sustainability

MDPI

Article

School-Aged Students' Sustainable Online Learning Engagement during COVID-19: Community of Inquiry in a Chinese Secondary Education Context

Fangfei Li [1], Tinghe Jin [2], Palitha Edirisingha [3] and Xi Zhang [1,*]

[1] College of Foreign Languages, Donghua University, Shanghai 200051, China; lifangfei@dhu.edu.cn
[2] School of Education, Durham University, Durham DH1 1TA, UK; tinghe.jin@durham.ac.uk or tinghejin@gmail.com
[3] School of Education, University of Leicester, Leicester LE1 7RF, UK; pe27@leicester.ac.uk
* Correspondence: zhang_xi@dhu.edu.cn or zhangxi001@163.com

Abstract: As the COVID-19 pandemic began to spread all over the world, many educational institutions have shifted to a full-time online teaching mode. Although online teaching has been widely explored, the unprecedented initiatives of mass-scale full-time online education at the secondary school level are yet to be unravelled. By using a qualitative approach and drawing on the conceptualisation of learning engagement and Community of Inquire model as conceptual frameworks, this study explored how secondary school students in China engaged with online education during the COVID-19 pandemic and what factors influenced their sustainable online learning engagement. This research examined the perspectives of twenty-four students and five teachers through semi-structured interviews and observations of online classes. Findings indicate that the students' online learning engagement involved three inter-related categories: emotional, cognitive and behavioural engagement. Contextual factors influencing the sustainability of students' online learning engagement were identified by the participants, including teacher presence, parental involvement, and a supportive learning environment/community. The findings in this paper have implications for teacher development, family support and establishment of e-teaching platforms in emergency remote teaching for young students. Finally, the study puts forward best practices for the sustainable development of the emergency remote teaching in the future public crises.

Keywords: full-time online education; secondary school; student engagement; community of inquiry; COVID-19

check for updates

Citation: Li, F.; Jin, T.; Edirisingha, P.; Zhang, X. School-Aged Students' Sustainable Online Learning Engagement during COVID-19: Community of Inquiry in a Chinese Secondary Education Context. *Sustainability* **2021**, *13*, 10147. https://doi.org/10.3390/su131810147

Academic Editors: José Antonio Marín-Marín, Santiago Alonso-García and Fernando José Sadio Ramos

Received: 12 August 2021
Accepted: 7 September 2021
Published: 10 September 2021

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Copyright: © 2021 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https://creativecommons.org/licenses/by/4.0/).

1. Introduction

Since the COVID-19 pandemic began to spread in early 2020 in China, the Chinese government has implemented strict social distancing measures in all domains of life. In order to reduce the impact of the pandemic on education, the Ministry of Education in China proposed a policy entitled "Suspending Classes Without Stopping Learning" on 4 February 2020 to sustain teaching online [1]. The essence of the policy was to use online methods to teach students who would otherwise be missing out on education. School leaders and teachers had to prepare for this online remote teaching at a very short notice. This unprecedented mass-scale online teaching was implemented in all levels of education—from primary schools to universities—from early February to July 2020 (the end of the Spring semester in China). Subsequently, schools in 191 countries closed in the early period of the pandemic, affecting 91.3% of students' study (around 1.5 billion students worldwide) [2]. In response to the school closures, online education was being implemented all over the world. Although teaching and learning online is not new to China, this form of education has been mainly used in universities for adults and part-time learners seeking post-secondary and vocational qualifications to a limited extent as

supplement to face-to-face classroom teaching [3]. Such online or distance learning is rare at the school level. Therefore, theoretical insights and empirical examples were very limited for schools to draw on in order to help them to implement this mass-scale full-time online education during the pandemic.

Based on the early evaluations of online teaching during the pandemic in China, issues that may occur in the implementation of full-time online teaching for school children have been identified, such as students' low motivation towards online learning, reduced focus, limited ability for independent learning at home, teachers' insufficient expertise and knowledge in online teaching [1,4–6]. Yet, these factors have not been fully examined in empirical research.

School-aged students' engagement with emergency remote teaching is particularly worth investigating because young learners' academic immaturity, (i.e., poor problem-solving skills and self-regulated abilities) may impede their affective management and cognitive processing of online learning resources [7]. More importantly, their previous face-to-face traditional schooling with intense teacher involvement might not have prepared them for engaging with self-regulated online study. Further, the software, such as DingTalk (Version 5.0.8, Alibaba, Hangzhou, China) and Zoom live meetings (Version 5.5.2, Zoom Video Communications, San Jose, CA, USA), which were widely used in online teaching during the pandemic, suit the majority of users but may not always accommodate young learners' needs and struggles [8], nor fully support teachers with limited teaching expertise in emergency remote teaching during a public health crisis [4]. Such deficiencies may cause secondary school students to be disadvantaged in sustainably engaging with online study during the pandemic quarantine period. Therefore, a close examination into school students' online learning experiences during the lockdown period is warranted to heighten educators and policymakers' awareness of these students' challenges in engaging with emergency remote teaching and thus to improve online education quality at the secondary school level. This qualitative research thus investigated the perspectives of five Chinese public secondary school teachers and twenty-four students who had not experienced online teaching/learning before the pandemic quarantine period. By using class observation and self-reports to access teachers' and students' practice in online classes, this study explored the way that the students engage emotionally, cognitively and behaviourally with online education during the COVID-19 pandemic, and elicited the contextual factors that influenced their sustainable online learning engagement.

2. Student Engagement

Student engagement is now widely accepted as a multi-dimensional concept consisting of three interlocking components: emotional, cognitive, and behavioural engagement [9,10]. According to Fredricks et al. [9], emotional engagement relates to students' interest and sense of belonging, and emotional reactions to teachers, peers, subject domains, schools and other learning environments. Cognitive engagement refers to a student's mental effort to understand ideas and master skills, while behavioural engagement focuses on participation, persistence, and positive conduct (e.g., asking questions in class) to academic and other school-related activities. These components have been examined to be inter-related, contributing to students' learning. For example, a study conducted by Li and Lerner [11] using longitudinal data and a sample of 1029 high school students in the United States has found out that behavioural and emotional school engagement were interrelated and behavioural engagement influenced cognitive engagement. Based on undergraduate students' flipped learning at a Korean university, Lee et al. [12] have found that learners' affective engagement in the flipped learning was influenced by behavioural and cognitive engagement. Meyer and Turner [13] identify that constant positive emotions could motivate students to learn, and students having mastery goals are more able to regulate their negative emotions and learning behaviours.

Adolescence is considered a challenging stage, involving bio-psycho-social changes and exploring various identities [14]. Adolescents' mental health during the school closures

of the COVID-19 pandemic has been investigated in the latest research. Through a cross-sectional online survey of 4342 primary and secondary school students from China, Tang et al. [15] found that anxiety, depression and stress are the three most prevalent syndromes affecting adolescents' mental health during the home quarantine period. It can be inferred that coping with the COVID-19 situation may make it more challenging for adolescents to engage with their courses on an emotional level. Moreover, quantitative surveys of online teaching amid the COVID-19 period have been widely carried out, identifying the factors that influenced the effectiveness of online teaching including boredom between time points, poor class concentration and low attendance in live classes [16,17]. However, enquiries as to the elements that contribute to school students' low motivation and concentration on online classes are not fully addressed. With this background, the current study drew on Fredricks et al.'s [9] conceptualisation of learning engagement as an overarching conceptual framework with which to investigate secondary school students' emotional, cognitive and behavioural engagement in their learning during the lockdown period in China.

3. Student Engagement in Online Learning

One approach to looking at the learner experience in online learning is the Community of Inquiry (CoI) model developed by Garrison et al. [18] which is considered to be a useful framework contributing to research and development in online learning [19]. Based on the distance learning technologies available in the early 1990s, Garrison et al. [18] have proposed that an engaging educational transaction in a text-based computer-mediated communication environment is one consisting of social presence, teaching presence and cognitive presence. Social presence is "the ability of participants to identify with the community, communicate purposefully in a trusting environment, and develop inter-personal relationships by way of projecting their individual personalities" [20] (p. 352). Social presence consists of three main components: emotional expression, open communication and group cohesion among the faculty and students [18], such as implementation of teaching activities, teacher-student and student-student interactions, and affective support among participants. Teaching presence involves curriculum design, facilitating the establishment of learning community and directing the learning process [20]. Cognitive presence refers to learners' "exploration, construction, resolution and confirmation of understanding through collaboration and reflection in a community of inquiry" [21] (p. 65). The CoI model suggests that the combined effect of the three presences contributes to a meaningful learning experience through joint efforts by teachers and students within a community. The intersection of the three presences implies that the operationalisation of the CoI framework is associated with teachers' agency in managing online classes, building interactive online learning community and scaffolding students to construct knowledge via the Internet [20]. Furthermore, the premise of CoI cannot be apart from students' learning motivation and agency in co-regulating their online learning because the collaborative learning community and effective online learning environment cannot be established without students' active engagement [19].

The CoI model offers a useful tool to conceptualise the broader contextual factors contributing to student engagement in online learning. Student engagement is influenced by a number of contextual factors, and the relation between context and engagement is reciprocal. Gedera et al. [22] have pointed out the online tools, community and lecturer/teacher presence as factors affecting student engagement in the university context. Adopting semi-guided essays, Hussein et al. [23] have qualitatively examined problems with technology, distractions, and limited support from teachers that influence United Arab Emirates undergraduate students' sustainable online study in the lockdown period of COVID-19.

While CoI has been widely investigated in higher education contexts, its constituents and relationships may change in other contexts and with different learner groups [24]. Yet, little is known currently about how CoI could be used to understand young learner engagement in secondary school settings. In our review of the research, we found only a

small number of studies that have examined contextual factors concerning school students. Yao et al. [25] have examined the effectiveness of two online teaching methods: recorded video and live broadcasting in two Chinese middle schools after the outbreak of the COVID-19 pandemic, and identified the online tool and teacher presence as contextual influences on student engagement with online courses. Based on a quantitative study with a sample of 1336 female students and 1492 male students at a middle school in the western part of China, Yu et al. [5] have found that students' genders, grades, home location, type of device and parental companionship affected the students' online learning effectiveness. Moreover, family or parental involvement can shape students' engagement [26], such as parents' support for young students' homework [27]. Despite the factors identified in the latest quantitative surveys, little is known from a qualitative perspective as to how the home conditions may influence sustainable home-based learning, how parents supervise their children at home, and how students perceive the support they gain from their parents.

4. Online Learning during the COVID-19 Pandemic

Online classes during COVID-19 lockdown in China were not supplementary to traditional face-to-face courses but became the only way that students were able to "attend" classes [28]. These online classes were conducted in an emergency, i.e., with limited time for planning how the teaching and learning resources should be organised. The present study therefore used a qualitative approach to investigate students' and teachers' perspectives to understand student engagement with online courses in secondary schooling context during the COVID-19 pandemic. It can help to develop a more comprehensive picture of student online learning engagement to inform future policy and practice. It investigated the following two research questions:

1. How did Chinese secondary school students emotionally, cognitively and behaviourally engage with online classes during COVID-19?
2. What contextual factors influenced the students' sustainable online learning engagement?

5. Methodology

5.1. The Online Teaching Context

In response to school closure during COVID-19, the Department of National E-class of China (www.eduyun.cn, accessed on 11 August 2021) had designed recorded courses, named "Air Class", to be streamed to students at the compulsory schooling level since March 2020 (including primary and secondary schools). Students were required to attend those courses broadcasted on the China Education Television (CETV) following a given schedule [29]. In addition, teachers at the primary, secondary and tertiary levels had the option to create recorded or live classes based on the needs of their own schools. Live classes consisted of a combination of live teaching using PowerPoint slides, and text-based discussions [30]. The most popular online education platforms were found to be QQ, DingTalk, WeChat and Seewo according to an online survey conducted by the Practical Education Technology with schoolteachers [31].

5.2. Research Design and Research Sample

As this study aimed to uncover in-depth information about secondary school students' and teachers' learning/teaching online experiences, an exploratory qualitative study was conducted to investigate the phenomenon. To fulfil the research aims, the recruitment criteria for participating teachers and students as research samples were the following: (a) they were from secondary public schools, and (b) they participated in full-time online teaching/learning during the COVID-19 pandemic. To explore the challenges and issues in emergency remote teaching during the pandemic to their fullest complexities, the recruitment criteria did not set any restrictions on geographical locations and social-economic conditions of schools, nor the teaching experiences or subjects taught by the teachers.

The study was conducted in accordance with the Declaration of Helsinki, and the protocol was approved by the Ethics Committee of Donghua University. After obtaining the

ethical approval, the first and fourth authors attempted to recruit volunteer teachers, and distributed the research information sheet through Chinese mainstream online social media channels—Weibo and Wechat. Twenty-eight teachers contacted the researchers for the project details, and five of them from four public secondary schools, with their institution boards' permission, agreed to take part in this research. While no subject selection was made, all participating teachers were teaching English at the time of data collection. They are referred to in this paper using pseudonyms Teacher A, B, C, D and E. Table 1 outlines the teachers' profiles.

Table 1. Participating teachers' profile.

Teacher	Qualification	School Location	Teaching Experience	Class	Online Teaching Tools
Teacher A	BA; MA	East China (urban)	1 year	Junior Year 1	Air Class; DingTalk
Teacher B	BA; MA	Northeast China (urban)	3 years	Senior Year 1	Zhumu; DingTalk
Teacher C	BA; MA	Northwest China (urban)	3 years	Senior Year 1	DingTalk
Teacher D	BA	Northeast China (urban)	14 years	Senior Year 1	Zhumu; DingTalk
Teacher E	BA	Northwest China (rural)	1 year	Junior Year 3	DingTalk; Wechat

Although having teaching experience for more than a year, the distance education during the pandemic was their first time to use technologies to complete teaching tasks. The number of students that they taught in a class ranged from 35 to 50.

Students in the five participating teachers' classes were invited to participate in this study. Twenty-three students, ranging from 13–18 years old, consented to participate. Their guardians were informed of the research procedure and ethics. They gave full consent for their children's participation in the research before the data collection. None of the students had had previous full-time online learning experience. Table 2 provides the profile of the students who were given a code name based on their English course teachers' (who took part in the study) pseudonyms followed by a sequential code. For example, the five participating students of Teacher A were named as A1, A2, A3, A4 and A5.

Table 2. Participating students' profile.

Teacher A's Class		Teacher B's Class		Teacher C's Class		Teacher D's Class		Teacher E's Class	
Student Pseudonym/Gender/Age Range									
A1	F	B1	M	C1	F	D1	F	E1	F
A2	M	B2	M	C2	M	D2	F	E2	F
A3	M	B3	F	C3	F	D3	F	E3	F
A4	M	B4	M	C4	F	D4	F	E4	F
A5	M			C5	F	D5	F	E5	M
12–13		15–17		15–17		17–18		17–18	

5.3. Online Technologies Used by the Participants

The main technologies used by the participating teachers in online classes is shown in Table 3.

Table 3. Online teaching technologies.

Online Class Platforms	Functions (Technologies)
DingTalk (Version 5.0.8, Alibaba, Hangzhou, China)	Live presentation; sharing computer screen; text-based chats; video chats; homework assignment and marking online
Zhumu (Version 4.5.8, Tianjimedia, Chongqing, China)	Live presentation; handwriting input on screen; sharing computer screen; text-based chats; video chats
Air Class (www.eduyun.cn, accessed on 11 August 2021)	Recorded classes broadcasted on the China Education Television
Wechat (Version 8.0.0, Tencent, Shenzhen, China)	Q & A activities; sharing learning material

Students had access to two types of online courses. The first was live classes delivered by subject teachers on live class platforms (e.g., by Teachers B, C, D and E on DingTalk or Zhumu). The teachers presented PowerPoint slides or handwritten notes on these platforms (Figures 1–3). Instant video chat between teacher and student was available on Zhumu (Figure 4). By contrast, instant text messaging as class interaction was used more frequently on DingTalk with a consideration of the heavy lags and poor quality in videos due to its slow broadband speed. The second type was Air Classes implemented at the school of Teacher A, following a schedule made by the local Education Department (Figure 5). After each class, a live Q & A session was arranged by the subject teacher on DingTalk to address inquiries that students might raise from the recorded class.

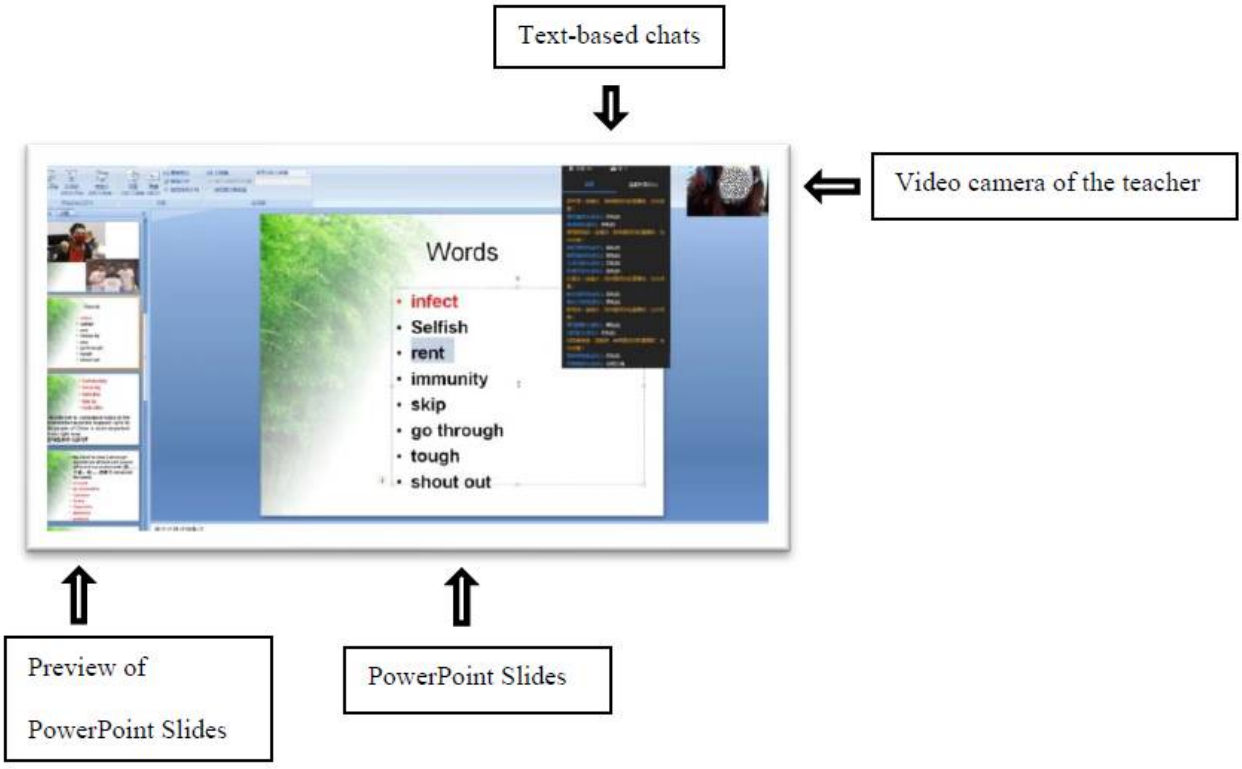

Figure 1. Live class on DingTalk (Teacher C).

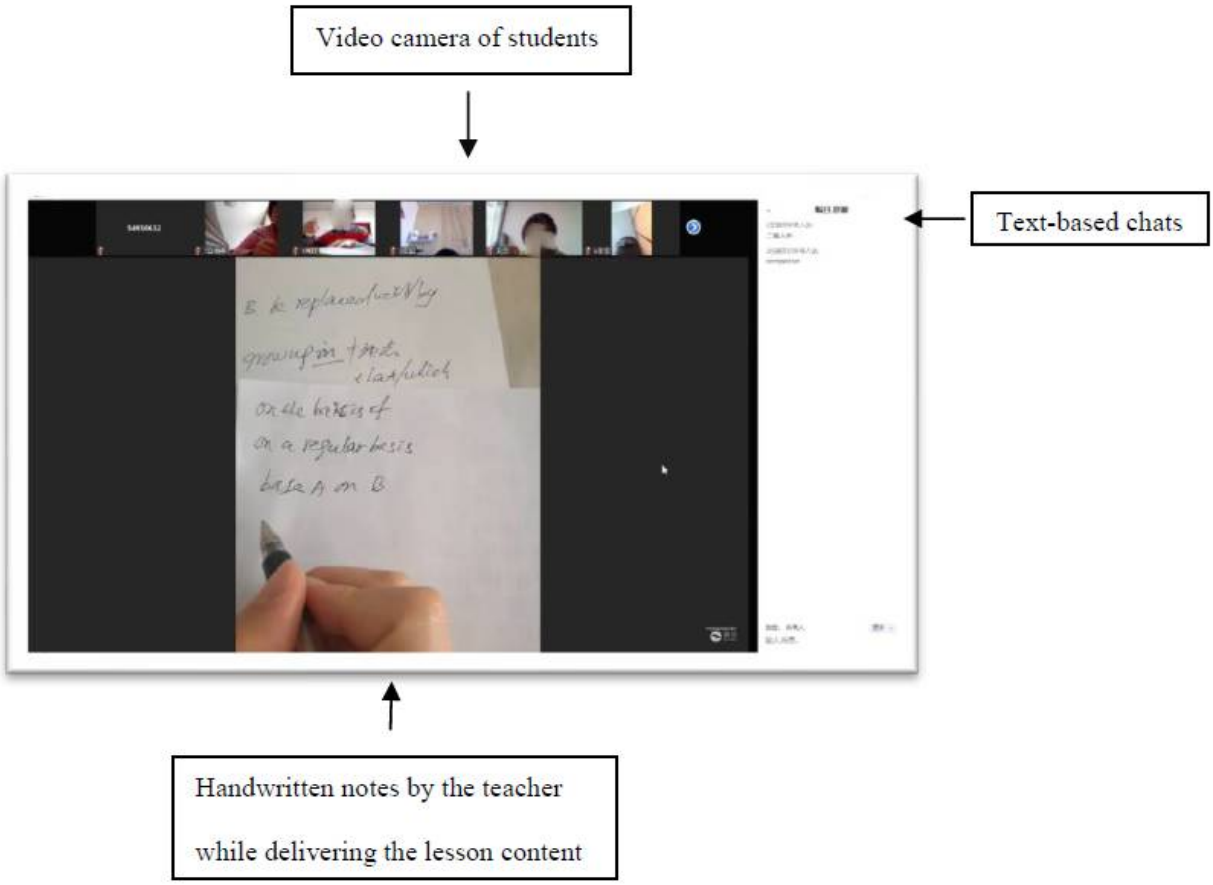

Figure 2. Live class on Zhumu (Teacher D). Notes handwritten by the teacher while delivering the lesson content.

Figure 3. Live class on DingTalk (Teacher E).

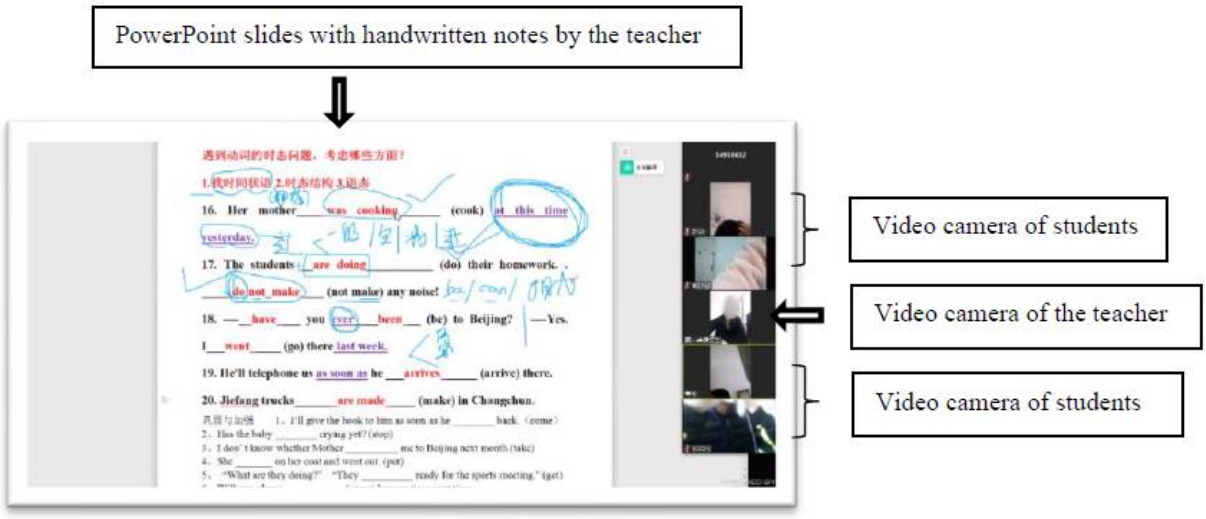

Figure 4. Live class on Zhumu (Teacher B). PowerPoint slides with handwritten notes from the teacher.

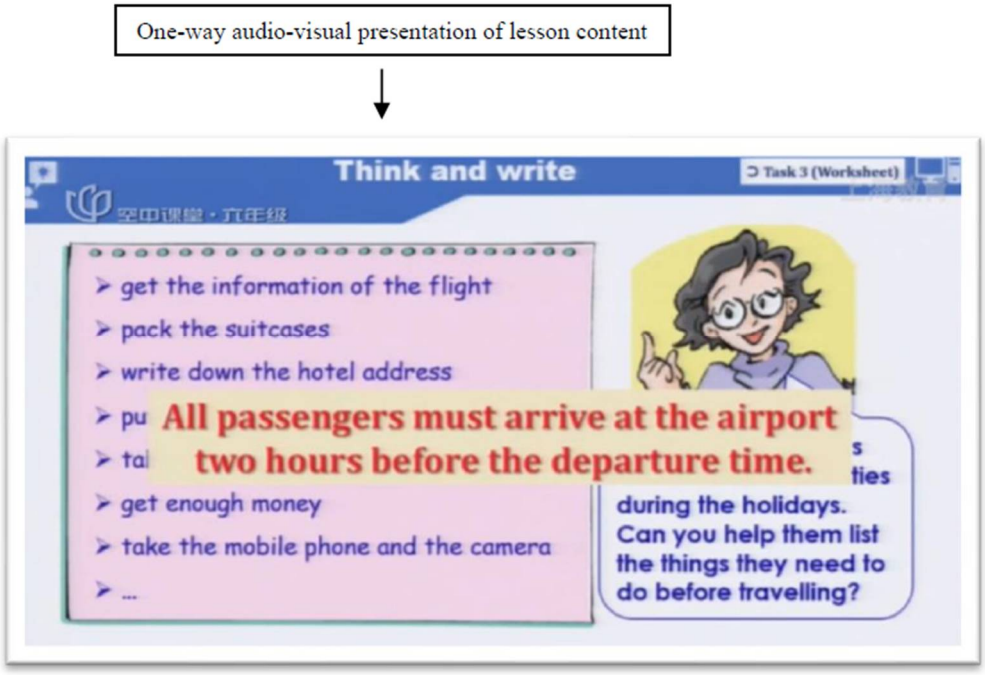

Figure 5. Recorded class board-casted on CETV (Teacher A).

5.4. Data Collection and Analysis

Data was collected using two methods: non-participant observation of online classes and semi-structured interviews, among which the interviews constituted the primary source of data. By combining and triangulating cross-method data, different perspectives regarding students' engagement with online learning were established [32]. Data collection was started after about two months of online teaching by participating teachers (late April 2020).

In order to understand the typical routines of the online classes and to contextualise the students' interview accounts of their learning engagement, non-participant observations were conducted [33]. During the preliminary stage of the data collection phase, the fourth author observed an online session taught by each of the participating teachers. In total, five sessions (lasting a total of 265 min) were observed. To observe these classes, the researcher either joined the live classes through the teacher's invitation, or watched the recorded classes as provided by the teachers. The key aim was to observe the functions of the

online teaching tools, teaching procedure, class interaction, teacher and student physical presence, and network. Observation basis and corresponding indicators are shown in Table 4. The five sessions were screen-captured (i.e., video-taped) for subsequent analysis with the permission of the school boards, the participating teachers and the students. Narrative field notes of the observed classes were recorded by the fourth author with main content about descriptions of software functions, online instruction time, teaching methods and instruments, and behaviours of teachers and students. To ensure the anonymity and confidentiality of all the participants, their images in the screenshots of class videos were protected and were not disclosed publicly. The data collected was used to help the researchers to design interview topics aligning with the class settings, and to cross-reference to the interview data to support triangulation of the findings.

Table 4. Observation basis and corresponding indicators.

ObservationBasis	Observation Indicator	Code (Example)
Teaching software main functions	1. Live show/recorded video 2. Teachers' and students' camera 3. Discussion forum 4. Ways of lesson content presentation	• Handwriting input screen equipped in Zhumu was used in Teacher B's class. • Both verbal and textual discussion available on DingTalk.
Teaching procedure	5. Content delivery 6. Class activities 7. Online teaching strategies 8. Homework assignment	• Teacher C used PowerPoint slides and videos to deliver the lesson content. • Teacher D asked students to display their class notes in front of their cameras, a strategy for enhancing students' attention.
Class interaction	9. Ways of interaction (teacher to student; student to student) 10. Degree of students' involvement	• Teacher C nominated students to answer questions. • 5 students actively participate in the interaction with Teacher E.
Teacher and student's physical presence	11. Image (presented in front of the camera)	• Some students' images were not shown in the right position of their video interfaces (Teacher B and D's class).
Broadband network	12. Network speed 13. Influence of slow network speed on class	• Poor verbal interaction in Teacher C's class. • Quick-fire questions are not applicable due to slow network.

Review of the observation data found that, while part of the teachers' and students' performance in online classes could be observed through the videos, the students' emotional and cognitive engagement with online learning and rationales of the teachers' specific practices being observed could not be fully unveiled through the visual data. In that case, following the observations, semi-structured retrospective interviews were undertaken by the first researcher to obtain the participants' self-reports of their online teaching/learning experiences and related perceptions. Since the data was collected during the pandemic lockdown, interviews were conducted online with each participant (ranging from 20–60 min per interview) at the end of the observed classes. Interviews with the teachers were conducted to understand their online teaching experience, teaching strategies and their perceptions of students' performance in class. Guiding interview questions include "What teaching methods have you used in online classes and why do you use them?", "How do students perform in your online class?", "How do you perceive the differences between online class and traditional face-to-face class?", and "Have you done anything to deal with such differences?". In order to explore how the students approached learning at home

and their perceptions of online courses, key interview questions with the students were designed, such as "Do you like the current online learning mode and why?", "What do you usually do during and after the online classes?", "Do the teachers and your parents have any expectations/requirements to your learning performance?", and "Do you think that you learn more or less in online classes than in face-to-face classes?". During the interviews, the students were also encouraged to talk about their perceptions and experiences of the online courses taught by the corresponding participating teachers as well as other teachers in their schools. To reduce communication obstacles and collect meaningful data, the interviews were conducted in Chinese, the local language of the participants. Interview quotes presented in the findings section were translated into English.

Analysis of the observation and interview data was guided by Braun and Clarke's [34] approach to thematic analysis and the initial a priori frameworks. The starting frameworks were based on the learner engagement proposed by Fredricks et al. [9] and the CoI model by Garrison et al. [18]. Under these frameworks, subcategories were grounded on the current data. To answer RQ1, the first researcher repeatedly read the observation field notes and interview transcripts to identify data excerpts that shed light on the students' emotional, cognitive and behavioural engagement in online learning. In order to enhance the openness and depth of this study, analytic induction was conducted to refine sub-categories within each of the emotional, cognitive and behavioural dimensions (themes) [35]. For example, data excerpts under the cognitive engagement were coded as "distracted in class", "kept concentrated on the class", "information overload in PowerPoint slides", etc. These codes were then grouped and consolidated into two sub-categories: class attention and comprehension of lesson content. Meanwhile, 36 codes in relation to contextual factors influencing online learning engagement (RQ 2) were identified from the interview data. These codes were cross-referenced with the observation codes (25 codes in total) to form three key categories: teacher presence, parental involvement, and learning environment. For example, the observation code "teacher asking students to display class notes in front of the camera" was combined with the interview code "students concentrated on class more after knowing that their notes are being checked" to elicit the factor of teacher presence by adopting a "monitoring strategy" influencing student cognitive engagement.

To enhance the validity of data analysis, the fourth author was invited to code the data, reaching 75% initial inter-coder agreement and later 95% after discussion. Before and throughout the data analysis stage, member check and cross-method data triangulation were undertaken to enhance the trustworthiness and credibility of the data analysis. Finally, a review of all the themes and data was conducted to check if the data was mapped on to the themes. We present the findings in two sections below to answer the research questions, respectively.

6. Results

6.1. Engagement with Online Courses

The use of Fredricks et al.'s [9] conceptualisation of learning engagement helped us to gain an insight into how students engaged with their learning from three dimensions: emotionally, cognitively and behaviourally.

6.1.1. Emotional Engagement

Fourteen participating students reported that their emotional reactions to the online courses went through a range of changes. Twenty-three of the participants experienced full-time online study at home for the first time, which evoked their curiosity and excitement at the initial stage of their online studies. For example, D4 reported, "Initially, I was very excited and had fun with the online courses. I listened to the classes cheerfully. After a while, I felt it all plain and I felt bored."

However, negative emotions, such as isolation and boredom were generated when they found they were involved in the learning environment at home. Comments were made by B2: "In the break time, I can't play outside with my classmates. I can only sit in

front of my computer and it is not a good rest. I always feel bored and tired." The quotes show that the students' negative emotions were mainly caused by the lack of physical community with peers when learning at home. In particular, the online courses were organised in emergency and this led to a negative impact on students' engagement with their learning who experienced a sudden loss of classroom social interaction. This is why sustained communication in the online educational environment is important for meaningful learning, as the CoI model suggests [18].

The students' emotional engagement was related to their online learning and performance. B4 elaborated how his learning behaviour was changed as his enthusiasm on online courses declined. She suggested, "I got a feeling of novelty and learned very carefully in the first few days. I kept concentrated on the class and took notes. But now the novelty disappears. I got idle and did whatever I wanted." This indicates that novelty and curiosity led to high learning engagement, whereas the sense of boredom tended to result in less class attention. This finding acknowledges that positive emotions are a prerequisite of cognitive and behavioural engagement, supplementing Li and Lerner's [11] conception of the three interrelated components of engagement.

By contrast, despite diminishing excitement with online learning, a number of students were able to self-adjust their learning motivation. For example, E1 described that "Later the fresh feeling disappears, and the classes are less interesting. However, I can't be lazy because Gaokao (college entrance examination in China) is upcoming. So, I try to keep learning with high motivation." This suggests that negative emotional experience of online courses does not have to lead to a negative change in learning behaviour. Pressure from high-stake testing, as an extrinsic motivation in the instance for E1, was a key factor that promoted individual students' engagement in online learning engagement.

6.1.2. Cognitive Engagement

Issues on cognitive engagement identified in the data mainly involved students' class attention/concentration and understanding of lesson content. More than half of the participating students acknowledged that they found it difficult to maintain concentration in online class, which resulted in less intake of knowledge. For example, E1 said, "I just could not control myself. I kept following the teacher but gradually I lost my concentration. When I realised that, I had missed some content."

The participating teachers also complained about the lack of attention paid by students in their online classes. Students in Teacher D's live classes were required to switch on their cameras in class. The teacher could look over the computer screen and inspect students' learning. The observation data shows that some students had not switched on their cameras. According to the interview with Teacher D, even though some of them switched on their cameras, they did not seem to be fully engaged. She said, "Some students gaze at the screen with a dull look. Some others watch the screen with giggles. What are they laughing at? They must have been watching some entertainment videos on computers, instead of listening to the lesson." This may show that although the students were observed to be behaviourally engaged (e.g., sitting in front of the computer and appearing to be listening), they might cognitively disengage with the lesson. The participating students echoed teachers' difficulty in making effective monitoring of students' performance over the computer screen, "Unlike at school where our teachers are present in class and warn us to be disciplined, they could not closely supervise what we're doing at home" (A4). While the impact of teacher presence (as providing feedback, organising discussions, and managing the overall teaching/learning activities) on students' engagement with their online learning is well recognised in the literature [23], our data shows that teacher's absence in the real/physical classroom limited young students' engagement with online classes.

Cognitive disengagement is also manifested in the students' difficulty in following what teachers taught. C2 described his struggle with online courses as failure to understand the teachers' explanation of math and physics problems.

I could not understand very well what he said. That would be different in the offline classroom. The teacher could explain problems by developing formulas on the blackboard, drawing graphs, using tools to help us understand. However, these cannot be provided online (C2).

This instance shows that this student's cognitive engagement and his learning were negatively affected by the shift of teaching methods from face-to-face classroom presentation to online slides presentation. This point was also highlighted by Teacher A, who suggested that the multiple methods that teachers would normally use in physical classrooms to teach were less available in online teaching. She said, "In classrooms, I taught the lessons in English. I guided students to understand what I said by changing my tones and facial expressions, using postures and pictures. These [methods], however, cannot be applied online." This indicates that the altered class design and teaching methodology adjustment as part of teaching presence may hamper students' intake of knowledge in online classes.

6.1.3. Behavioural Engagement

Behavioural engagement in this study is found to be related to students' performance in and after online class, including attendance, class interaction, assignment completion, self-regulation and self-monitoring at home. Data shows that students' behaviour in online classes was different from that in face-to-face classes. All the teachers commented that behaviourally engaged students in their classes were proactive to interact with teachers and showed a high level of self-discipline in homework completion. As Teacher D reported, "They keep taking notes in class and voluntarily answer questions. Their homework is always good and of high quality."

The data also reveals that higher behavioural engagement is beneficial for cognitive engagement, echoing findings of Li and Lerner [11]. When C2 found that he became less cognitively engaged with online classes, he tried to improve his concentration by taking class notes as a metacognitive learning strategy to stop his mind wondering off. He reported, "I became less concentrated for several times and I thought about why I had wondering off. Then I found a way—keeping taking notes while listening to the class could help me to be more concentrated." However, as can be seen in the earlier instance in which Teacher D complained about students' lack of concentration even sitting in front of the computer screen, behavioural engagement did not always lead to cognitive engagement. Merely sitting and staring at the screen could guarantee more of students' physical participation in the class than their cognitive concentration. The contrasting findings suggest that it was not merely behavioural engagement, but a high level of student agency (C2's high learning motivation and metacognitive learning strategies) that was conducive to learning engagement and class attention.

In addition, it has been found that almost half of the participating students (=11) were behaviourally disengaged in a relaxing home environment and under loose supervision by teachers over the Internet. In live online classes, they "ate snacks" (C3; E1), "lay on bed for a rest" (E4), and "played with a puppy" (E2), or used mobile phones for entertainment-related activities, which may preclude their cognitive processing of the online courses. As E5 acknowledged, "The phone seems to have mysterious power. I just can't control myself not playing it during the online class." Due to the limited teacher physical presence and lack of effective class supervision over the Internet, the teachers felt powerless to students' low engagement in online classes. As Teacher D reported, "In face-to-face classes, you can order a student to stand up and punish him/her in some way if s/he is undisciplined. But you can't do that on the Internet."

By contrast, C1's strong ownership of learning and C5's goal orientation in academics promoted their engagement with home-based online study. C1 reported, "Studying is my business. So, I need to be responsible to myself. I study carefully and can control myself at home even there is no one monitoring me." By explaining what kept C5's high self-discipline in the online classes, she attributed her efficient engagement to her intrinsic

goal of achieving high grades in order to study medicine. As she said, "I want to study Medicine at a university. So, I have to make good use of these three years to improve my performance and realise my dream." This finding supports what was identified by Meyer and Turner [13], that students having mastery goals are more able to regulate their learning behaviours.

These instances suggest that learners' strong agency over their learning can compensate for inadequate support from teachers and schools, such as poor guidance and less interaction with teachers in online classes. Online platforms can be useful learning channels, but for those who have limited support and are less able to exercise self-discipline, their engagement with online learning can be less assured. Students studying online, especially younger learners, may be easily exposed to more distractions during online class time, which may subsequently influence the quality of their engagement with their online courses.

6.2. Contextual Factors Influencing Students' Engagement with Online Learning

Three contextual factors—teacher presence, parental involvement, and a supportive learning environment and community—that influenced the students' emotional, cognitive and behavioural engagement with online learning were identified from the data.

6.2.1. Teacher Presence

Data shows that teacher presence (i.e., teachers facilitating interaction in class and implementing teaching strategies) affected student emotional, cognitive and behavioural engagement. Echoing the findings of Yao et al. [26], teacher-student interaction was recognised as an important factor for promoting students' cognitive engagement by both the participating teachers and students. According to the accounts of participating students, they were distracted in online classes due to the lack of class interaction.

> "In the physics classes, the teacher did not ask us questions. I sometimes could not understand what the teacher taught and I was not given an opportunity to tell him my confusions. When I could not follow him, I would easily become absent-minded" (D5).

From the observation data and reports of Teacher C, low broadband speed was a critical factor forcing teachers to reduce teacher–student class interaction. As the teacher explained, "It's rather time-consuming to call students to answer a question. The broadband is slow and the signal always gets stuck. If I keep interacting with them, I couldn't finish my lesson plan."

The above quotes indicate that technical problems of online classes such as low broadband speed limited the possibilities for developing participatory communication between teacher and student. Lack of connectedness between teacher and student marginalised the students and resulted in their poor concentration in class. By contrast, teachers asking questions frequently in the online class and nominating students to answer questions appeared to have increased students' attention in the online classes. As the student B2 commented:

> "You have to be concentrated all the time because you don't know when the teacher would suddenly call you. If you miss the content and you don't know how to answer her questions, it's so embarrassing" (B2).

Interview data also shows that the teachers adopted monitoring strategies to promote students' behavioural and cognitive engagement. While teachers had difficulty supervising students closely over the computer screen, Teacher B and Teacher D tried to maximise their presence by checking students' class notes in every class. They asked the students to display their notes in front of cameras and uploaded the photos of their notes on DingTalk after class. This strategy encouraged the students to cognitively follow the teacher. As Teacher D said, "They know I will check what they recorded in the middle of the class. So, they listen to the class carefully."

Additionally, posting and sharing quality homework on the e-learning platforms was a strategy taken by Teacher C as a way of manifesting her teaching and social presence. Allowing students to see quality homework and positive commentary on it encouraged them to attend to homework assignments and enhanced their online learning engagement. As Teacher C elaborated, "I selected some quality homework and posted them online. When students see these samples, they are motivated. They want their homework to be posted as well next time."

6.2.2. Parental Involvement

Since students studied all day long at home during COVID-19, the role of parents should be recognised within the online learning community. Students' interactions with parents during the "online learning days", e.g., parental supervision and support of children's online learning, should be involved as part of the social presence that students experience during their learning. Extending the research by Yu et al. [5] who identified the positive relationship between parental involvement in home education during the COVID-19 pandemic with students' performance in online classes, the present study reveals students' perceptions of the parental support they gained at home. Influence of parental involvement in online learning was found in 19 out of 24 participating students, and was remarked upon by the teachers. Seven students reported that their parents supervised their online study by checking their class notes and inspecting their attention during online learning. Student A3 commented that "My mom installed a CCTV to check what I was doing in my room." Parents were familiar with the courses their children attended ("They asked me for the course schedule. (A4)") and listened to the online courses together with their children ("As long as my mom got time, she would sit next to me and attend the class. (C2)"). The high parental involvement promoted the students' cognitive and behavioural engagement with homework. As C3 said, "My mom would come to my room to see if I was listening to the class, very frequently. So, I don't dare to be relaxed."

However, not all the parents had a strong ability to identify themselves effectively in the community. Teacher E reported that some less well-educated parents from rural areas had limited awareness of learning support, which caused the students' cognitive and behavioural disengagement with online courses. She elaborated, "Some parents ask their kids to do farm work during the class time. They had very weak awareness of supporting their children's learning."

Parents, compared with teachers, have more influence on requiring what children do in the online courses due to their relatively closer connections with their children when they are quarantined at home. The above evidence indicates that parental presence could either enhance or impede students' cognitive and behavioural engagement with online study. Such influence was largely dependent on the parents' awareness of children's academic achievement and (authoritarian) parenting styles. The findings offer new lens to the research on social presence in the online learning environment which focuses mainly on the significance of online relationship with students and teachers [18], but generally overlooks the parental role. To promote students' learning at home, parental support should be multi-faceted, focusing on the provision of online study instruments, attention to their children's learning performance and difficulties, and emotional support.

6.2.3. A Supportive Learning Environment and Community

Creating conducive learning environments and a learning community where students feel supported is crucial to motivate them to sustainably participate in online classes [23]. Sixteen of the participating students mentioned the impacts of home physical environment on their learning engagement. They were less disciplined in online classes because of the relaxing home atmosphere. B4 said that she got up only five minutes before the morning classes started and always lay on the bed to attend the classes which would not otherwise happen at school. The impact of the change of learning environment on learning engagement can be clearly seen in the case of C3. This student suggested that compared

with studying at home, she could study more productively in her mother's office due to the undisturbed environment. She reported, "I attend the live classes in my mom's office. I can study more efficiently because the office is different from home. There is no food, no game, no bed, nothing disturbing. There are only a table and a chair. I learn much less at home because the atmosphere is too comfortable" (C3).

This indicates that home layout or environment for entertainment and relaxation is less conducive to effective study, especially for students who have low self-control and are easily distracted at home. This partially explains why some students found it difficult to be highly cognitively engaged with online courses.

In a home-based learning setting, establishment of quiet and engaging learning space needed effort from all family members. B2 described how his families supported his learning at home: "They don't make noise when I have classes. If I need a notebook, they would immediately buy it for me. Now that my parents support me so much, I have to study harder." The quote suggests that his family helped to create a learning-friendly environment. Such behaviours were also seen by B2 as a kind of emotional support that motivated him to more actively engage in his study.

The other environmental factor relates to the socio-affective atmosphere at home and at school. Half of the participating students mentioned that peer pressure and social presence of classmates at school could enhance their learning motivation, whereas such atmosphere disappeared at home due to the alienation with classmates, as seen in D4's comment: "In the classroom, when I see other students studying, I am pushed to study. However, I can't feel that stress at home. So, I would make a lower requirement to myself."

B3 suggested that peer support in school facilitated her study, but the isolation at home made her feel frustrated and reduced her learning persistence.

> "When I have questions about my homework at school, I can ask my deskmates. The problems get tackled and I can continue to study. However, it's very annoying that I can't ask my classmate when I study at home. And I would not want to study anymore." (B3).

The above quotes show that lack of physical connection between the student and their fellows in an online setting decreased the students' sense of community and enthusiasm on online study. Unlike in traditional classes where students can seek timely help from teachers and peers when encountering learning challenges, they always fail to do so over the Internet. The cumulated puzzlement may decrease their knowledge intake during the online study period.

The above findings indicate that both parents and teachers should make joint efforts to build an efficient physical learning environment and rapport among peers in an online learning setting, which could lead to more meaningful learning and better achievement of outcomes.

7. Discussion and Conclusions

Class observation and participants' self-reports provided in-depth insight into the challenges and issues of home-based online learning faced by students from four secondary schools during the COVID-19 shut down in China. This study started with three broad-stroke dimensions of student learning engagement, i.e., emotional, cognitive and behavioural engagement [9]. Based on the data and guided by the CoI framework [18], we identified teacher presence, parental involvement, and a supportive learning environment/community as key contextual factors influencing students sustainable online learning engagement.

7.1. Patterns of Student Engagement

Findings in this study identified features in adolescence student engagement with online education. While a few of the students were efficiently engaged, most of them encountered problems with the online learning, such as failure to keep high learning motivation, poor self-regulated learning awareness and abilities, poor class attention and

participation, and feelings of isolation in online learning environments. These problems were interconnected, affecting the quality of the online education. As shown in the instances of B4, B3 and C2, boredom with the online courses (emotion) decreased the students' learning efficiency (cognition); difficulties in understanding the lesson content (cognition) demotivated them (emotion). The interrelated nature is manifested in the interplay among the three components of engagement, being consistent with what was found in previous studies by Li and Lerner [11] and Lee et al. [12].

Adding to the previous research, the qualitative nature of this study provides insights into the variability in the emotional-cognitive-behavioural engagement construct. For example, negative emotions do not always result in poor learning engagement. Instead, when bearing learning goals in mind, student E1 was able to regulate her negative emotions and keep motivated with online learning. Such variations existed when personal online learning experiences were mediated by the agency that the students enacted in the home-based learning setting. The variation mainly depended on whether their learning actions were being goal-directed or power-driven. In the instances of C1 and C5, when the students' learning was driven by intrinsic goals (e.g., dream university), they were more likely to become active learners and possess strong ownership of learning. When learning actions were driven by teachers' or parents' authority, such as monitoring, reward and punishment, learning engagement might be facilitated, but on some occasions, students appeared to be pretending to engage in learning due to fear of the authority (e.g., sitting well in front of the computer screen but switching the interface of class to that of an entertainment site). Given the interrelatedness and variation of the student emotional-cognitive-behavioural engagement construct, we argue that teachers should fully acknowledge the complexity of this construct. We thus join Fredricks et al. [9], Lee et al. [12], and Garrison [20] in calling for more consideration of pedagogy to enhance student engagement by paying closer attention to students' learning commitments, and fostering students' self-regulated learning abilities.

7.2. Community of Inquiry in the Fully Online Secondary Education

Findings in this research contribute to the Community of Inquiry model in the context of secondary education. Echoing the CoI model, online learning engagement explored in this study was influenced by contextual factors that framed teaching presence, social presence and cognitive presence. How the CoI framework was adapted in a full secondary online education based on the current findings is presented in Table 5.

Table 5. The adapted CoI model in the full-time online secondary education.

Elements	Categories	Examples
Teaching presence	Class design	Teacher-centred lesson content delivery Content delivered through PowerPoint slides or handwriting on the screen
	Facilitation	Monitoring and motivating strategies to promote learner participation
Social presence	Peer and teacher presence	Peer support Peer pressure Class interaction
	Parental involvement	Parents undertaking part of teaching and supervision Parents' support on emotion and learning resources
	Learning environment	Home constituting the learning space Distractions from entertainment, family members and pets
Cognitive presence	Knowledge intake	Puzzlement and understanding of class content over the screen

The revised CoI framework (Table 5) has both conceptual and practical contributions to the field of online education. Theoretically, differing from previous quantitative research into the validity of CoI framework and the causal relationships between the teaching presence and cognitive presence [22], the current study explored qualitatively how CoI influenced sustainable online learning engagement in concrete learning situations, and elicited new dimensions (i.e., teaching mode, parental involvement, physical and social

learning environment) as a specification of the CoI applied to the online secondary education contexts during the pandemic home quarantine period. Findings indicate that while the teachers were aware of using strategies and class interaction to enhance students' engagement, their teaching modes were not substantially and sustainably adapted in the online setting. This is evident in C2's account that some teachers did not critically consider adapting their offline teaching methods for online teaching (e.g., teaching via PowerPoint slides with little consideration of the particularities of STEM disciplines), causing students' poor understanding of lesson content. Moreover, without the physical presence of teachers, the role of parents became prominent in home-based education. They supplemented the teacher's presence to support the children's learning in the aspects of knowledge intake, emotional care, establishment of learning environment and provision of learning tools.

7.3. Sustainability of Secondary Education in the Post-Pandemic

The COVID-19 pandemic is now well-controlled in China, and schools have returned to regular face-to-face teaching. However, confirmed cases of the pandemic have still been recurring in some cities, and schools may face shutdown to respond to the emergency. In this case, emergency remote teaching is more than a one-off experience and may be conducted in a future public crisis. Through establishing a better understanding of secondary online education in the Chinese setting during the COVID-19 pandemic lockdown period, this study can pave the way for attempts to raise awareness of school leaders and online teachers to the challenges in today's online education for young students, and promote their reflections on the sustainability of emergency remote teaching in the era of post-pandemic.

Problems of online secondary education identified in this study can only be tackled once the difference between online teaching and offline teaching is recognised. In traditional classrooms, teacher and student are positioned in a single space, wherein the group learning atmosphere and interactions could enhance students' concentration. Teachers are able to detect students' responses through observation, body language and eye contact, and adjust the teaching content, delivery speed and methods accordingly. By contrast, when each student is situated in an isolated room in home-based online study, it is difficult for teachers to observe the individual's behaviour and build a learning community. Bearing such difference in mind and to prepare sustainable online education for future use, it is far from enough to uncritically imitate offline teaching modes in an online setting [36]. Instead, fundamental adaptation of teaching design, materials and class interaction modes is needed in a fully online setting. Since individual student's home learning environment is distinct from each other in terms of available learning resources, home layout and surroundings, students should be given more autonomy in learning material selection and learning scheduling. Teachers should maximise students' learning agency by carrying out student-centred task-based exploratory learning (instead of teacher one-way knowledge transmission) to fulfil particular learning objectives. Teachers might be advised to have regular online "office hours" so that they are available for students' academic inquiries. Such teaching methods could enhance students' self-regulated learning, critical thinking and sustainable engagement towards online learning. Meanwhile, given the instability and unpredictability of the spread of COVID-19, teachers should be able to prepare two sets of online and offline teaching approaches, and freely switch between them in the cases when the virus rebounds and schools are again closed.

Additionally, teachers should care more about the mental health, well-being and learning motivations of adolescents during their online home study periods. Teachers could conduct regular phone calls or video chats with students and parents to understand students' learning difficulties and well-being at home. Discussions with adolescent students to help them establish their lifelong dreams and learning goals could enhance their sustainable learning motivation and self-control in online learning. The current findings could also provide insights into parental support. For example, parents should be offered teaching plans, teaching content and home supervision training so that they can under-

stand how to supervise their children at home, foster children's self-regulative abilities, and provide emotional and academic support.

There are several limitations of this study that must be acknowledged. Since the research was conducted during the pandemic quarantine period, the recruitment of participants could have only been implemented online. Teachers and students in the self-isolation period experienced huge pressure in work, study and life, though it was difficult to build rapport with them in person during the data collection stage. This situation caused the low participation of the volunteers, and only five English subject teachers and their students were involved. Considering the small number of the participants, we cannot rule out the possibilities that the ways that these students engaged with online learning and the corresponding influential factors could mirror the online learning issues of their counterparts in other schools. Moreover, this study did not focus on how teaching was conducted online, nor attempted to explore how the teachers used different e-learning platforms and teaching methods to achieve online teaching effects, and how different platforms might influence learners' engagement. Future research could investigate how teachers exert their agency in using online teaching tools to fulfil teaching objectives. Combined with qualitative data on online teaching effects, questionnaire surveys on teachers' preferred teaching styles and teaching methods they employ in online settings can be conducted to unpack the relationship between teaching styles and online teaching effects. Future research could also involve larger numbers of teachers and students in order to explore issues regarding student engagement in online secondary education.

Author Contributions: Conceptualization, T.J. and P.E.; data curation, X.Z.; formal analysis, F.L.; methodology, F.L. and X.Z.; writing—original draft, F.L.; writing—review and editing, T.J. and P.E. All authors have read and agreed to the published version of the manuscript.

Funding: The APC was funded by the Initial Research Funds for Young Teachers of Donghua University.

Institutional Review Board Statement: The study was conducted according to the guidelines of the Declaration of Helsinki, and approved by the Institutional Ethics Committee of Donghua University (17 March 2020).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: Data available on request due to restrictions, e.g., privacy or ethical. The data presented in this study are available on request from the corresponding author. The data are not publicly available due to ethical reasons.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Zhang, W.; Wang, Y.; Yang, L.; Wang, C. Suspending Classes without Stopping Learning: China's Education Emergency Management Policy in the COVID-19 Outbreak. *J. Risk Financ. Manag.* **2020**, *13*, 55. [CrossRef]
2. UNESCO. COVID-19 Educational Disruption and Response. 2020. Available online: https://en.unesco.org/covid19/educationresponse (accessed on 24 March 2020).
3. Ding, X.; Niu, J.; Han, Y. Research on distance education development in China. *Br. J. Educ. Technol.* **2010**, *41*, 582–592. [CrossRef]
4. Gao, C. "Suspending classes without stopping learning" in the pandemic: Issues and countermeasures. *Inf. Technol. Educ.* **2020**, *3*, 25–27.
5. Yu, L.; Lan, M.; Xie, M. The survey about live broadcast teaching in Chinese middle schools during the COVID-19 Pandemic. *Educ. Inf. Technol.* **2021**, *2021*, 3170. [CrossRef]
6. Al-Kumaim, N.; Alhazmi, A.; Mohammed, F.; Gazem, N.; Shabbir, M.; Fazea, Y. Exploring the Impact of the COVID-19 Pandemic on University Students' Learning Life: An Integrated Conceptual Motivational Model for Sustainable and Healthy Online Learning. *Sustainability* **2021**, *13*, 2546. [CrossRef]
7. Coates, H.; Ransom, L. Dropout DNA, and the Genetics of Effective Support. AUSSE Research Briefings. 11 June. Available online: http://research.acer.edu.au/ausse/ (accessed on 12 March 2021).
8. Dong, C.; Cao, S.; Li, H. Young children's online learning during COVID-19 pandemic: Chinese parents' beliefs and attitudes. *Child. Youth Serv. Rev.* **2020**, *118*, 105440. [CrossRef]
9. Fredricks, J.A.; Blumenfeld, P.C.; Paris, A.H. School Engagement: Potential of the Concept, State of the Evidence. *Rev. Educ. Res.* **2004**, *74*, 59–109. [CrossRef]

10. Fredricks, J.A.; Filsecker, M.; Lawson, M.A. Student engagement, context, and adjustment: Addressing definitional, measurement, and methodological issues. *Learn. Instr.* **2016**, *43*, 1–4. [CrossRef]
11. Li, Y.; Lerner, R.M. Interrelations of Behavioral, Emotional, and Cognitive School Engagement in High School Students. *J. Youth Adolesc.* **2013**, *42*, 20–32. [CrossRef]
12. Lee, J.; Park, T.; Davis, R.O. What affects learner engagement in flipped learning and what predicts its outcomes? *Br. J. Educ. Technol.* **2018**. [CrossRef]
13. Meyer, D.K.; Turner, J.C. Re-conceptualizing Emotion and Motivation to Learn in Classroom Contexts. *Educ. Psychol. Rev.* **2006**, *18*, 377–390. [CrossRef]
14. Liu, L.; Wu, J.; Wang, J.; Wang, Y.; Tong, Y.; Ge, C.; Wang, Y. What Do Chinese Families With Depressed Adolescents Find Helpful in Family Therapy? A Qualitative Study. *Front. Psychol.* **2020**, *11*, 1318. [CrossRef] [PubMed]
15. Tang, S.; Xiang, M.; Cheung, T.; Xiang, Y.-T. Mental health and its correlates among children and adolescents during COVID-19 school closure: The importance of parent-child discussion. *J. Affect. Disord.* **2021**, *279*, 353–360. [CrossRef]
16. Baltà-Salvador, R.; Olmedo-Torre, N.; Peña, M.; Renta-Davids, A.-I. Academic and emotional effects of online learning during the COVID-19 pandemic on engineering students. *Educ. Inf. Technol.* **2021**. [CrossRef]
17. Chaturvedi, K.; Vishwakarma, D.K.; Singh, N. COVID-19 and its impact on education, social life and mental health of students: A survey. *Child. Youth Serv. Rev.* **2021**, *121*, 105866. [CrossRef]
18. Garrison, R.; Anderson, T.; Archer, W. Critical inquiry in a text-based environment: Computer conferencing in higher education. *Internet High. Educ.* **1999**, *2*, 87–105. [CrossRef]
19. Akyol, Z.; Garrison, D.R. Assessing metacognition in an online community of inquiry. *Internet High. Educ.* **2011**, *14*, 183–190. [CrossRef]
20. Garrison, D.R. Communities of inquiry in online learning. In *Encyclopedia of Distance Learning*; Rogers, P.L., Berg, G.A., Boettcher, J.V., Howard, C., Justice, L., Schenk, K.D., Eds.; IGI Global: Hershey, PA, USA, 2009; pp. 352–355.
21. Garrison, D.R. Online community of inquiry review: Social, cognitive, and teaching presence issues. *J. Asynchronous Learn. Netw.* **2019**, *11*, 61–72. [CrossRef]
22. Gedera, D.; Williams, J.; Wright, N. Identifying factors influencing students' motivation and engagement in online courses. In *Motivation, Leadership and Curriculum Design: Engaging the Net Generation and 21st Century Learners*; Koh, C., Ed.; Springer: London, UK, 2015; pp. 13–23. [CrossRef]
23. Hussein, E.; Daoud, S.; Alrabaiah, H.; Badawi, R. Exploring undergraduate students' attitudes towards emergency online learning during COVID-19: A case from the UAE. *Child. Youth Serv. Rev.* **2020**, *119*, 105699. [CrossRef]
24. Dempsey, P.; Zhang, J. Re-examining the Construct Validity and Causal Relationships of Teaching, Cognitive and Social Presence in Community of Inquiry Framework. *Online Learn.* **2019**, *23*, 62–79. [CrossRef]
25. Yao, J.; Rao, J.; Jiang, T.; Xiong, C. What Role Should Teachers Play in Online Teaching during the COVID-19 Pandemic? Evidence from China. *Sci. Insights Educ. Front.* **2020**, *5*, 517–524. [CrossRef]
26. Bond, M. Facilitating student engagement through the flipped learning approach in K-12: A systematic review. *Comput. Educ.* **2020**, *151*, 103819. [CrossRef]
27. Doctoroff, G.L.; Arnold, D.H. Doing homework together: The relation between parenting strategies, child engagement, and achievement. *J. Appl. Dev. Psychol.* **2017**, *48*, 103–113. [CrossRef]
28. Chu, A.; Liu, C.; So, M.; Lam, B. Factors for Sustainable Online Learning in Higher Education during the COVID-19 Pandemic. *Sustainability* **2021**, *13*, 5038. [CrossRef]
29. Ministry of Education of the People's Republic of China. Using Internet Platforms: "School's out, but Class's on". 2020. Available online: http://www.moe.gov.cn/jyb_xwfb/gzdt_gzdt/s5987/202001/t20200129_416993.html (accessed on 12 March 2021).
30. Xie, Y.; Qiu, Y.; Huang, Y.; Wang, Q. Characteristics, problems and innovations of online teaching of "No suspension of classes" during the period of epidemic prevention and control. *E-Educ. Res.* **2020**, *323*, 20–28. [CrossRef]
31. Future Education Equipment. The Release of the Data of Online Teaching during the Pandemic. 2020. Available online: http://www.jyzbsq.com/news/html/?1138.html (accessed on 12 March 2021).
32. Richards, K. *Qualitative Inquiry in TESOL*; Palgrave Macmillan: London, UK, 2003.
33. Angrosino, M. *Doing Ethnographic and Observational Research*; Sage Publications: Thousand Oaks, CA, USA, 2007.
34. Braun, V.; Clarke, V. Using thematic analysis in psychology. *Qual. Res. Psychol.* **2006**, *3*, 77–101. [CrossRef]
35. Patton, M.Q. *Qualitative Research and Evaluation Methods*, 3rd ed.; Sage Publications: Thousand Oaks, CA, USA, 2002.
36. Buil-Fabregá, M.; Casanovas, M.M.; Ruiz-Munzón, N.; Filho, W.L. Flipped Classroom as an Active Learning Methodology in Sustainable Development Curricula. *Sustainability* **2019**, *11*, 4577. [CrossRef]