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Interest-driven digital practices of secondary students: Cases of connected learning

ABSTRACT

The study examines Chinese students' interest-driven practices outside of the classroom setting, and in particular how such practices are mediated by digital technologies and connected with school-based learning. It reports on the cases of connected learning extracted from a large research project that explored students' engagement with digital technologies. Drawing on the data collected through in-depth interviews and online artifacts, this paper portrays the digital practices of three secondary students in pursuit of their hobbies. The results show that students' interest-driven practices are manifested through four inter-connected dimensions: information consumption, sharing and production, interaction and participation, and problem-solving. Furthermore, their interest-based practices facilitate extra-curricular activities and complement formal *in-school* learning. There are also indications that teachers can play a guiding and supportive role in bringing together interest-based and school-based learning.

Keywords: connected learning; informal learning; interest-driven learning; youth digital practices

1. Introduction

At an accelerating rate, digital technologies are creating new opportunities for information, communication, networking, and entertainment. It has been widely acknowledged that digital technologies and social media are thoroughly embedded in young people's daily lives (e.g. Livingstone & Haddon, 2009). There has been a wealth of scholarly work devoted to young people's digital engagement inside and outside of school. Nevertheless, the findings are not

consistent. Some scholars have noted a gap between young people's digital engagement at school and at home (e.g. Levin & Arafeh, 2002; Clark, Logan, Luckin, Mee, & Oliver, 2009). It has been reported that students consider their life *in-* and *out-of-*school as two separate worlds and associate digital technologies not with formal learning, but mostly with fun and enjoyment (Ben-David Kolikant, 2012; Jones, Blackey, Fitzgibbon, & Chew, 2010). Other researchers, in contrast, have reported successful cases of boundary crossing between school and students' daily lives (e.g. Ito et al., 2013; Kumpulainen & Mikkola, 2014). On the whole, we still have limited knowledge about the synergies between formal and informal learning mediated by technologies and the conditions for boundary crossing (Barron, 2006). Consequently, there is an urgent need to devote more research to digital practices outside of school to determine whether and how they are connected with formal learning. Such study is especially needed in the context of China considering the explosive Internet growth especially among its young students. A recent report has revealed that there were over 632 million Internet users in China, with students comprising 25% of this number (CNNIC, 2014).

The data presented in this paper draws from the larger-scale research project 'Youth Digital Literacies Practices' (YDLP) that examined the digital engagement of secondary school students inside and outside of school in both Hong Kong and China. Due to the fact that young people's everyday digital practices often revolve around their personal interests (Drotner, 2008), the research extracts presented here focus on the interest-driven learning practices of Chinese youth outside of formal learning spaces. The findings zoom in on the digital engagement of three 15-year-olds, who attended boarding school in a semi-urban region of Guangdong, Southern China. Our work seeks to offer an understanding of what is referred to as "connected learning" by Ito

and associates (2013) to describe *out-of-school* learning that is “socially embedded, interest-driven, and oriented toward educational, economic or political opportunity” (p. 4). In this paper we examined a small case study data set in order to better understand Chinese students’ interest-driven digital practices and to determine whether or not interest-driven practices are connected to formal *in-school* learning, and if so, how. The questions guiding our inquiry and analysis were as follows:

1. How do students in a Chinese boarding school use digital technologies to pursue their interests?
2. How does the students’ interest-driven digital engagement relate to *in-school* learning?

We were particularly interested to explore how students’ pursuit of personal interests was mediated by technologies, contextualized in a social environment, and connected to school-based learning. To achieve this, digital technology engagement profiles of participants were compiled based on a questionnaire, multiple interviews, and students’ online activities. Through probing into interest-driven digital engagement, we sought to illuminate the processes of informal learning that occur *out-of-school* and determine to what extent this impacts *in-school* learning. In so doing, we hoped to contribute to the ongoing discussion on ways to leverage digital practices and informal learning *in-school*.

2. Theoretical perspectives concerning informal learning

The current study is grounded in a set of theoretical perspectives that focus on learning as a natural and self-initiated act outside of formal educational institutions. Theories on informal learning build on a century-long tradition of scholarship that seeks to provide a descriptive and

explanatory account of how people learn outside of school (Bransford et al., 2006). Here, we outline three perspectives: connected learning, ecological, and participatory perspectives.

Put simply, connected learning occurs when students pursue their interests through digital technologies “with the support of friends and caring adults, and is in turn able to link this learning and interest to academic achievement, career possibilities, or civic engagement” (Ito et al., 2013, p. 6). Theoretically, this draws on a sociocultural perspective that looks on learning as situated in interaction, negotiation, collaboration “mediated by tools,” and semiotic signs (Vygotsky, 1981, p. 137). This sociocultural lens affords interpretations of how learning competencies emerge from interest-driven learning and how such understanding could inform formal *in-school* learning (Sefton-Green, Bresler, Jones, & Thomson, 2011).

Tracking connected learning is, in fact, a challenging task (Leander, Phillips, & Taylor, 2010). Researchers need to gain an understanding about learning as it takes place across a matrix of connections spanning several contexts (Kumpulainen & Sefton-Green, 2012). As such, a conceptual stance of learning is warranted that embraces “a series of boundary-crossings, in and across social spaces - home, school, and peer cultures” (Kumpulainen & Sefton-Green, 2012, p. 11). This concept stance aligns with the perspective of learning ecology that situates learning within “a set of contexts, comprised of configurations of activities, material resources and relationships, found in co-located physical or virtual spaces” (Barron, 2004, p. 6). This perspective positions individual learners at the center of a learning ecology that encompasses physical and virtual contexts as well as the resources that offer affordances to their learning. Another important constituent part of a learning ecology are participants both inside school and beyond: peers, teachers, parents, principals, and so on (Looi, 2001). Central to such an ecological system is dynamic and interdependent relationships among the participants and the

interdependency of these relationships with physical and virtual contexts and resources (Barron, 2004; Looi, 2001).

Another associated perspective underlying the theoretical constructs of informal learning looks at learning as a form of participation. This perspective moves away from viewing learning as acquiring or internalizing “the cultural given”, embracing it rather as a process of becoming a fully engaged participant in a sustained community (Lave & Wenger, 1991, p. 48). In a community setting, people are involved actively in “observation and participation in ongoing community activities with mutuality and support from more skilled community members” (Rogoff, Matusov, & White, 1996, p. 396-397).

Stripped back to basics, these three perspectives on informal learning see learning as being embedded in practice-oriented relationships and culture. The explosive growth of web-based technologies has not only made a myriad of information accessible, but also allows us to follow and connect to outside professionals, experts, or others who share the same interests (Greenhow, 2011). The enormous online resources and connections interweaving with local groups constitute a new and powerful environment for learning (Brown, 2000). The perspectives accentuating connectivity, ecology, and participation view learning as social and cultural activities and draw attention to the relations between people and their physical, virtual, and social environments. As such, they provide a theoretical and analytical construct that has informed our study.

3. Digital engagement *in-* and *out-of-*school

Thanks to the networked technologies, digital leisure activities were situated in a rich social terrain in which sharing, interaction, collaboration, and negotiation became common practice (Drotner, 2008). Gee and Hayes (2011) describe this type of learning as “passionate affinity-

based learning” claiming it stems from shared endeavors or interests. In an “affinity space” often spanning physical and online worlds, everyone can potentially be producers of knowledge rather than merely consumers. Ito and colleagues (2009) identified “friendship-driven” and “interest-driven” practices as two genres of participation that depicted young people’s everyday media engagement. Ito and associates (2013) also observed that young people’s pursuit of interests was embedded in “social networks and communities of interest and expertise that they can call on for help, feedback, and mentorship” (p. 57).

Despite digital technologies having become an integral and indispensable part of daily life for young people, many scholars have pointed to a disconnection (Levin & Arafeh, 2002; Selwyn, 2006) or “dissonance” (Clark, Logan, Luckin, Mee, & Oliver, 2009) between digital practices at home and school. It has been widely documented that young people’s *out-of-school* digital practices are oriented predominantly towards social and entertainment purposes (Clark et al. 2009; Lewin, 2004). In a study concerning digital experiences of Chinese urban youth, Liu (2011) revealed that the vast majority employed the Internet essentially for recreational rather than information and learning purposes. The Internet was not considered an aid for learning, but antithetical to learning and academic performance. In contrast, Norwegian students were keener to utilize the Internet to seek information related to schoolwork and thought of the Net as a great help (Liu, 2010).

Although there are an increasing number of reports about student use of technologies for a range of school-related tasks *out-of-school* (e.g. Furlong & Davies, 2012; Levin & Arafeh, 2002; Selwyn, 2006), these practices are still regarded as limited and sporadic (Clark et al., 2009; Lewin, 2004). This apparent home-school disconnection is closely associated with several issues. Firstly, teachers and students alike do not recognize the digital literacy practices accumulated

outside of school as valuable or serious, or connected with formal learning (Greenhow & Robelia, 2009; Williams, 2005). Secondly, young students lack the knowledge to deploy the tools to support their own learning (Clark et al., 2009; Ito et al., 2013). Thirdly, some students strongly associate the Internet with fun and enjoyment, thus do not consider it serious and reliable (Ben-David Kolikant, 2012). As such, students prefer to have their personal and social lives separate from learning (Ben-David Kolikant, 2012; Jones, Blackey, Fitzgibbon, & Chew, 2010), and show little interest in transferring their online practice to formal learning settings (Kupiainen, 2013).

In spite of this disconnect between home and school, there is a growing recognition that the line between formal and informal learning is becoming blurred (Clark et al., 2009; Furlong & Davies, 2012). Kent and Facer (2004) asserted that home and school uses of technologies were meant to be different, yet overlapped, interrelated, and could be reciprocal. Drotner (2008) claimed that we should cease to see home and school, and play and study, as distinct spaces and recognize the inter-relatedness of these worlds through more focused research. Ito and associates' (2013) study depicted US teenagers who successfully connected their *out-of-school* digital practices with academic achievement or career opportunities. Kumpulainen and Mikkola (2014), through analyzing students' online chat scripts, revealed a smooth boundary crossing between discourses of school and everyday life. On the whole, there is a need for a closer study of the nature and characteristics of "self-directed, interest-driven, and technologically enabled learning" (Ito et al., 2013, p. 25). Such study is especially needed in the context of China considering the explosive growth of the net population in this most populated country.

4. Methods

4.1 Background

The data reported in this paper is drawn from a large-scale mixed method research project, the YDLP, which examined the digital engagement of secondary school students in Hong Kong and Mainland China. The YDLP project comprised two data collection phases: (1) online questionnaires and focus group interviews and (2) individual case studies. The first phase sought to provide a general and systematic view of student digital engagement. The questionnaires sought information on students' digital engagement outside of school inclusive of their engagement with digital devices and social media for learning, socialization, and pursuing personal interests. Students with varying degrees of digital engagement were then selected for focus group interviews, which provided further rich data on their use of various digital technologies outside of school. Class observations and informal interviews with main subject teachers (e.g. Chinese and English) were conducted with a view to gaining insight into the use of technologies *in-school* and policies regarding ICT use. The data collected at the first phase provided the contextual backdrop and helped to inform the selection of individual students for the second phase of case studies that sought to offer a more in-depth and nuanced understanding of how and why students use various digital technologies.

4.2 Context and participants

The data reported here are mainly based on the second phase of case studies and include three students in a junior secondary boarding school in a semi urban region of Guangdong, southern China. For the first phase of data collection, 76 valid questionnaire responses were gathered from the school and 18 students with varying degrees of digital engagement were selected for focus group interviews. The three participating students were from an experimental

class and in the second year of junior secondary schooling. This experimental class was so called because they were involved in a project aiming at improving the integrated English skills of students. Although the class adopted the mandated English curriculum, it differed from others in that it employed innovative teaching strategies. The technological infrastructure of the school was quite advanced, but students had restricted access to the Internet. Each classroom was equipped with a smart board and one computer with Internet connection for teaching purposes. Each student in this experimental class had his/her own laptop computer that could be used for learning-related activities (e.g. information searches) during class with their teacher's permission. Laptops could also be used during the self-study periods at night when students usually worked on their homework in their classroom. However, the school had strict rules around students' use of digital technologies inside school. It forbade the use of computers for social and entertainment purposes at any time (e.g. social networking, gaming, and watching videos). There was no Wi-Fi network provided for students and the use of laptops was not allowed in the dormitories. As part of school policy, students' mobile phones were kept by teachers during the day. Legitimately, the students could only use mobile phones and other personal devices during weekends and holidays when they were back at home.

4.3 Data collection and analysis

After reviewing the data from the first phase, five students (only three are reported here due to space limitations) were identified as candidates for in-depth case studies involving an individual interview and tracking of online artifacts. We purposefully recruited interesting and information-rich students - those who had shown deep engagement in different technologies. During the hour-long semi-structured interviews, students were asked about their interest-driven

digital practices and school-related learning *out-of-school* and their engagement with digital technologies *in-school*. With students' consent, we tracked online artifacts such as writings from online forums and posts on Social Networking Sites (SNS) in order to triangulate the self-reported data.

The process of data analysis went through three rounds. First, we conducted a preliminary exploratory analysis by reading the transcription of interviews several times and recording memos of emerging ideas, thoughts, and questions. Then, each interview was coded thematically with an open and inductive approach. The first author conducted the coding using NVivo and raised the emerging themes and problems for regular discussions with other researchers on the project. For the third round, we sought to identify the patterns of the interest-driven digital practices and used relevant literature to guide the process. In so doing, we tried to align the emerging themes inductively with concepts or theories related to informal learning and digital practice. Thus, the development of the themes involved collapsing categories arising from coding and connecting to related concepts from the literature. Eventually, four themes concerning students' interest-driven learning were derived: (1) information consumption, (2) interaction and participation, (3) sharing and production, and (4) problem-solving. The detailed information concerning each dimension will be elaborated in section 6.1. Meanwhile, to enrich the analysis and provide triangulation of the self-reported data, additional data were also drawn from the informants' online artifacts, such as their posts on SNS. We consistently referred to the actual online data for confirmation and richer examples of the interview data.

To ensure the validity of the data, member checking was conducted. After the analysis of the interview data, a written summary was compiled and returned to the students for confirmation of accuracy and revision where necessary. Additionally, follow-up interviews were conducted

through online chatting and phone calls in relation to emergent queries arising from the data analysis. For example, one theme that emerged from the students' interviews was the encouragement from their Chinese and English teachers to use technology to enrich their learning. Follow-up interviews were conducted with these teachers to determine and record their views and perspectives.

5. Results

5.1 Engagement with technologies

To begin with, we will draw on part of the questionnaire data to provide a broad stroke view of the students' engagement with digital technologies. Of the 77 junior secondary students (40% boys and 60% girls) who responded, 90% owned a mobile phone and 80% had smart phones with Internet access. As to the frequency of using different digital devices on a 5-likert scale (1 for never, 5 for frequently), the students indicated that they used smart phones most often ($M=3.97$, $SD=1.203$), followed by notebook computers ($M=3.73$, $SD=1.221$), and desktop computers ($M=3.55$, $SD=1.176$). The students mainly used a smart phone for phoning (85.7%), media playing (75.3%), and sending instant messages (62.3%). In addition, the students were asked about their engagement in a range of online activities. Almost all (93.5%) acknowledged that they engaged in online chatting via Chinese apps such as *Tencent QQ*¹ and *WeChat*². Three-quarters of all students were active on SNS such as *Sina Weibo*³, and 62 students (80.5%) acknowledged their presence on web-based discussion forums. They usually visited forums for

¹ *QQ*: Popular instant messaging software in China inclusive of a variety of services such as social games, music, shopping, microblogging, and chatting.

² *WeChat*: A mobile text and voice communication service similar to WhatsApp. It has become the largest stand-alone messaging app in China.

³ *Weibo*: Micro-blogging services in China that resemble a hybrid of Twitter and Facebook. There are two popular services: Sina Weibo and Tencent Weibo.

leisure (74.2%), downloading files (62.9%), and learning new things (59.7%). When engaging on forums, according to a 5-point frequency scale, they usually read posts ($M=4.13$, $SD=.914$), commented on others' posts ($M=3.69$, $SD=1.018$), and downloaded files ($M=3.52$, $SD=1.020$).

5.2 Case study students

Case study students, Mei, Ling, and Peng (all pseudonyms), were identified through questionnaires and focus group interviews as highly active digital engagers. In one-on-one interviews, we probed deeper into their interest-driven learning and sought to trace how their *out-of-school* digital practices interacted with formal learning.

5.2.1 Mei

At the time of research, Mei was the President of the Student Union as well as a member of the Literature Society, Photography Society, and school radio station. Photography was one of her personal interests. Mei was an active user of social media including Weibo, WeChat, and QQ. On Weibo, she had 526 fans, followed 106 people, shared over 500 photos, and posted over 1400 messages. According to the “activity level” on Weibo, she was at level 10, which means that she had been active on Weibo for over 1020 days. She joined QQ when she was in Primary 3 or 4, and at the time of the interview she had 223 friends on QQ and had joined eight groups and four discussion forums.

Her self-taught photo-taking and photo-editing skills were well recognized by her teachers and peers. She remarked that she didn't learn how to take photos intentionally and systematically, but through observing photos taken by professional photographers or journalists (experts). There were several “*gurus*” she looked up to in the virtual world whom she sought to “*imitate*”. Mei picked up the technical aspects of photo-taking through reading magazines, visiting photo-

sharing websites and following related topics on Weibo. Through analyzing the people or topics she followed via Weibo, it became evident that the majority of what she followed were friends (41%), and then topics related to life and entertainment (28%), personal interests (10%), pop stars (15%), and news (5%).

Additionally, she had several friends who shared her interest in photography. They followed each other on Weibo and formed groups on WeChat. In this way, they learned from each other through sharing and interaction. For instance, these friends sometimes commented on the photos she uploaded in WeChat or Weibo. Mei observed the following: *“If the photos are good, they all “like” them or compliment me; if there are no comments, it means that the photos are not good”*. Thus, the social features of the online platforms provided an avenue to gather peer feedback or recognition. Mei was also active in online sharing. Of the 200 messages she posted on Weibo, 91% were reposts of what she had read on Weibo with one- or two-sentenced commentaries added, and 9% were self-created posts in which she shared photos of school life and friends. During interviews, she mentioned that she recently switched to WeChat to share her life and photos due to it being a more secure space where only those she added as friends could view them. When asked whether she uploaded her photos to the photo-sharing websites she usually visited, she confessed that she only uploaded pictures occasionally as she felt she was *“not good enough”*, but wanted to do it *“to show my (her) existence”*.

5.2.2 Ling

At the time of research, Ling was a serious fan of English popular music and TV drama series. She had 163 friends on QQ and had joined 14 QQ groups. On the “activity level” of Weibo, Ling had reached Level 6, having been active for over 300 days. She followed 419

people or topics on Weibo and her “followers” numbered 293 people. She had also posted 1035 messages on Weibo, most of which were forwarded messages. A close look at what/who she followed on Weibo revealed that 41% were related to her personal interests (music, drama, books, and so on). The rest were related to life and entertainment (20%), friends (19%), pop stars (16%), and news (2%). She looked to Weibo as an important source of information including news. She commented as follows: “*I get information about the society in Weibo, because I’ve hardly got time to watch television now*”. In addition to Weibo, at the time of the interview, Ling also read news, information, and discussions related to popular music and TV dramas across a variety of media formats: newspapers, video-sharing websites (e.g. *Sohu*⁴, *Youku*⁵), and QQ music. She sometimes read movie reviews in newspapers or online on *Douban*⁶. Although she thought the *Douban* reviews were “*in-depth*”, she remarked that she didn’t want to read too much for fear that “*my thinking will be influenced by others, and I might stop thinking by myself*”.

Within her local circle of friends, there were some who shared the same interests; thus the sharing of news and views among them was common practice. The interactions took place via various channels including face-to-face meetings, text messages, and online chatting. In Ling’s words, they could happen “*any time, anywhere*”. The interactions via QQ and the message feature of Weibo were not limited to people she knew, but also rippled out to “net friends” whom she had never met. She often shared music and added short personal commentaries in *Q zone*⁷, and felt a “*sense of accomplishment*” when she sparked the interest of her friends in songs or singers. However, she felt her knowledge about music was still limited, and that her

⁴ *Sohu*: A Chinese Internet company that offers a search engine, online multiplayer gaming, and so on.

⁵ *Youku*: A popular video-hosting service in China similar to YouTube.

⁶ *Douban*: A Chinese SNS where users can post reviews, discussions, and information related to film, books, and music.

⁷ *Q zone*: A blogging service provided by QQ.

commentaries were therefore not “*insightful*” or “*professional*” enough to share beyond her circle of friends. Only occasionally did she publish her views about music by joining discussions on *Baidu*⁸ forums or through her comments on others’ posts.

5.2.3 Peng

Peng, a self-confessed techno-savvy teenager, spent his interest-driven energies on technology and electronic products. He was also a member of the Literature Society and school radio station. He had 500 friends on QQ, but chatted frequently with less than 50. He had two separate accounts on Weibo, one for his own personal use, the other dedicated to recommending and trading electronic products. On his personal Weibo, he had reached level 9 on the activity scale due to having 380 fans and following 337 people and/or topics. Among the people and topics he followed, 38% were related to his hobbies, 36% were friends, and 15% were related to life and entertainment. On the other Weibo account, he followed 740 people, of whom 91% were friends or customers. Among the 79 most recent posts, 59% comprised information about products for sale and 41% were forwarded messages of news and promotions concerning the electronic products market. Analysis of the 57 most recent entries of his personal Weibo account indicated that 70% were forwarded messages and the rest were self-created posts covering a range of topics: product information, his work at school, and relationships.

To keep up with the ever-changing world of technology, Peng frequently visited various websites that introduced and reviewed new electronic devices. He consulted Weibo and online forums to gain information and learn new skills. However, he voiced his concern about the

⁸ *Baidu*: A Chinese web service company offering many services including a Chinese language search engine for websites, audio files, and images. It is the approximate equivalent of Google in China.

credibility and accuracy of the information shared on Weibo. Among his friends and classmates, there were some who shared his interests. He mentioned that they often exchanged news and jointly tried out new software or products. QQ was Peng's primary platform for instant communication, and he was a member of several technology chat groups. He even added people he met on forums as his QQ friends, so he could "*ask them questions directly through QQ*". For instance, when experiencing a problem with his smart phone operating system he turned to a software developer on QQ for advice. He had joined several open QQ groups. However, he had chosen to block these groups due to the overwhelming amount of information received and only switched on when needing to ask specific questions. As with Mei, Peng showed a preference for using WeChat rather than Weibo to share information and photos of his daily life. For sharing technology-related news and information, he used WeChat, Weibo, and QQ. As he was "*good at technology*", he often shared this knowledge and skills with friends and fellow students.

5.3 Personal interests and extra-curricular learning

The students' interest-driven learning *out-of-school* is also connected to their extra-curricular activities *in-school*. Mei's photography-related skills were well recognized by teachers and she was often selected for activities that involved taking photos or video editing. She stated that these tasks pushed her to hone her skills and learn new tricks. She noted that "*When I need to create a specific effect (in Photoshop), I will go online to search for the tutorials*". Mei worked collaboratively with other peers on a video project assigned by her Chinese Language teacher as part of the extra-curricular activities of the Literature Society. The high standard of the final product resulted in the school using it as a promotional film. The video was uploaded on to

China's largest video-sharing website, Youku, and was played over 2000 times. The link was also shared on various SNS including Sina Weibo (887 times) and QQ space (351 times).

Likewise, Ling and Peng's interest-driven learning *out-of-school* flowed into extra-curricular *in-school* activities. Both were core members of the Literature Society and participated in the production of an audio book. The resultant product - a novel - was the outcome of a joint effort by several students. In the process, Ling experimented with audio-editing software and followed tips gathered from online tutorials. Likewise, Peng described his experience as being "*pushed*" to learn video editing from scratch. He started by looking for video-editing software and seeking out information from tutorials online, and followed up by experimenting with features through trial and error. With the encouragement and help of their Chinese and English teachers, the students recorded the novel and published it as a shared audio book on a publicly accessible website - Douban.

5.4 Personal interests and formal learning

In an effort to explore any connection between knowledge and skills accumulated from personal interest activities and learning *in-school*, the students were prompted to recollect such instances. Ling believed that her avid watching of TV drama series in English, such as Downton Abbey, had impacted on her English language learning, especially her spoken English. She said that she imitated the English pronunciation: "*Sometimes I think I am speaking in English to someone in the drama, just like I am acting a role in the drama these things make me confident (with English)*". She also commented that the English learned from watching the drama series (with English subtitles) was more closely matched to everyday conversation and not as

formal as in school textbooks. The TV series opened a window to the society and culture of English-speaking countries. This *out-of-school* digital practice was, in her words “*supplementary to the English I learned in school*”. In the case of serious amateur photographer - Mei, her skills in photography and graphic manipulation were widely used in group projects or assignments that involved presentation or video production. She confessed that sometimes such tasks could be “*time-consuming*” and “*demanding*”, but they were good learning experiences that “*increased my (her) competencies*” and her ability to manage time and stress.

Ling further mentioned that she sometimes drew on TV dramas and popular culture as sources of inspiration and material for writing Chinese compositions. She shared two pieces of her writing, one based on a dialogue from “Modern Family”, and the other inspired by The Script’s “Hall of Fame” music video. Peng also shared a similar scenario of deriving inspiration from “*scenes in dramas*” of American TV series. For him, another important source of inspiration came from news or current controversial issues. The Chinese teacher mentioned in a follow-up interview that he was trying to “*align Chinese writing with the students’ interests and daily life*”. Thus, he encouraged the students to link writing to their interests and their digital/virtual experiences. For example, in a writing assignment focused on scenery, he specifically encouraged the students to use “*scenery in the virtual world*” as source material. He commented that he was practicing a more “*open*” teaching approach and seeking to train students “*to learn by themselves*”. His open style extended to assigning free-style writing tasks: that is, giving the students free reign over what to write.

The three students often mentioned the names of their Chinese and English teachers, with both teachers showing an open attitude to new technologies and innovative pedagogies. Both teachers took leadership roles in school-based societies for students, which were viewed as

“second classroom” activities. For example, in the Literature Society, the Chinese teacher met the members once a week during the evening self-study period. During this semi-formal period, the teacher would select a theme, share with the students some readings or video on the theme, then assign some non-compulsory writing tasks.

6. Discussion

In zooming in on three cases – Mei, Ling, and Peng - the present study set out to examine Chinese junior high school youths’ interest-driven digital practices. Despite the fact that the Chinese young people in our study only had limited access to the Internet *in-school* and that they could only use their smart phones during *out-of-school* time, they were nevertheless fluent in various online platforms that they utilized in pursuit of their own interests, especially SNS.

6.1 Interest-driven practices

The data show that these practices are embedded in rich technological and social contexts. In particular, we identified four dimensions of interest-driven practices informed by the data and related literature (e.g. Barron, 2006): (1) information consumption, (2) interaction and participation, (3) sharing and production, and (4) problem-solving. Table 1 shows the range of technologies used in each dimension by the three students. Detailed discussion of each dimension follows.

- Insert Table 1 here -

6.1.1 Information consumption

This dimension is concerned with general information consumption such as searching for information and keeping up-to-date on news. This echoes Barron's (2006) work that revealed "seeking out text-based information" (p. 203) as one of the strategies for self-initiated learning. Our informants resorted to a wide range of media - old and new - to gather and acquire information related to their personal interests. Their traditional media consumption (i.e. newspapers and magazines) co-existed with online sources (i.e. websites, online forums, and Weibo). The students in our study manifested the use of the Internet for instrumental purposes, such as seeking information, which were reported to be rare among Chinese urban youth in Liu's (2011) study. Weibo, a SNS similar to Twitter, enabled the students to follow experts, professionals, or authoritative organizations. Thus, Weibo functions as an enormous information hub where Chinese students can connect with a wide range of topics and people. However, the accuracy and credibility of the information shared on Weibo is also called into question by the students.

6.1.2 Sharing and production

Not only were the students consumers of information, but also they played a participatory role as information brokers, sharing and forwarding information within their social circles and even broader audiences. This is in line with the affordance new digital technologies offer for sharing and production. As Gee and Hayes (2011) maintained "Everyone can, if they choose, produce (produce knowledge, create things, do things) and not just consume what others have produced" (p. 69). On the whole, the Chinese students in our study engaged in three types of sharing and creation of online content. The most common online sharing involved simply *retweeting* interesting posts. Sina Weibo allows users to post 140-character messages with

pictures, videos, and links, and offers an easy retweeting facility with an option of adding commentaries (Chen, Zhang, Lin, & Lv, 2011). Retweeting has been argued to be one of the main forms of information propagation in SNS such as Twitter and Weibo. This is especially the case for Sina Weibo, as a significantly large share of posts have comprised retweets of media content such as jokes, images, and videos (Yu, Asur, & Huberman, 2011). This trend is also reflected in our study.

The second type of online production concerns diary-like blogs or micro-blogs in which the participants shared their thoughts and aspects of daily life with friends or people they knew. For example, Mei and Peng preferred to share within a “friend circle” in WeChat. Ling often shared popular music within her circle of friends on QZone. The third type of online production concerns the publication of larger collaborative products: for example, a video description of school life, or an audio novel, which could be posted to publicly accessible websites such as Youku and Tudou.

6.1.3 Interaction and participation

For the students in our study, the Internet was not only a platform for information and resources, but also a place to affiliate, participate, and interact with others. Thomas and Brown, (2011) noted that the new digital technologies allow us to learn through “interaction and participation with one another in fluid relationships that are the result of shared interests and opportunity” (p. 50). This dimension focuses on the social nature of interest-driven practices: that is, how the students interact with people who share the same interest(s). While this dimension is closely related to “sharing and production”, we prefer keeping the two separate, as

“sharing and production” focuses more on the creation of online content and “interaction and participation” more on social interaction.

On the whole, the three students’ interest-driven practices were profoundly social. They all had local friends around them sharing similar interests. They used a wide range of technological means for connection anytime and anywhere, following each other on WeChat or Weibo, or chatting and commenting on each other’s online sharing. In this respect, our informants showed a different orientation than the Chinese urban youth in Liu’s (2011) study whose online practice centered primarily on entertainment. The use of the Internet for social-communicative purposes was clearly evident among our informants.

Similar to what Ito and associates (2009) maintained, the young’s people’s interest-based activities had some overlap with their local social network. However, we were heartened to see emerging signs of their moving beyond co-located communities to far-flung networks on the Internet. This can be viewed as a type of learning through *participation*. Mei’s imitation of professional journalists and photographers represented an emulation of masters as an entry point to the community of practice (see Lave & Wenger, 1991). Peng and Ling occasionally joined discussions in online forums related to their interest to voice and share their experiences and knowledge. Mei posted selected pictures she had taken to photo-sharing websites to show her “*existence*”. Arguably, our participants positioned themselves on the periphery of online communities, mostly gaining access to resources, and only occasionally asking questions or posting their thoughts or work. However, there were signs of a burgeoning practice of moving from lurker to contributor (see Brown, 2000).

6.1.4 Problem-solving

Interest-driven learning is often based on problem-solving or “learning by doing” (Buckingham, 2008; Ito et al., 2013). In our study, this dimension refers to the process of solving problems that are often related to the implementation of technologies (e.g. using Photoshop). The process of learning to use software, as illustrated by our data, was mostly guided by online tutorials and through trial and error. The interaction discussed earlier, be it online or face-to-face, was often centered on problem-solving. More importantly, web-based tools not only connected the participants with like-minded peers within their physical environment, but also tapped into the expertise of online specialists (see Means, Bakia, & Murphy, 2014). In the process of problem-solving, they resorted to online forums and QQ on a need-to-know basis to consult more capable others and ask for help. In so doing, their interest-driven practices became embedded in “social networks and communities of interest and expertise that they can call on for help, feedback, and mentorship” (Ito et al., 2013, p. 57).

To sum up, “connected learning” as described by Ito and colleagues (2013) was clearly evident in our inquiry into Chinese youth’s digital practices surrounding personal interests. Web-based tools - especially SNS such as WeChat and Weibo - served as powerful vehicles for self-propelled interest-driven *out-of-school* learning. Practices surrounding personal interests are by nature highly motivating and authentic. Through a wide range of digital tools, the students tapped into not only information resources, but also social and community resources. The connection with peers, experts, or knowledgeable others allowed for affiliation, sharing, and problem-solving. It is worth pointing out that the lines between the aforementioned dimensions are by no means clear-cut. These four dimensions of interest-driven practices are interdependent and interconnected: information consumption is connected with sharing (e.g. through easy

retweeting on SNS), online sharing ignites interaction, and interaction often evolves from problem-solving.

6.2 Bridges between in- and out-of-school practices

The participants' personal interests were connected with their extra-curricular activities and the responsibilities they shouldered within school-based organizations, which in turn, provided a strong impetus for informal learning. Findings from our study suggest that school-based club or society activities presented as a meeting point for formal and informal learning spaces, offering both a space and opportunity to bring together students' personal interest-based learning and school-based learning. School-based extracurricular learning spaces provided a bridge for capitalizing on informal learning mechanisms for the utilization in formal *in-school* learning. All three students were involved in the Literature Society and participated in media production projects. These learning practices are similar to those that Kupiainen (2013) referred to as "school community-based practices", where media production occurs in "unofficial school spaces and informal settings" (p. 57). Furthermore, the students' interest-driven practices outside of school were found to be complementary and to tie-in with *in-school* learning. The most palpable linkage was arguably Ling's enthusiasm for English TV series and the impact it had on her acquisition of the English language.

In both types of activities – extra-curricular and *in-school* - teachers played an important role. Both the Chinese and English teachers were actively involved in extra-curricular activities by assigning tasks, giving feedback, and helping the students with their online production and sharing. These teachers knew the students well, due in great part to the structural arrangements in

Chinese secondary schools where a class has a designated subject teacher for three consecutive years in junior high. Both teachers were open and encouraging, allowing students to bring the knowledge and skills acquired through their hobbies and popular culture interests to the extra-curricular tasks and even schoolwork. In this way, the students' authentic interests were leveraged for formal learning and other *in-school* activities.

7. Conclusion

All three case study students demonstrated that they were quite advanced digital engagers who displayed participatory practices in the wider interest communities online. The underlying learning processes that the students demonstrated in their interest-driven learning *out-of-school* are exemplars of connected learning, and are by no means trivial; in fact, such processes are vital for self-directed and lifelong learning demanded by a knowledge-based society. It is our hope that the snippets of data gathered in this research will inform the ongoing discussion regarding the significance of connecting *in-* and *out-of-school* practices.

The students in our study have exemplified the ability of capitalizing on the informational and social resources of the Internet. Web-based tools (e.g. online forums and SNS) afford them the ability to keep in touch with peers and experts *out-of-school*. Such connections can provide authentic opportunities for discussion and sharing. In the case of the three students' data discussed here, the conclusion can be confidently drawn that strong informal learning emerges from interest-driven *out-of-school* digital engagement. Based on such evidence it is our belief that it is high time for teachers to think and plan more strategically about how to cultivate participatory practices *in-school*. Additionally efforts could be made to cultivate online communities for extension into wider circles such as senior students, alumni, professionals, or

even experts. Alternatively, students could be introduced and induced into existing online communities of practice, which could provide an avenue for formal or informal peer sharing and mentoring. Another important finding of our study is that extra-curricular activities can bridge students' *in-* and *out-of-*school practices. After-school programs and clubs often are deeply connected to students' personal interests and fall outside the formal curriculum structure. To a large extent, they resemble what Means, Bakia, and Murphy (2014) referred to as "third spaces" that "may offer a more viable alternative for capitalizing on informal learning mechanisms to enhance education outcomes" (p. 98).

In closing, it should be pointed out that the three students we handpicked here are high achievers in both academic performance and digital engagement. The participatory practice in the online world reported here is likely not typical or representative of all Chinese youth. Further research taking a quantitative approach will be needed to determine the extent to which the results of our study can be generalized to a wider population.

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Table 1. Interest-driven digital practices supported by technologies.

	Information consumption				Sharing & production						Interaction/participation			Problem-solving		
	Website	Weibo	Magazine	Forum	Weibo	WeChat	QQ	YouKu	Tudou	QZone	WeChat	Weibo	QQ	Website	QQ	Forum
Mei	✓	✓	✓		✓	✓		✓	✓	✓	✓	✓		✓		
Ling	✓	✓	✓		✓		✓	✓	✓	✓	✓	✓		✓		✓
Peng	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓