make observations more specific and consistent, the observations were with one Grade Two classroom and lasted for three months. The observation started first and helped me to go deep into the classroom and addressed the classroom practice. The following semi-structured interviews were generated through the filed notes of observation and SCLEs theory. Each teacher had their private interview questions so that they could memorize their teaching plans and teaching effects.

3.2 Setting

The study was conducted in a private elementary school in Southern China. It has more than 200 students from kindergarten to grade five. Following the main Chinese curriculum, as mentioned before, one of their special missions is to construct Student-Centered Learning.

The branch campus opened in 2017. Now it has ten students in grade two (G2) and 20 students in grade one. I chose this campus also because I got an opportunity to work in this school as a teaching assistant for G2. Conducting research in this school where I was working has helped me to better understand the school environment and culture, especially the background information. I was very fortunate enough to participate in daily school life and deeply immersed into every class. Getting close to the classroom and students allowed me to build an intimate relationship with students and had more interactions with teachers.

3.3 Participants and Context of the Study

As a newly established branch, there are ten teachers in total in this campus. There are two Chinese teachers, two Mathematics teachers, one second language teacher, two teaching assistants. Two teachers are responsible for kids who live in school and one office teacher. I chose three teachers in G2 as the feasibility is taken into the account when they are chosen. They are also my colleagues and I was able to build a trusting relationship with my interviewers.

I chose three participants who were also my colleagues teaching in second grade classroom. As I was working in G2 classroom, I could spend lots of time with my participants. For six months' work, we cooperated very well with each other and they showed great passion for devoting themselves to innovative education. Three main subject teachers are one Chinese teacher, one Mathematics teacher and one second language teacher (English teacher).

For ethical concern, their names are anonymous and their backgrounds are stated as follows:

TABLE 2.   Participants Background

	Age	Gender	Nationality	Subject
Jenny	40	Female	U.S. A	English
Lee	33	Male	China	Mathematics & Project
Diana	29	Female	China	Chinese & Project

They all recognized their selves as Student-centered Learning (SCL) teachers and they are all experienced teachers. Teacher Lee and Diana were teaching in the rural area for two years and in the city for more than two years. Teacher Jenny has been working as a teacher for more than ten years. Since I started to work there, all my colleagues showed strong interests in media education and they also showed a strong willingness of participating in my research.

3.4 Data Collection

To understand classroom strategies and teachers' conception, this study is a qualitative research and multiple forms of data were collected. Interview and classroom observation are the main sources of data collection.

To have a better understanding of teacher's classroom activities, interviews were conducted after the observation of lessons. Teaching materials including teaching plans and students' work were used as supplementary materials. Teachers' names will not appear in the research in any way. All the classroom data including pictures, filed notes, students' work and teaching materials will be only used for research purpose.

3.4.1 Classroom Observation

Observation offers the opportunity to record and analyze behavior and interaction and it is very useful to investigate the process of involving many human participants (Snape & Spencer, 2007). The classroom observation is an essential part of my research. The data from observation is supposed to answer research questions and it is also considered as the foundation of the deep interview.

Classroom observation takes place in the G2 classroom. As I was the teaching assistant of second grade, I was working in this classroom all day from morning to afternoon. I spent whole days with class and had more opportunities to gain complete class observations. The main duty of my job was to stay in classroom and write on the laptop of teaching in class and give guidance for students with special needs.

Lasagabaster and Sierra (2011) attached great importance to the relationship between researcher and participants being observed, and the foundation of the observation is trust. From the start of the semester, all the kids know that I was the teaching assistant for their class, so they all trust me, and they would run to me when they have something to ask. All of them were used to my existence in the classroom. The students were not influenced by the conduct of observation.

In this school, the class start from 8:00-11:45 and 14:20-17:20. Each class lasts for forty minutes and there are seven lessons every day except for Friday, which only has six lessons. There are nine Chinese lessons, five Mathematics lessons and six lessons each week. Many lessons are going on every day. Considering of feasibility, instead of observing every lesson, I did event sampling and it involves specific instances of behavior (Vanderstoep & Johnson, 2008). Before the start of the specific lesson, I would check with teachers what are they going to do for this lesson. Research observation started when they were going to introduce digital devices. Sometimes there were also unplanned integrations going on, then I would also start observations.

"Observations, in which the research takes field notes on the behavior and activities of individuals at the research site" (Creswell, 2003, p.21). The main data of observation are field notes and they generated during and after the lesson. Concerned about field notes, according to Merriam and Tisdell (2015, p.141), these 6 elements should be taken into consideration: physical setting, participants, activities and interactions, conversation and researcher thoughts. The form of field notes is ready before the class and since the start of observation, the elements were filled in the form. Field notes including these elements were noted down and reflective components generated after class. Reflective components are beyond the factual description (Merriam & Tisdell, 2015).

Although there were iPads in the classroom but there were not many lessons could be defined as digital media integration as I thought. For three months' observation, there were only eight lessons were documented in observation form. There were more lessons with digital media, but some are same type of addressed lessons or the consecutive after them. Trying to make the sample more diverse, I chose the most typical ones.

Each teacher participant had three lessons observed (one lesson was taught by two teachers). At the meantime, with the permit of teachers, I took some photos and received teaching materials that they used in teaching.

3.4.2 Semi-structured Interview

The interview is a primary source of qualitative research (Merriam & Tisdell, 2015). It is a basic mode of inquiry, and it has been the major way to understand people's experiences (Seidman, 1998).

Three teachers concerned before were the main participants, each participant had a 30 minutes face-to-face semi-structured interview. "Semi-structured interviews begin with a predetermined set of questions but allow some latitude of breadth in relevance" (Freebody, 2003, p.132). The form of semi-structured interview could provide them more chances of expressing their thoughts and commitments.

Two interviews were conducted in school and one was in participant's apartment. Interviews were recorded and transcribed. As mentioned before, the data of classroom observation had an impact on the interview design. To recall teacher memories, the interview draft is generated based on field notes. The classroom strategies addressed by researcher reflected in question design. It is supposed that through the combination of observation and question, the teachers are more willing to share experiences and talk about the feelings.

Compared with other methods, interviews are relatively economical in terms of time and money (Silverman, 2014). Prescheduled interviews can take a long time to set up, and it is not easy to find free interviewee. Since I was also working in the school, I had this precious opportunity to conduct the interviews as their colleague and the student from media education. All my participants had shown a strong willingness of participating in my research.

I started the interview after the school work was almost done. The teachers were having a week to work in school without students before their winter holidays to review all the school work and plan for next semester. As an innovative and newly established school, there were lots of work for teachers to do. I conducted my interview during this week so that my participants did not feel stressful for taking time being interviewed. It is proved that they showed relaxation during the interview. The interviews were conducted in different time periods during the week at teachers' convenience. Participants chose most comfortable places for interview including campus, office and their homes. They all signed the consent form due to ethical issues.

The original interview draft generated by me is very abstract. Then I adjusted the interview structure to make it easier to answer. There are two main parts of the interview questions. The first part includes general questions on how the participants think of media and media effects on education and society. The second part is related to their teaching experiences of the previous memories. Combined with their work and life, the teachers were more willing to share and talk. The interview question orders were not restricted, and I adjusted question orders so that the participants were not interrupted.

3.5 Data Analysis: Classroom Observation and Interview

Many qualitative researchers make readings of their data on all three of these levels: literally, interpretively or reflexively (Mason, 2002). Creswell (2003) noted that data analysis involves interpreting text and image data.

In this research, data analysis started from transcribing based on the audio interview. The audio recorded data from the interview is transcribed to 42 pages texts after the conduction of interview. Two teachers' Chinese interview texts were transcribed and then translated to English texts. As the transcription were not structured, literal transcription followed the structure of original interview question design. The texts were structured based on content and themes.

Content analysis involves examining the forms of communication systematically (Gray et al., 2007). All the interview texts were reviewed line by line and categorized. All the data obtained from observation and interview were read interpretively and coded. Coding is the ascription of a category label (Cohen

et al., 2018) and it involves taking text data or pictures into categories, and labeling those categories with a term (Creswell, 2003).

The interpretative analysis (Mason, 2002) was connected to basic elements of SCLEs theory (Jonassen, Land & Dawsonera, 2012) and Media Literacy cultural-semiotic model (Burn & Durran, 2007). It is hoped that class photos and teaching materials were the supplementary material of classroom observation and interview. The field notes and reflective components generated after classroom observation were gathered and coded based on Media Literacy cultural-semiotic model (Burn & Durran, 2007). Referring to Media Literacy theory, the researcher was trying to categorize the lessons and then produce a chart including different types of specific media integration used in the classroom.

The reflective comments were categorized by theoretical coding generated from basic elements of SCLEs theory (Jonassen, Land & Dawsonera, 2012). In this data analysis process, high-frequency keywords were colored under different coding and example sentences were recorded in the diagram to make them clearer.

Combined with observation filed notes, the interpretative interview texts coded by framework allowed me to have a more detailed understanding of teachers' conception of media role and classroom media integrations.

3.6 Reliability and Validity

The validity of the research is connected to multiple research methods. As Cohen et al., 2018) pointed out that main threats of observations are researchers unaware of antecedent events and observer causes some different behaviors. Working in school allowed me to address media integration in the classroom in time and get familiar with all students in classroom. The validity of semi-structured interview is ensured by highly structured interview questions and they refer to specific teaching memories addressed by observation field notes.

To ensure the reliability of this research, data transcription process was supervised by peer reflection. To improve the accuracy of interview translation, part of Chinese texts were sent to two peers who majored in English-Chinese translation. They were invited to translate texts and outcome were compared to the translation of researchers. Coding goes to a similar peer review process, two

researchers were provided coding the framework and invited to codes part of the texts. The texts were chosen randomly so that comparison outcome is reliable.

3.7 Summary

This methodology chapter aims to describe the details of how the research is designed and conducted. The review of the problem is consistent with the Introduction part. General design and settings indicate the whole research design structure and notify the specific context of the research. A detailed description of the two main research methods interview and observation is supposed to explain how these methods are used and help researchers to obtain data. Data analysis goes further to how data analysis is organized. The methodology part focuses on the whole research design, follows the literature part and provide a reliable foundation for findings and discussion.

4 FINDINGS

The purpose of this research is to examine three lower elementary teachers' conceptions of integrating digital media in the classroom and gain insight into the role of media literacy in constructing Student-centered Learning environment (SCLEs). The studies identified ML cultural-semiotic model (Burn & Durran, 2007) and basic elements of SCLEs theory including the centrality of the learner, scaffold participation in authentic tasks, prior experiences and multiple resources (Jonassen, Land & Dawsonera, 2012). This chapter will provide the description and analysis of findings.

4.1 Teachers' Conception of Media and Education

As mentioned before, teachers' understanding of media influences their classroom practice (Weninger et al., 2017; Berger, 2017). Thus, it is necessary to investigate how teachers think about media in the education.

Lee

Lee thought the media has two sides for education. Media impact on education depends on what it is used for. Overall, he thought it is more helpful as a very good assistant in auxiliary teaching. He indicated that learning about media helps children to prepare for the future. He explained as follows：

> Nowadays and future, designers, industrial designers and product manager could not live without media. Even as an ordinary employee, he has to be very familiar with software including Word, PPT and Keynote. Using iPads helps kids keep touch with society (Lee, January 2019).

From the other side, he also showed his concern for media use in education. He thought that media will not be the mainstream of the education, and it will still act more as a supplementary means for the classroom and teaching through media may be more suitable for elder kids or adults. For example, high school students, who have abilities to self-study some basic knowledge could learn through media.

For primary school and kindergarten, the teacher still takes the main teaching role and media could not replace people.

Concerned about parenting, he mentioned that parents spend a lot of time with media and the children play most with their parents' mobile phones after they go home. He said that nowadays, due to lack of supervision, some kids were addicted to games, videos, and Dou Yin (short video Application), which might cause some problem.

Before teaching, he spends some time searching relevant information through Baidu and Google. He will check online when he wants to produce a teaching design or he needs some related materials.

Jenny

Jenny also showed her concern for kids' life with media. She shared the story of her five years old nephew who spends too much time with media. She said kids become easily irrigated when they were exposed to media. She also stated

> In America, we sometimes call the smart device 'babysitter.' If you need to make dinner then give your kids phone and they will be safe. The kids will sit on the couch and be quieter with phone (Jenny, February 2019).

She thought media is very helpful for education because kids can use the same game, application and activity at different levels. It provides more creativity and more access to different things, different people, and various information. She thought media could not only be used for research by teachers but also act as an important learning tool for students. Media provides different ways to review material and different application to quiz students. The teachers could create something online that students can review and there are different applications that enhance students' creativity like Book Creator (An application to create stories).

Another concern she has for media effect is different kinds of messages that kids send each other. She mentioned that if kids are eleven years old, fourteen years old, they can be very mean, bullying or gossiping. When they go online and read messages from strangers, hurtful messages might have a negative impact on them.

Sometimes she uses laptop and iPad in class as a visual aid for students. She mentioned that she uses media before teaching no more than two hours a

week. She uses media for researching or creating something for class. If there is a lesson or something that requires more involvement, then she spends more time with media. She uses Pinterest and YouTube a lot. She also does a general search of images, for instance, dinosaurs or butterflies.

Diana

Diana thought media has a great impact on education. She pointed out that nowadays, kids live in a way that media is indispensable every day, from the beginning of the morning to the end of the evening. She mentioned that because Chinese parents are in an exhausted state of work, they want their children to have a large amount of reading and electronic product is a good substitute. Then unconsciously, the children are exposed to media and they could not live without multimedia.

Among all the media, Diana thought that short videos have a significant influence on them. Compared with pictures, dynamic stimulation is stronger. Children are naturally fond of watching cartoons, advertisements and movies. She also expressed her concern of media supervision. She said media is considered as one of the few things kids may have in common with their parents but parents do not have a good way to help their children do filtration.

Under such case, negative effects might happen when kids are exposed to mixed information as she thought that kids' values are shaped by media. The media has a great impact on their lives. Without enough supervision, kids' values will be formed under complicate society.

She described ideal parents she wants for media supervision as follows:

> Parents themselves need to have a scientific understanding of media, and they should have a certain understanding of education itself. They also need to understand that children are at different stages of development and have different notable features. That is to say; they need to know what kind of things are appropriate for different ages (Diana, January 2019).

For the role of education, she admitted that the appearance of the media is helpful for the development of education. But she insisted education must take place between people. She thought media contains mixed messages and has various forms of presentation.

As she mainly teaches lower primary period, she relies on books to teach and uses the network to search information theme-related materials. She likes to

use Pinterest for some teaching ideas. She searched the entire subject area instead of locating a particular lesson or seeing specific teaching plan. She also searches some visual aids through media. She uses YouTube to search for videos and pictures through Google because domestic resources are also scarce and downloading is not very convenient.

Concerned about integrating the media in the future, she thought it would not be used as the most important teaching method to a great extent and teachers need to be careful to choose the use of multimedia and the proportion of the use. She said multimedia will certainly not be a core but will help her better achieve some of her teaching goals and satisfy needs.

4.2 Teachers' Media Integration in Classroom

Based on three months' observation, the following eight lessons were addressed as teachers' classroom practice of integrating digital media.

TABLE 3.   Teachers' classroom practices of integrating digital media

	Class content	Digital media	Integration
Lee	Three-view lesson	iPad	Students took photos with iPad
	Glass and iron	Video & laptop	Teacher played a video
	Making handbook	iPad	Students created e-book with iPads
Jenny	Making a story	iPad	Students created stories with iPads
	Sports meeting	iPad & laptop	Teacher played e-book with iPad and a video
	CVC word	iPad	Teacher played a video and students created stories with iPads
Diana	Chinese article	Laptop & visual image	Teacher played PowerPoint with laptop
	Typing	iPad	Students typed on iPads
	Making handbook	iPad	Students created e-book with iPads

Lee's classroom

Lee is an experienced Mathematics teacher who has a strong scientific background. His classroom is well organized.

1. Mathematics lesson: Three-view lesson

The teacher taught the concept of three-view drawing. Students took photos with their iPads of their cups including front view, end view and vertical view, and they presented their photos to others. The teacher provided photos of some wooden squares on the screen and asked students to use the same teaching material to create the same shape shown in the photo.

2. Project lesson: Glass and iron: where do they come from?

The students were doing their project on making a toy. They were learning about materials. The teacher asked students to guess where glass comes from and students got some small pieces of a procedure of making glass and they made them in correct making order. The teacher played a video of a documentary of glass making and asked the students corrected their guess.

3. Project lesson: Toy-making handbook

The students were doing their project on making a toy. They were asked to take photos with their iPads to record their making process. They knew they would make a handbook about how they made their toys.

Jenny's classroom

Jenny is a English teacher from the U.S.A and her classroom is interesting and fun.

1. English lesson: Potato tornado story

Students were asked to complete a story of dinosaur and tornado by taking photos, texting words and recording voice. They were doing their story on their iPads. They inserted photos, emoji and took photos. They organized their story line of 'there is a dinosaur and tornado, someone (they decided) helped them and they survived. Students completed their stories, recorded their voice and shared it to other teachers.

2. English lesson: Sports meeting story

The lesson started with an interview with each other. As they just finished sports meeting day, the teacher opened pictures of sports meeting on Book creator and asked students to comment on the picture.

3. English lesson: CVC word (consonant, vowel and consonant sound, for instance, cat)

The teacher played a video of 'ap' ended words for students and asked them to write down those words on the white board. They learned some 'ap' ending words from video and played a game on the whiteboard to recognize these words. The kids were asked to complete a writing task. Some of the kids completed the stories and they got their iPads to play a flashcard game, but no one could play it. The teacher had to ask all the kids to complete a panda story with iPads.

Diana's classroom

Diana is an experienced Chinese teacher and she has strong passion for Chinese. In her class, she has clear instructions for kids.

1. Chinese lesson

The kids were learning a Chinese article about water. The teacher used PowerPoint to show the students different forms of water and asked them to complete a worksheet.

2. Project lesson

The students finished making their toys. They were collecting their photos of making and they were going to make a handbook on how they made the toy. The teacher asked students to talk about the difficulties they have met during the making process. Students got the printed version of the challenges and solutions they met during making. They were asked to type their challenges and solutions on their iPads. The teacher asked them to copy the words on iPads through writing on paper.

3. Project lesson: Toy-making handbook

The students were doing their project on making a toy. They were asked to take photos with their iPads during making process. They knew they would make a handbook.

4.3 Teachers' Reflective Comments on Media Integration in Classroom

The interviews conducted with three teachers referring to the previous teaching experiences. Teachers reflected on their teaching memories including specific lessons addressed by observation and other related experiences. The audio data

were transcribed to texts and read line by line by the researcher. The reflective corpus contains 14 pages with 5600 characters. The coding is generated based on basic values of SCLEs theory (Jonassen, Land & Dawsonera, 2012): The Centrality of Learner (COL), Authentic Tasks (AT), Prior Experiences (PE) and Multiple Resources (MP) showed in Figure 1.
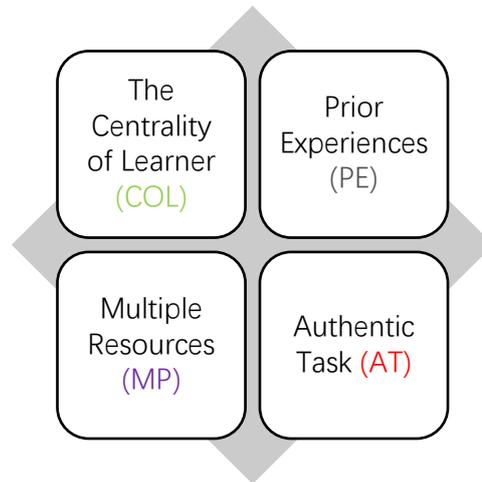
FIGURE 2.   Coding framework of SCLEs theory produced by Jonassen, Land & Dawsonera, 2012

4.3.1 Media Integration Enhanced the Centrality Role of Learners

All three teachers admitted that students are motivated to use media in school. The most frequent words appeared in their interviews are interesting, different, new, motivate, attention, focus, funny, willing, and so on. They all mention that students are interested in using media to learn and they are more focused in classroom than usual.

Lee

Lee thought kids love iPad as they have natural interests for sound and screen. He highlighted he found great autonomy of kids during the process of teaching with media. He recalled one memory of teaching kids how to use iMovie and he stated

> They learned to explore on their own, which is more than you taught. It's a process of self-learning or sharing or learning from each other. In the process where you're going to start with iMovie, you end up getting better results than you think, because they're getting more in the process (Lee, January 2019).

Jenny

In Jenny's opinion, she uses media as it is new and different. She stated

> I use videos that either has a connection to the lesson or no connection at all. It is just funny and a way to motivate students to listen and behave in class (Jenny, January 2019).

When she asked students to complete tasks through iPads, she found that they are more motivated to speak English words and create English sentences. She also mentions that an application she is going to use could help students with different levels.

Diana

Diana said she would design some of activities with media in order to make children more initiative. She thought that iPad itself is a way to stimulate their interest:

> Because children are more interested in the iPad, they are happy for whatever they do on the iPad (Diana, January 2019).

She also thought it is the best way to teach when she found using the iPad could not only satisfy students' interest in learning but also allow students to acquire some knowledge and practice.

4.3.2 Media Integration Allowed Teachers to Create Authentic Tasks

Student-centered learning highlighted the role of authentic context. Teachers pointed out that use of media makes learning more authentic.

Lee

When Lee taught three-view drawing, he thought using iPads is more authentic. Through practicing with iPad, students have a more thorough understanding of the concept. He thought it is better than sitting and listening, and he defined this teaching experiences as real learning.

Jenny

Jenny likes to engage students in teaching materials when she is teaching stories with the help of iPads. She took photos of students and invited students to create a story based on their photos and allowed students to use iPads to take a picture of themselves to create their own story.

Diana

Diana recognized the role of media under authentic context and she thought media skill is an essential ability that kids of their generation need. She taught typing and told kids that in this era, there are more typing than writing. She wants to use media in the future as much as she can as she thought it will be very helpful for students' future study.

4.3.3 Media Integration Connected Students to Prior Learning Experiences

Student-centered learning links learning to prior and everyday experiences including prior learning. Since media acts as the carrier of information, it allows teachers and students to record learning experiences.

Jenny took photos of prior experiences of students as teaching materials. She took photos of sports day and field trip, then used them to create stories. The story was popular, and the students had strong motivation to understand English content.

Teachers also think media helps them to reflect previous learning and enrich the reviewing process. Jenny used field trip photos on screen to review some of the words. When Lee and Diana asked the students to complete an e-book of how they made toys, they found iPad produced faithful records of students' previous learning and helped them to complete the review process.

Lee stated that prior experiences provided by the iPad are also helpful for self-reflection:

> iPad helps them sort out possible information in their brains in the process, helps them to comb and recall, and make them clearer about the whole structure (Lee, January 2019).

Diana noted that the reviewing process contributes to kids' metacognition and self-awareness. She thought through summarizing their previous learning on iPads, students need to review from a bystander's point of view. When kids chose their pictures selectively, they need to have a high level of self-awareness to make sure that their readers could understand.

4.3.4 Media Integration Provided Multiple Resources for Teaching and Learning

According to Student-centered Learning Environment theory, learning is enriched by multiple perspectives, resources and representations (Jonassen, Land & Dawsonera, 2012). Three teachers all mentioned media integrations provide them multiple rich materials including pictures, sounds, and other visual aids, for instance, videos.

Lee

As a mathematics teacher, Lee pointed out that when knowledge is not easy to teach with the mouth, instead, he would prefer to use media as it is more intuitive for kids to learn. He noted that after kids watched the video of glass making, they had a better understanding of the whole manufacturing process.

He also thought media allows kids to learn with different senses. When he used iPad to teach three view drawing, he found that the learning should be with all-directional absorption including the hand and the brain.

Also, he noted that multiple resources provided by iPad help students better organize the knowledge. When he asked students to complete e-book of their own toy-making process, he found that they could edit pictures and think clearly about previous learning. It helps them to sort and arrange sequence.

Jenny

As a second language teacher, Jenny noted that the use of media for teaching provide kids more ways to experience language. She stated the purpose of using Raz Kids (application of English learning) as follows:

> This app could help them to improve their English by hearing more English. They hear words than they are asked to read it out loud. The more English they hear, the more they'll learn. They receive points through the app and then they can use to buy things to create a robot (Jenny, January 2019).

Diana

Diana pointed out that media provides diverse perspectives. She mentioned that because the abstract ability of children is still in the process of development, media helps them to have a comprehensive sense. For instance, visualizing is not only deepening understanding of one thing, but more stimulation will keep on.

4.4 Media Literacy Model under Student-centered Learning Environments

4.4.1 Teachers' Media Integration under Media Literacy 3Cs model

The classroom practices of integrating digital media were summarized in the following table:

TABLE 4. Teachers' classroom practices of integrating digital media

Social function	Cultural	Creative	Critical
Lee	1	2	1
Jenny	2	2	0
Diana	1	2	1
Total	4	6	2

Cultural function in classroom

Cultural function refers to the media and popular culture around and cultural practices (Kupiainen, 2013). In this study, social function is achieved when teacher engages students in media experiences with digital devices, including videos, e-book and laptop.

The observation of classroom showed that cultural functions were achieved by three teachers. Lee played a video of a documentary of glass and iron making. Jenny read sports meeting with iPad and played a video of 'ap' ended words for students. Diana used PowerPoint to show some different form of water.

Creative function in classroom

Creative function is about creativity and making something valuable (Burn & Durran, 2007). In this study, creative function is connected to students' learning by creating media product.

When Lee asked students take photos with their iPads of their cups including front view, end view and vertical view, students were making valuable photos. Jenny asked students to create their own story by taking photos, texting words and recording voice to Book Creator and they were creating media products. When Diana asked students to type on the iPads, they were generating their e-texts.

For project lesson, Lee and Diana ask students used Book Creator to select pattern and categorize photos they took with iPad. When they inserted photo and sentence to make the e-book, they were doing with media production.

Critical function in classroom

Critical function refers to reading texts critically (Burn & Durran, 2007). In this study, critical function is found when students need to select media products to complete their tasks.

In Project lesson, Lee and Diana asked students to select pattern and categorize photos they took with iPads. During this process, they need to pick up and categorize the photos they want to use to show others clearly about how they made their toy.

4.4.2 Teachers' Media Integration under Student-centered Learning Environments

Teachers' reflective comments on their previous teaching experiences were coded by SLCEs framework and analyzed in Findings 4.3. Based on their reflections, basic values of SCLEs are connected to their different media integration practices.

The Centrality of Learner

The centrality of the learner refers to support learner to construct meaning actively. In this study, learners' age is around six to eight and they were not able to select learning content. Therefore, centrality is achieved when students are more actively participating and motivated to learn than usual.

Based on teachers' interview, nearly all the media integration lessons enhanced the centrality role of learner except type lesson and toy-making project, as teachers were not reflecting specifically from students' motivation perspective.

Authentic Tasks

The key feature of Authentic tasks is to build real world context. In this study, authentic tasks are connected to engaging students' experience in teaching and focusing on practical skills.

Jenny designed two story lessons and both of them engaged students' life. One used students' photo as the teaching material and the other lesson allowed students to create their own image and voice. For Lee's lesson, students learnt

three-view drawing by taking photos with iPads. Diana introduced typing for students to practice Chinese.

Prior Experiences

Prior experiences link learners' everyday experiences and build knowledge upon what they know(Land, Hannafin & Oliver, 2012). In this study, prior experiences are related to students' previous learning experiences.

Jenny's sports day story lesson was designed based on students' previous photos. For CVC word teaching, she kept using videos to review vocabulary that students learnt before. Lee and Diana's project lesson was designed to complete a handbook by recalling students' memories of toy making.
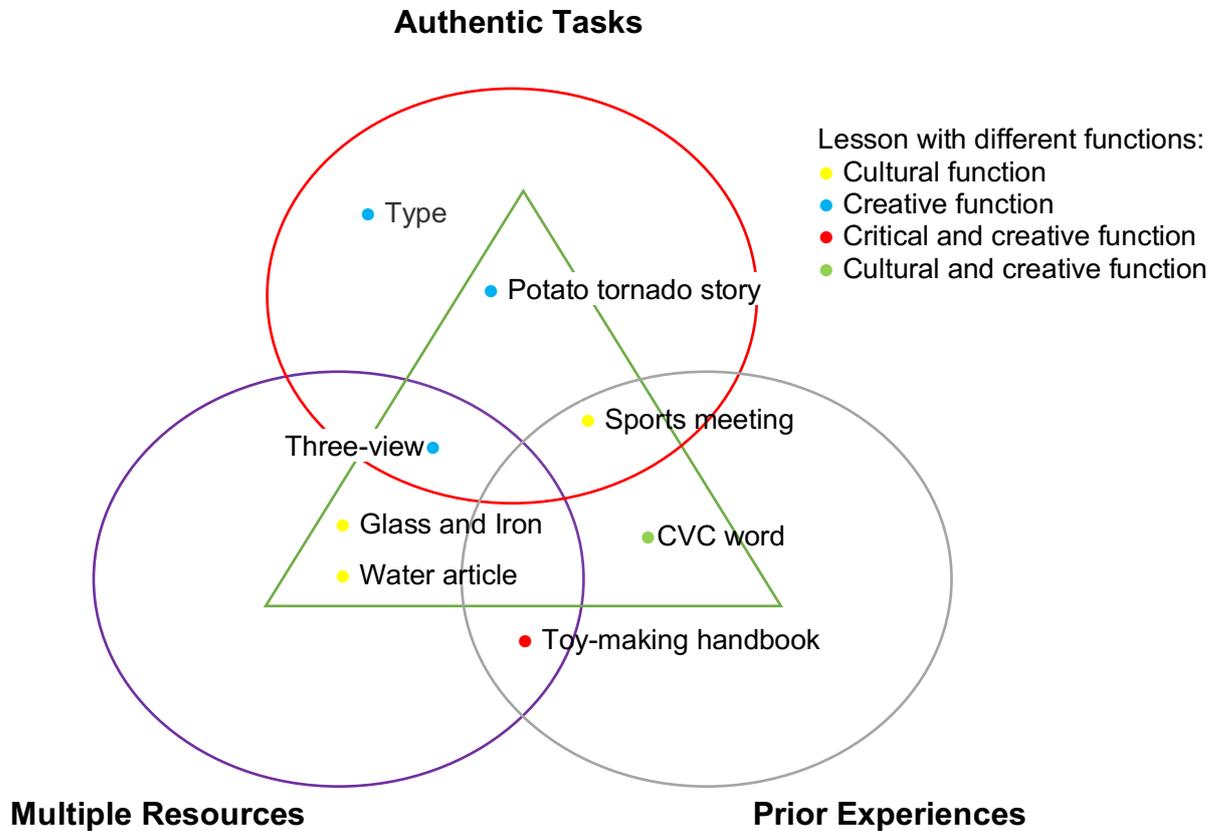
Multiple Resources

Multiple resources provides access to multiple perspectives, resources and representations. In this study, multiple resources are connected to teaching with visual aids.

For Lee's classroom, he taught the origin of glass and iron by showing students documentary. When he taught three-view concept, instead of traditional teaching style, he introduced iPads to students and asked them to complete tasks by taking photos. Diana used PowerPoint and images to illustrate different forms of water.

4.4.3 Social Functions of Media Literacy Reflected under Student-centered Learning Environments

The following figure showed how three social functions of '3Cs' models (Cultural, Creative and Critical) enhanced the four basic assumptions of building Student-Centered Learning Environments. Lessons with social function type (colored dots in red, yellow and green) are presented in the figure. Critical functions are achieved simultaneously with other functions, so there are two special dots showed in the figure. Most of the reflective comments highlighted impact of digital media integration on the Centrality of Learner, so Learner Centrality is designed in central place.

FIGURE 3. Social functions of media literacy reflected under SCLEs (Learner Centrality focused)

Lesson with different functions:
- Cultural function
- Creative function
- Critical and creative function
- Cultural and creative function

E.g. ● CVC word
The lesson "CVC word" realized the Cultural and Creative function and improved teaching effect by providing prior experiences and addressing the central role of learner.

Concerned about cultural function, the outcome shows that it allows teachers to use multiple resources and make the learning process more intuitive. It could be also helpful to recall students' prior experiences and establish a more authentic context.

Creative function has a strong connection with scaffolding students in authentic tasks. Especially, teachers mentioned that media practice and media skills are important for students to prepare for the future.

Compared with the other two functions, the critical function was only addressed in one lesson and the implementation has a higher requirement for students. However, critical function integrated in classroom accompany with other functions and it helps students to use multiple representatives to connect with their previous learning experiences.

4.4.4 Media Literacy 3Cs model and Student-centered Learning Environments

Different social functions of media literacy have an interaction with basic values of Student-Centered Learning Environments (Figure 4). It is proved that all functions contribute to enhancing the central role of learners. Cultural function has a stronger connection with multiple resources and creative function has a stronger connection with multiple resources.

FIGURE 4. The relationship between social functions of media literacy model and basic values of SCLEs
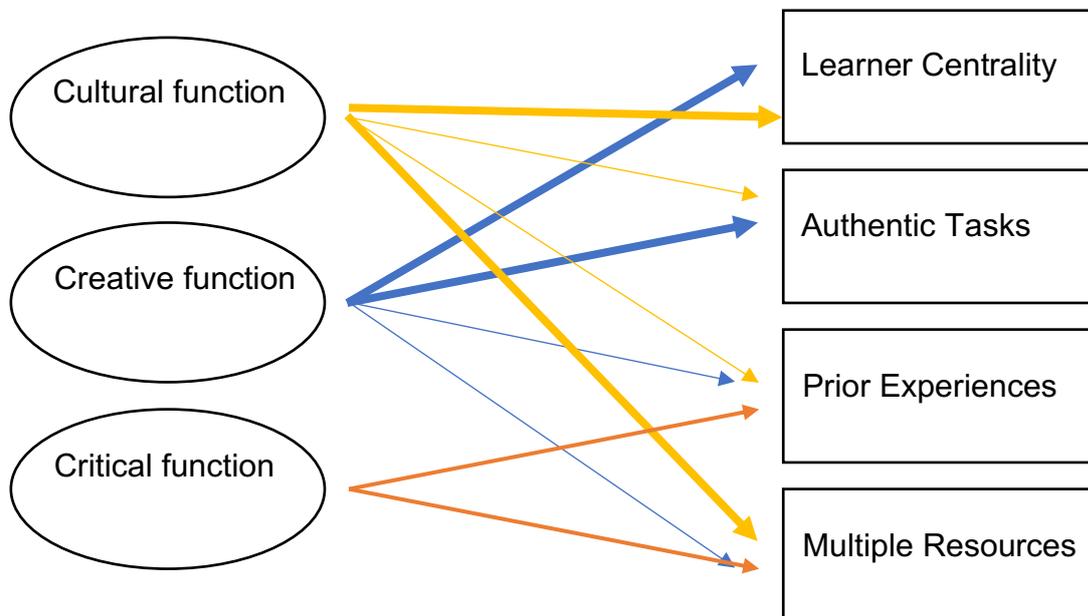
5 DISCUSSION

5.1 Media Integration from Media Literacy Perspective

The findings based on observations showed different media literacy social functions in classroom practices. Cultural functions provided teachers' opportunities to engage students in teaching with visual aids, for example, made a sports day photobook, or to teach abstract concept like gas, raw material of glass. Creative functions allowed teachers to create learning through doing rather than listening, such as taking photos of three-view drawing or creating English stories and handbook. While more Cultural and Creative functions were achieved compared with Critical function, critical function helped teachers to achieve more advance teaching objectives and had a significant impact on students' media literacies.

    The results also showed that the analysis of media integration from media literacy perspective made it easier to evaluate the benefits of ICT use in classroom (Livingstone, 2012), and digital media and technologies use are more than means of delivering information (Buckingham, 2007).

5.2 Media Integration under Student-Centered Learning Environments

The findings confirmed that digital technologies play a vital role in SCLEs and have a positive impact on the construction of Student-centered Learning Environment: for centrality of learner, the use of media devices motivates students and makes then more focused with teaching (Neo et al., 2003; Kurniawan, 2018); for authentic tasks, the strong connection between media and real-world creates more authentic tasks (Smeets, 2005); furthermore, for prior experiences, media's recording function allows teachers and students to review previous learning; multiple resources provided by media enriched the learning and teaching experiences. In summary, media integration could fully achieve the

benefits of student-centered learning (Motschnig-Pitrik & Holzinger, 2002; Muianga et al., 2018). Among all the media integration, iPad use in classroom has significant roles in ICT education (Jahnke & Kumar, 2014; Sharick, 2016).

5.3 The Challenges Teacher Encounter when Integrate Media

The data analysis of interviews showed that teachers have been struggling with integrating media in the classroom in many aspects. Based on Dale's theory (1972, p.21), the challenges are generally divided into external challenges and internal challenges. Under the external and internal part, psychological, pedagogical, technological factors are elaborated (Hannafin & Land, 1997, p.172).

5.3.1 External Challenges

Technological Factor

All three teachers shared their concerns about technological challenges, especially for network connection. Although there are enough iPads to use in classroom, as Lee stated, the network may not be strong enough to support the iPad's use. All teachers could only use the app that is available without the network.

The observation also showed the same situation when Jenny wanted to use Raz Kids (English reading application). The network is not good, and she had to give up her plan:

> 'There's an app that we used last school year for reading. I have not been able to use it with them this semester because we struggle with Wi-Fi in the classroom'. (Jenny, January 2019)

The weak network also causes other problems. Diana said that all children can get on at the same time with stronger network support. If the network is broken and the kids need to log in again and again. Then it will be a waste of time. Also, students could not search for information on the Internet.

Except for network, there is also other technical problems with the use of the application. Diana used a game application for kids to learn Pin Yin (Chinese alphabet system). She found when kids use the headphones to record their pronunciations, the effect is not very good. Some data generated from application

cannot reflect the average level of children. Because some of voices are not recorded due to technical reason. Then some kids felt depressed with their failure.

Teachers also face challenges of improving their media skills. Jenny mentioned that she had no idea how to project, how to connect devices to projector and to use the projector. It took some time for her to learn how to use media devices.

Online Safety

Diana mentioned the biggest challenge she thought is the security of the network. Her biggest worry is how to avoid the negative impact of network violence, when the children are exposed to the network. She said she is very powerless for the supervision on online security:

> Because other things can be improved by my own efforts, like improving their reading comprehension, their ability to retrieve resources, and their ability to screen and analyze information. These can be promoted through teaching measures. I expect to have a better search engine for children and I will help them monitor their behaviour (Diana, January 2019).

5.3.2 Internal Challenges

Pedagogical Factor

Classroom management becomes more challenging for teachers who want to integrate media in classroom. As mentioned before, kids have strong interests with visual stimulation, especially with iPads. Diana said that when kids use iPads to learn, they might be distracted easily and opened things that are not required.

Jenny has met some problems when she wanted to get the iPad back from students. She said when she does not have clear instructions, kids want to play iPad because it's fun. She realized that she needs to make sure they understand the rule before they touch the iPad and there should be a time limit.

Diana agrees with Jenny and she has to tell kids clearly what to do with iPad and makes the rule clear for them. She also added that, in the process, it is necessary to consciously monitor the learning of each child to see if they have any technical difficulties, or to check if they are distracted.

Lee also thought the integration of media in classroom depends largely on teacher's ability to manage the class. When classroom rule is well established, media could be used as a tool. He stated as follows:

iPad is a learning tool, rather than a tool for playing. If the kid gets an iPad and just wants to play or open other apps or something like that, I'm sure I'd rather not use. But if you can make sure that he is focused on this task, I think media is a good helper (Lee, January 2019).

Professional Training

Concerned about professional training for media integration, there is not enough support for teachers to integrate media in classroom. As Lee stated:

My contact with media I use now is something that I accumulated in the course of my previous teaching. After I've been touched with this application, I would have thought of using it to assist in teaching. If I had never been in touch with it, no one would have reported it to me (Lee, January 2019).

He also mentioned that teachers are usually busy with their work and they seldom have time to think about if they will use media to help with teaching.

Psychological Development

As all the three participants are teaching lower grades in primary school, Diana noted that the age of kids has a great impact on media integration.

Firstly, it is very difficult for all the children to be conscious to know they are learning with iPads. Diana made an example with two kids:

During the process of using the app, the child with strong learning ability will know, for example, that a car went around the road means 'O'. This is telling him, how to write about 'O'. Children who are unconscious might only enjoy the fun of this game (Diana, January 2019).

Secondly, it takes more time for lower grades kids to learn how to use iPad. Diana stated that when the kids learn how to type, it takes them a long time to get familiar with the keyboard and look for the corresponding letter from the alphabet.

Thirdly, the original teaching goals could not be fully achieved because of age limitation. For instance, Lee and Diana wanted kids to learn how to search information online. They encountered great obstacles during the process. The children are too young to know what word to search for and they were not able to monitor their behavior to screen the information. Furthermore, their reading ability is not enough to support scan the materials and get appropriate information.

6 CONCLUSION

6.1 Research objectives: Summary of Findings and Discussions

In this research, three teachers addressed the role of media in education and they were positive for introducing it to classroom. Their practice also showed that they did different practices related to media integration. Further interviews of reflection proved that media integration has a positive impact on their teaching and helped them to build Student-Centered Learning Environments. Based on the combination of findings, the relationship between media literacy and SCLEs was addressed and elaborated. Furthermore, teachers were facing different challenges when they integrated media literacy in the classroom especially technological challenges and pedagogical challenges.

6.1.1 Research objective 1: Teachers' Conceptions and Practices, and Reflections of integrating Media

According to Findings 4.1, teachers showed positive attitudes with media and education. The importance of media role is highlighted by teachers when they use in daily life or during working. They all think integrating media to teaching is helpful for many aspects. However, they also recognized that compared with before, kids are exposed to media much longer and there is a lack of supervision. They were worried about some parts of using media, for example, psychological development and online security. Two teachers mentioned the main education role should be still teachers rather than media.

Finding 4.2 provided a nutshell of addressed lessons and media integration in the classroom. It revealed that media integrations in the classroom have various forms and it could be combined with different teaching content. The cultural and creative functions are most likely to be used and critical functions are less which have a higher requirement for students. The second part of discussions showed

that teachers also faced many challenges of introducing digital media to classrooms especially they faced some technological problem.

Finding 4.3 showed details of teachers' reflective comments provided how media integration influences their teaching. Teachers admitted that most of teaching objectives were achieved with the help of media.

6.1.2 Research objective 2: The Relationship between Media Literacy Model and Student-Centered Learning Environments

Different social functions of media literacy show strong connection with the basic values of Student-Centered Learning Environments (Figure 4). All functions have a positive impact on enhancing the central role of learners. Media Literacy 3Cs model has a relationship with SCLEs and the achievements of social functions contribute to the construction of SCLEs. Media Literacy Model also provides an insight for analyzing media integration in classroom under Student-centered Learning Environments.

6.2 Limitations

This qualitative case study focused on three teachers' classrooms and interviews, and there are quite many limitations in this research especially for the selection of the case.

As mentioned before, the specialty of this school is highlighted in the context of the research. Although the recognized features of this special school help readers better understand the most innovative pedagogies and school values, this school could not be generalized to other normal elementary schools. Most Chinese schools still have problems integrating media due to lack of adequate educational resources and there is narrow space for teachers to try new things. Since the participants are lower elementary teachers, their reflective comments are less likely to reflect on higher grades and they focus more on small kids. In addition, as they are teaching in the same classroom, the same group of students and their characteristic might also assimilate teachers' reflection.

Another potential limitation is related to media practice development in China. Even the school is recognized as an innovative project and all the teachers are motivated to introduce media to classroom. Due to the lack of support for

professional training, a limited number of classroom practices related to media integration was observed. The following teachers' semi-structured interviews also show that the teacher participants do not have rich teaching experience in using media. The research honestly recorded teachers' answer as it reflects authentic context. The small amount of data might have an impact on research outcome.

6.3 Implications of the Research

The outcome of the research could be helpful for researchers to better understand teachers' conceptions of media and their practices of integrating it in classroom. The research wants to expand media integrations from media perspective and find the relationship between media literacy model and Student-Centered Learning Environment through analysis of field notes and reflective comments generated by teachers.

This study also offered a practical view of teachers' experiences of everyday realities and contributed to other elementary teachers to implement similar pedagogies in their classrooms.

My purpose in conducting this study is strongly related to my research interests. I have both journalism and education background and I am studying media education. I realized the importance of integrating media and I found there is a disconnect between theories and practice. Media education theory could never be separated from authentic context and I hope this finding could provide teachers and researchers some references and inspiration.

6.4 Suggestions for Further Researches

Media education has been discussed during these days but current researchers focus more on ICT and education in technology. Media integration should be given more attention from media education perspective to facilitate students' media literacies.

Media education in China is a heated topic and more researchers could go further into classroom to see real situation there. As China is a huge country, schools in different areas or at various levels may lead to different research results. This research only provides a limited scene from one primary classroom

with three teachers, so more schools, classrooms and teachers concerned in further researches could better reflect on media education in China.

Furthermore, the findings also showed some factors that might have an impact on using media. First, it is more difficult for second language teacher to introduce media literacy. It would be interesting to investigate how language of instruction influences media integration. The results also showed that there are connections between media integration and Project-based Learning. It would be also interesting to connect PBL and media integration. The use of iPad remains as a research interest and more researches could go further with how iPads use influences teaching and learning.

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Consent to Participate in Research

Introduction and Purpose

My name is Mengyu Liu. I am the graduate students at Tampere University, Finland, in the Department of Education. I would like to invite you to take part in my research study, which concerns on media literacy and student-centered learning.

Procedures

If you agree to participate in our research, I will audio type a 30 min semi-structured interview with you at a time and allow me to observe the lessons for 120 min. Observation notes on the children will not be taken. The interview will involve questions about the lesson I observed, the experience of media and other related questions. The recording is to accurately record the information you provide, and will be used for transcription purposes. If you feel uncomfortable at any time during the interview, you can stop the interview at any time.

I expect to conduct only one interview; however, follow-up may be needed to add the clarification. If so, I will contact you by mail/phone.

Benefits

There is no direct benefit to you from taking part in this study. But, it is hoped that the research will contribute positively to construction of media education master program and development of media education.

Risks/Discomforts

There are no reasonable foreseeable (or expected) risks. There may be unknown risks.

Confidentiality

Your study data will be handled as confidentially as possible. If results of this study are published or presented, individual names and other personally identifiable information will not be used. When the research is completed, the tapes and notes might be saved for use in future research done.

Rights

Participation in research is completely voluntary. You are free to decline to take part in the project. You can decline to answer any questions and are free to stop taking part in the project at any time. Whether or not you choose to participate in the research and whether or not you choose to answer a question or continue participating in the project, there will be no penalty to you or loss of benefits to which you are otherwise entitled.

Questions

If you have any questions about this research, please feel free to contact us.

CONSENT

You will be given a copy of this consent form to keep for your own records.

If you wish to participate in this study, please sign and date below.

Subject's Name (print): _____
Subject's Signature: _____   Date:

Investigator's Signature: _____   Date: _____

_____   _____

Class:	Teacher:	Date:
Start time: Finish time:		Grade:

Observation form

Physical setting:

Previous lesson and prior knowledge

Sequence of event		
Beginning:	Interaction:	Comments
Middle:		

End:		

Interview questions for Jenny
1. How often do you use media? Describe your media diary for one day
2. What do you usually do with media?
3. What do you think the media's impact on human's life?
4. How do you think the relationship between the media and education? How media has an impact on children?
5. How frequently you use media in school? How do you use them? Do you use media to help you prepare foe lesson?

Concerned with the observed lessons:
6. What was the purpose of potato tornado and dinosaur story? Why do you use iPads? How iPads help you to realize your teaching goal?
7. How do you think of this lesson with media? Is it successful?
8. Have you faced some difficulties in using?
9. What was the purpose of sports meeting story? How iPads help you to realize your teaching goal?
10. How do you think of this lesson with media? Is it successful?
11. Have you faced some difficulties in using?
12. Why did you choose to use iPads for panda story? What was the purpose of using iPads?
13. What difficulties you met?
14. Related to previous experiences, how do you think of media use in classroom? Could you share some experiences?

Interview questions for Diana
1. How often do you use media? Describe your media diary for one day
2. What do you usually do with media?
3. What do you think the media's impact on human`s life?
4. How do you think the relationship between the media and education? How media has an impact on children?
5. How frequently you use media in school? How do you use them?

Concerned with the observed lessons:
6. What was the purpose of 'who am I' lesson? Why do you use using PPT for 'who am I? How Ipads help you to realize your teaching goal?
7. How do you think of this lesson with projector? Is it successful?
8. What was the purpose of having toy handbook? Why do you use Book Creator?
9. How do you think of this handbook design? Is it successful?
10. What did student learn from using Book creator?
11. What was the purpose of typing for toy handbook? How iPads help students to learn?
12. How do you think of this part? Is it successful?
13. Do you want to use more media in classroom in future? In what way?
14. Concerned about using it, what do you think it is the most difficult part?
15. Related to previous experiences, how do you think of media use in classroom? Could you share some experiences?

Interview questions for Lee

1. How often do you use media? Describe your media diary for one day
2. What do you usually do with media?
3. What do you think the media`s impact on human's life?
4. How do you think the relationship between the media and education? How media has an impact on children?
5. How frequently you use media in school? How do you use them?

Concerned with the observed lessons:

6. What was the purpose of using camera in three-view teaching? How iPads help you to realize your teaching goal?
7. How do you think of this lesson? Is it successful?
8. What was the purpose of having toy handbook? Why do you use Book Creator?
9. How do you think of this handbook design? Is it successful?
10. What was the purpose of using video in project lesson? Why do you use video?
11. What difficulties you met?
12. How do you think of the use of video? Is it successful?
13. Do you want to use more media in classroom in future? In what way?
14. Concerned about using it, what do you think it is the most difficult part?
15. Related to previous experiences, how do you think of media use in classroom? Could you share some experiences?

采访问题：

1．你每天使用媒体的时间有多久？能大致描述一下过程吗？
2．你利用媒体设备做些什么？
3．你觉得媒体对于人的影响是什么？
4．你觉得媒体对教育有什么影响？对孩子的生活有什么影响？
5．你在学校工作的时候一般如何使用媒体？你是如何使用媒体帮助备课的？
6．三视图的教学目标是什么？你为什么要用 Ipad？Ipad 起到了什么样的教学效果？
7．你觉得这堂课如何？是否成功？
8．玩具制作书的设计意义何在？为什么使用 Ipad？
9．通过使用 Ipads，他们学会了什么？
10．讲到材料来源，为什么要放视频？视频的来源是哪里？
11．你觉得视频播放效果如何？又没有达到预期教学目标？
12．你希望以后引用更多媒体教学吗？为什么？想要如何使用？
13．你觉得使用媒体进行教学最大的困难是什么？
14．之前有没有类似的经验可以分享一下