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**University  
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**Educational Studies for Adult, Youth & Community Context MSc**

**Sensation That Matters: The Posthuman Nature of Digital  
Pedagogy in the Context of Distance Education**

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## **Abstract**

In this study, through the analysis of autoethnography, I would like to suggest that the sense of uncertainty as posthuman embodiment matters in digital pedagogy. In the era of globalization, especially during the coronavirus pandemic, distance education has become a popular model of teaching and learning in different parts of the world. The content of distance education is mediated by digital pedagogy, which refers to teaching and learning with the application of contemporary digital technologies such as Zoom. Based on my work experience as a teacher who teaches with video-conferencing between Taiwan and mainland China from 2015 to 2020, the sense of uncertainty emerging from the practice of digital pedagogy is worth examining because it not only propels teachers to take action but also shapes the way teachers teach and lead students. Compared to a humanist view, posthumanism considers the teacher-technology relationship to be a form of intra-action, which means there is no pre-existing subject, but a subject-in-motion in the practice of digital pedagogy. The sense of uncertainty would be an experience of embodiment rather than a problem waiting to be solved. In addition, because it forces teachers to think about how to improve the effect of teaching and further take action to intervene in the original arrangement of the distance education, it is an opportunity, rather than an issue, for change. The posthumanist analysis might be the key to developing alternative epistemologies about digital pedagogy and even changing the idea of designing curriculum conducted by digital pedagogy.

Key words: the sense of uncertainty, video-conferencing, digital pedagogy, distance education, posthuman embodiment

## **Chapter 1: Introduction: Sensation, Digital Pedagogy, and Distance Education**

In the era of globalization, especially during the coronavirus pandemic, distance education has become a popular model of teaching and learning in different parts of the world, especially in East Asia. The term distance education refers to any kind of education which applies communication technologies to enable teaching and learning happen without any geographic restriction. The content of distance education is mediated by digital pedagogy, which refers to teaching and learning with the application of contemporary digital technologies. In this study, I would like to suggest that the sense of uncertainty as embodied experience matters in digital pedagogy and would foreground the posthuman nature of digital pedagogy. I argue that the role of sensation needs to be considered on the theoretical level of technological posthumanism developing in the context of educational studies. In this sense, my teaching experience across the Strait with the application of video-conferencing in the Taiwan-based Kang Chiao International School (KCIS) is an appropriate example to illustrate the argument.

I have worked, for almost ten years, in the training programme of the International Geography Olympiad (iGeo) in KCIS. The school also has several branches in China and in 2015, with a view to improving students' academic performance, one of its branches in Shanghai (Kang Chiao International School East China) invited me to build a cross-strait training system of iGeo. In order to make the system sustainable, KCIS and I developed an interactive online education model with video-conferencing technologies such as Zoom. To make the training programme successful, the programme design needs to be organized by both schools in China and Taiwan and to be practiced via the video-conferencing platform. When the training courses started, the teachers in Taipei interacted with the students in Shanghai via Zoom (Figure 1). Typically in a class, the teacher and students can see and hear each other very clearly on the virtual platform, so that the teacher and students seem to stay in the same room physically and can work and explore knowledge together. The issue of distance between Taipei and Shanghai is overcome and the course can be realized via the model. Hence since 2015, the training programme has functioned smoothly for five years.



Figure 1. Real-life image taken on 02/11/2016

### **Sense of Uncertainty**

As a participant in the training programme, I often feel a sense of uncertainty. The sense of uncertainty is called “不確定感 (Bu Que Ding Gan)” in Chinese. In Taiwan, it is a common term used in everyone’s daily life in the social context. When someone encounters something beyond their understanding and control, they might feel uncertain and even become nervous. In this situation, someone in Taiwan might apply the term to describe how they feel and usually say, “I’m not so sure about this.” Even though it seems that the sensation can be presented by words, it would be a kind of feeling which is difficult to clearly identify, rather than a concrete statement which refers to a very specific feeling. Nevertheless, the term used would make other people know what feeling(s) the subject who adopts the term perceives in the context – the subject is in a state of confusion about something happening and he/she uses the term to describe his/her feeling. It is worth mentioning that the subject might react to the sense of uncertainty and take action to deal with it without a very specific intention. Therefore, the sense of uncertainty would exist as not only a cognitive feeling but also an affective force. In other words, it would be a kind of cognitive-affective sensation.

In my cases, such uncertainty arises as it is hard to form a strong connection with my students in the setting of distance digital learning, despite the fact that I am involved in the design of the programme and that I am already experienced in teaching. In addition, other teachers in the programme also suffer from the same problem and use the exact term “Bu Que Ding Gan” to describe their cognitive-affective experience. Actually, the sense of

uncertainty occurs in every class, be it conducted online or offline. For example, teachers who teach in the same physical space with students sometimes notice a sense of uncertainty caused by gender, class member(s), and so on. On top of that, it is intriguing that most teachers feel an even stronger sense of uncertainty when they teach in the video-conferencing setting in the context of distance education, and I am no exception.

Nevertheless, it seems paradoxical that teachers can talk and work well with students in every class, even though they still feel they have trouble interacting with students in a natural way. To tackle such issues, I (as the coordinator of the programme and one of the teachers) worked with my colleagues to design a standard operating procedure to eliminate the sense of uncertainty, but of course every teacher has his/her own way to cope with the sense of uncertainty. In other words, the sense of uncertainty emerging from the teaching process has a great impact on the implementation of digital pedagogy. In this sense, the sense of uncertainty needs to be scrutinized very carefully because it not only propels teachers to take action but also shapes the way teachers teach and lead students. As what I have mentioned, the sense of uncertainty works like affect, in that it obviously exists in between actors and possibly causes actors to affect and to be affected in the process of interaction. The sense of uncertainty is not necessarily presented with precise words but it is sensed by mind/body which is situated in the context of teaching and learning with video-conferencing. Therefore, how to recognize the role of sensation in the application of digital pedagogy becomes a crucial question which motivated me to delve deeper into the relations among communication technology, sensation, and distance education.

### **Posthumanism and Educational Studies**

Based on the experience above, I plan to develop my research project in the field of digital pedagogy from the perspective of posthumanism. Posthumanism refers to a broad tide of philosophical thought which decenters the human. The idea “post-” causes the reflective thinking of being a human in a more-than-human world rather than simply revealing the attempt of anti-humanism. The concept “posthuman” has been hotly debated since mid-1990s and further led to the discussion of refusing the arbitrary separation between human and non-human (Gane, 2016).<sup>1</sup> The rise of posthumanism

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<sup>1</sup> In the 1990s, Haraway (1991) questioned three theoretical boundaries (between humans and animals, organisms and machines, and the domain of physical and non-physical) and then asserts that these boundaries are no longer stable through the theorization of cyborgs. For Haraway, the cyborgs or hybrid creatures which have both the characteristics of organism and machine blur the purity of



has deeply impacted many disciplines such as sociology, geography, literature theory and criticism, history, and so on, and educational studies is no exception. In general, education is usually defined by a human-centered view. Take Biesta's elaboration as an example. According to Biesta (2015), he identified that the point of education "is that students learn something, that they learn it for a reason, and that they learn it from someone." Obviously, the definition of education entails humanism because it all relies on the human cognition and action. In contrast, posthumanism basically drives scholars and educators to consider how human-nonhuman relations matter in the process of education and even to reinvent educational epistemologies and methods in a more-than-human way (e.g. Pedersen & Pini, 2017).

In this study, I will attempt to illustrate why digital pedagogy needs to be recognized as a posthuman pedagogy in the context of distance education from a practical point of view. As the sense of uncertainty not only emerges from the pedagogy but also makes a great impact on pedagogy, it is significant to consider the role of sensation in the application of digital pedagogy. To construct a basis for further discussion, I firstly intend to point out how digital pedagogy, which takes up technology as a tool, represents the human-centered thought on the practical level. After that, I will raise two research questions to discuss the role of sensation in digital pedagogy and incorporate the idea in understanding digital pedagogy as posthuman pedagogy.

### **Digital Pedagogy in the Context of Distance Education**

As previously stated, before discussing distance education, it is necessary to examine how communication technologies mediate the educational process. Obviously, technology matters in the practice of distance education. Distance education is rather impossible to achieve without the development of communication technologies. Compared to other technologies, video-conferencing is more developed in the context of distance education because of its advantages such as real-time interaction and the creation of

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"the human." Latour (1993) illustrated the principle of symmetry in his actor-network theory (ANT) and suggests that human and non-human co-exist and construct each other through interaction in network relations. In this sense, not only human but also non-human has agency. Therefore, human or society is not the only factor to explain a specific event. The posthuman concept above inspires the rethinking of what human is, how human exists with non-human, and how non-human such as technology inherently impacts the development of society in the age of high technology. Although the discussion about posthumanism includes not only human-technology relations but also other kinds of human-nonhuman relations such as human-animal relations, the brief review above, to a certain extent, reveals the uncertain nature of being a human in the universe.

“togetherness” (Karal, Cebi & Turgut, 2011). Nevertheless, the application of video-conferencing still brings some problems of digital pedagogy which trouble teachers to different extents. For example, Rehn, Maor & McConney (2017) analyzed K-12 teachers’ experience of teaching with video-conferencing and discussed how teachers had perceived the application of video-conferencing. They then pointed out some pedagogical problems such as insufficient time for preparation, feelings of isolation, and limited personal connection. Obviously, the problems from the process of teaching with video-conferencing would be emphasized by educational studies.

In order to construct the basis for further discussion, it is important to explore how teachers usually identify video-conferencing. According to my work experience, it is very common for teachers who teach with video-conferencing, identifying digital technology as something supporting the practice of distance education. Therefore, video-conferencing is considered a tool in this situation. To regard video-conferencing as a tool for teaching would be a kind of humanist concept. According to Cambridge Dictionary, the word “tool” is defined as “something that helps you to do a particular activity.” The explanation basically fits people’s understanding about the word. By this definition, how to define the meaning of the word is based on the description of the function which exists for the humankind. Furthermore, a tool would refer to an object which exists for a human-centered purpose. In other words, an object is called a tool because it has a very specific function for the humankind. That is, it is impossible to name something as a tool without the human intention and a particular purpose. From such perspective, if people regard technology as a tool, the human-technology relationship would obviously present a humanist view. In addition, on the practical level, if technology is considered only a kind of tool, it would be hard to further recognize the possibility that teachers can embody technology instead of simply using technology in the process of education. In this sense, the humanist view might limit the understanding and even the imagination of digital pedagogy, or more specifically, the possibilities in the teacher-technology relationship.

On the basis of the discussion above, constrained by the humanist view which focuses on the function of the technology, it is relatively difficult to recognize the role of sensation in the application of digital pedagogy. According to my own experience, teachers who adopt video-conferencing technology to teach need to deal with the sense of uncertainty emerging from the teaching process. Even though it is sometimes very difficult to express sensation with precise words, sensation matters indeed. How to identify the

role of sensation in the practice of digital pedagogy and further re-think the relations among human, sensation, and technology would be an important question in the field of digital pedagogy. As teachers explore sensation and its impact on digital pedagogy, it is easy to see that the human-technology relationship would internally involve sensation in certain ways. Based on this perspective, I would like to challenge the dominant view which regards communication technologies as a tool in the practice of distance education and then argue that digital pedagogy should be recognized as a form of posthuman pedagogy from the perspective of sensational pedagogy.

### **Research Questions**

As Bayne (2018) suggested, posthumanism would help us think more critically about what learning is because it propels people to examine the assemblage of human and non-human in the process of education. How to identify the effect of sensation on teaching and learning with the application of video-conferencing would be a grounded question for reconsidering what digital pedagogy is. I believe that digital pedagogy can benefit from the theoretical and empirical investigations into the nature of posthuman pedagogy mediated by technology and sensation across geographies. The research questions are as follows. In general, how does sensation potentially affect digital pedagogy? What is the role of sensation in the practice of teaching with video-conferencing and in the exploration of the posthuman nature of digital pedagogy? These questions are worth answering in detail because they might be the key to developing alternative epistemologies about digital pedagogy and even changing the idea of designing curriculum conducted by digital pedagogy. Through the investigation of these two questions, I would like to point out how digital pedagogy would work as a kind of sensational pedagogy and further reveal its posthuman nature.

Before responding to the questions above, firstly I will review existing research about digital pedagogy (especially the application of video-conferencing in the context of distance education), sensational pedagogy, and technological posthumanism. Based on the literature review, it would be easier to see how my study relates to several existing discussions in the field of educational studies. Secondly, on the basis of the research questions that I have raised, I will introduce why and how I adopt autoethnography to collect data and analyze it to approach the reality. Basically, the writing of autoethnography would be based on my work experience across the Strait from 2015 to 2020. Through the analysis of my

autoethnography, I would like to explore how digital pedagogy necessarily involves sensation and how sensation impacts a teacher's teaching practice with the application of video-conferencing. After the detailed discussion, I intend to argue that digital pedagogy would be considered posthuman pedagogy and raise relevant questions which deserve further inspection in the conclusion section.

## **Chapter 2: Literature Review**

Before analyzing the sense of uncertainty emerging from the practice of digital pedagogy in the context of distance education, it is necessary to review existing literature for the construction of knowledge in this area about relevant fields. In this research, I would like to adopt narrative literature review to approach existing academic discourse and then portray a big picture to locate my study, because narrative literature review would support an initial understanding of the topic which they intend to study (Bryman, 2012). In this study, I intend to review three relevant fields to discover the existing knowledge. Firstly, I will analyze the sense of uncertainty on the basis of my experience of teaching with video-conferencing, so I would review the research about digital pedagogy, especially teaching with video-conferencing in the context of distance education. Secondly, because sensation, which I would like to focus on, would be a kind of embodied experience, I would review embodied epistemologies in the field of educational studies, particularly sensational pedagogy. Finally, the analysis of my experience of teaching with video-conferencing would involve human-technology relationship, so I intend to review the development of technological posthumanism in educational studies. On account of such focus, I would emphasize the discussion about posthuman subjectivity in this part. On the basis of such narrative literature review, it would be relatively easy to see the connection between the existing knowledge and my research topic. In addition, in my opinion, the review also provides a concrete basis for the subsequent analysis of my autoethnography about teaching with video-conferencing across the Strait.

### **Digital Pedagogy: Teaching with Video-conferencing in the Context of Distance Education**

Teaching with video-conferencing in the global era has become a trend in the field of education, especially distance education. In this context, researchers of digital pedagogy have experimented with various ways to reveal the causes and further raise some strategies to improve the quality of distance education with technology. Karal, Cebi & Turgut (2011) comprehensively examined elements affecting students' learning performance and argue that not only technical but also non-technical factors such as teacher, environment, and type of course would impact students in the context of synchronous distance education. On the other hand, Klibanov, Dolder, Anderson, Kehr & Woods (2018) focused more on how the outside factors would affect the learning

performance of students who had joined the course realized by interactive video-conferencing, and concluded that students were able to improve in terms of knowledge acquisition via this learning model. However, Karal, Cebi & Turgut (2010) suggest that although a video-conferencing platform can provide participants with real-time communication, it still cannot create a learning environment similar to face-to-face education in the same physical space. Therefore, in order to ensure the quality of learning with video-conferencing, Karal, Cebi & Turgut (2010) assert that arranging the role of a teaching assistant with students to build an environment more similar to the traditional classroom for learning could mitigate the disadvantages caused by distance education. Malinovski, Vasileva-Stojanovska, Jovevski, Vasileva & Trajkovic (2015) followed a student-centered approach and analyzed adult students' perceptions in distance education, and argue that the quality of teacher-student interaction, instead of the quality of digital technology, would directly affect students' learning performance.

The existing studies above on teaching and learning with video-conferencing seem to focus more on the learning outcomes of students and strategies to improve the pedagogy, but in my opinion, such trends have neglected certain questions which are crucial for the re-construction of theories, such as how to recognize sensation and its impact on human-nonhuman relationships in the context of distance education. Therefore, it would be an important task to construct the theoretical relationship between sensation and digital pedagogy in the wake of the development of posthumanism.

### **Sensational Pedagogy**

As stated above, the sense of uncertainty would emerge from the process of teaching with video-conferencing. The emergence of sensation internally involves the practice of digital pedagogy, so it is appropriate to consider digital pedagogy to be sensational pedagogy.

What exactly does sensational pedagogy mean? Basically, it is a kind of epistemological transformation of pedagogy that recognizes not only materiality but also sensation in the practice of teaching and learning. Obviously, sensational pedagogy bases on the epistemology of embodiment. As perry (2011) notices, the concept of body would be not only considered as material base but also affective experience for inquiry. How to recognize the role of body in sensational pedagogy is an important question for the construction of theory. Ellsworth (2005) rejects to view the learning self as a totally cognitive subject from the perception of mind and instead considers it to

be an embodied process, which refers to the experimentation in between mind/body, known/unknown, and cognitive/precognitive within pedagogy as the materialization of transitional space. On the basis of Ellsworth's argument, the subjectivity of the learning self would emerge from sensational webs, dynamically constituted by material elements such as bodies, spaces, educational materials, and so on, in a very specific time or context. In this sense, actors who participate within the webs like teachers, students, and other material elements interact with each other and always exist in the making. For sensational pedagogy, pedagogy is regarded as an event which would "move the materiality of minds/brains and bodies into relation with other material elements of our world" (Ellsworth, 2005). Based on the recognition of the body as an intersecting node of forces, sensation *per se* would be felt materially as processes and events of the body. From such point of view, sensation works as the entanglement of action, perception, thought, and so on, in a material way. Thus, sensation by this definition lives with bodies, blurs the border of mind/body, and even flows over bodies. In other words, it would work as a kind of extended experience. The extension would involve sensation and the relations between human and non-human entities. Wide & Evans (2019) adopted the example of the television-remote-human assemblage to illustrate how material elements such as electronic current, batteries, and push buttons work as human's extended arm. They are all elements in the context that act with each other and assemble the event including the construction of cognitive-affective sensation. In this sense, Ellsworth (2005) argues that "we do not have experiences (but instead) we are experiences." In the field of education which Ellsworth focuses on, experience shaped by sensation involving materialization has a profound effect on understanding. It means the subjectivity of the learning self is always influenced by and simultaneously open to something unknown.

Although Ellsworth does not elaborate on sensational pedagogy directly with posthumanist term(s), she presents a quite similar perspective resonating to posthumanism. From the perspective of posthumanism, it is inevitable to explore how to deal with sensation emerging from the pedagogy and further theorize posthuman subjectivity. In order to analyze posthuman subjectivity through the sense of uncertainty when teachers teach via video-conferencing, it is necessary to think more about how to approach posthuman subjectivity through sensation.

## **Posthuman Subjectivity and Technological Posthumanism in the Field of Educational Studies**

As a teacher who teaches with video-conferencing, how to deal with the sense of uncertainty emerging from the interaction enabled by technology would be an inevitable question for both practical and theoretical concerns. Considering digital pedagogy to be posthuman pedagogy first requires the identification of what posthuman subjectivity is and how to approach it through the analysis of sensation – to be more specific, through the experience shaped by the sense of uncertainty.

How to identify posthuman subjectivity has been a debatable question. It is quite difficult to define posthuman subjectivity, which has been thoroughly developed in a large number of studies at least since the 1990s. However, on the theoretical level, it is still possible to portray a big picture of posthuman subjectivity from the works on technological posthumanism because in general, they challenge the clear-cut boundary between humankind and technology and regard the relations between them as subjectivities in motion. That is to say, being a human is always changeable in the context of living with technology. For posthumanism, how non-human affects and further participates in the formation of subjectivity gives rise to various discussions. For instance, to what extent non-human, or object, has agency to make influence as actor has been intensively debated by scholars such as Latour (1993), Ihde (1979, 2002) and Hayles (1999).

Take the comparison between Latour's actor-network theory (ANT) and Ihde's embodiment relations as an example. From the perspective of Latour's ANT, neither human nor non-human can arbitrarily explain something that happened. They act as mediators in the network and separately become quasi-subject and quasi-object without any difference. Under the principle of generalized symmetry, quasi-subject and quasi-object construct each other in a set of continuously changing networks of relations. In other words, quasi-object would have agency to make influence. Nevertheless, it is rather difficult to believe that quasi-object (non-human) has equal agency with quasi-subject (human). Compared to Latour's ANT, the concept "embodiment relations" illustrated by Ihde (1979) reveals how non-humans, such as technology, get involved in human experience in the form of sensation. Ihde (2002) rejects Latour's principle of generalized symmetry and places more emphasis on embodied experience. However, it is worth mentioning that because Ihde regards humans as undoubted actors in his work (e.g. Ihde, 2002), his pro-humanism position has been criticized (see Pickering, 2006).



Different from Latour's and Ihde's concepts about posthuman subjectivity, Hayles (1999) theorizes informational posthumanism and argues that there is no difference between bodily existence and computer simulation. On the basis of her argument, Hayles proposed the concept of "embodied virtuality" and then focused on a new form of subjectivity emerging from the instantiated medium between corporeal bodies and computer technologies. In other words, the posthuman subjectivity would be essentially changeable within human-technology interaction.

In the field of education (including studies, theories and practices), posthumanism would radically challenge the knowledge of what education is. Snaza et al. (2014) have critiqued humanism in the field of education and pointed out how we can move toward a posthumanist education especially from the perspective of curriculum studies. On the basis of their discussion, school is a space which divides human from non-human, but actually the process of education involves various kinds of human-nonhuman relations such as teaching with computers or in laboratories equipped with educational materials. Impacted by posthumanism, the point of education would not emphasize knowing but the production of meaning instead because the former potentially refers to how people perceive and acquire knowledge in a human-centered position, while the latter means how something (such as subjectivity) emerges from the process of interaction between human and non-human in the context of education. From such point of view, posthumanism might potentially influence the ontologies of education, and educational studies are affected as well.

In recent years, the implication of posthuman thought has become an interdisciplinary phenomenon and has driven numerous scholars to think about how to reinvent education, especially the re-identification of human-nonhuman relations in the practice of education. Bayne (2018) reviewed the current work and provided a big and simple picture of posthumanism in the context of educational studies in detail. In order to make the development of posthumanism in the field clearly visible, Bayne simplified and divided it into three separate but related areas including critical posthumanism, technological posthumanism, and ecological posthumanism. The three genealogies above portrayed by Bayne briefly shed light on how posthumanism has developed in the field of educational studies. Although there are different topics at play, they all challenge the humanist thought which considers human to be the core of the world, and then propose posthuman subjectivities emerging from various contexts such as the practice of digital pedagogy.

For the purpose of locating this study of posthumanism in educational studies, it is necessary to review several studies of technological posthumanism in educational studies and then expose the possible theoretical gap on the basis of the brief review. Knox (2016) approached critical posthumanism to critique the thought of humanism maintained in the digital platform for learning such as MOOC (Massive Open Online Course) and theorized two concepts – space and time – in terms of posthumanism to challenge the humanist framework of MOOC. Because of the development of technology, it is now possible to learn anywhere and anytime. From such perspective, learning through MOOC would involve human-nonhuman interaction. In other words, there is no such thing as a humanist subject of human being in that process. Gourlay (2015) followed Latour's actor-network theory and adopted the theory to analyze how people learned on digital devices and their human-nonhuman relations. Gourlay argues that technology would act as mediators which transform the meaning of elements, when textual practices such as reading and writing happen. From this perspective, digital technologies have agency to influence the process of learning, so learning via technologies would blur the boundaries of human/non-human in the practice of education.

In addition, it is worth mentioning that some scholars such as Hayes & Jandric (2016) revealed how educational policies perform and reiterate the humanist ideology which defines the role of technology in digital learning as a kind of tool, and further analyzed how the thought might constrain the imagination of new possibilities for education. Therefore, it is clear that posthumanism in the field of educational studies has developed not only on the theoretical level but also in the practical aspect.

According to the brief review of the development of technological posthumanism in the field of educational studies, it is relatively easy to find that the definition of being human is intervened by the idea of posthumanism, especially the profound discussion of human-nonhuman relationship. However, in my opinion, even though the role of technology has been recognized by existing research in educational studies, how technology matters or has agency to alter what human is still remains questionable. For me, this theoretical concern is significantly crucial, because the sense of uncertainty which I can feel when I teach with video-conferencing would impact the question of how to identify human on the theoretical level. As what Tsao (2016) suggested, the question about what to account as human from the posthumanist perspective or how to justify posthuman subjectivity is worth

examining in the so-called posthuman condition, especially because scholars have different views to evaluate how technology has agency in the human-nonhuman relationship. In this sense, before analyzing my experience of teaching with video-conferencing, how to identify the role of sensation in the thinking of human-technology relationship would be an inevitable task.

Through the analysis of posthuman embodiment in the human-technology relationship, it would be relatively possible to theorize the role of sensation in the transformation of posthuman subjectivity. Bayne (2004) pointed out how the split between mind and body has been caused by western philosophy since Plato and explained how online learning contradictorily practiced the dualism and simultaneously opened new opportunities to dissolve the distinct boundary between body and mind through the examination of embodied knowledge. Based on the analysis of learning experiences in cyberspace, Bayne brought back the role of body and illustrated its effect on online learning through posthumanism. Although it seems that online learning could be conducted without the presence of body, learners' embodied experiences (including emotion) still matter in the process of learning in cyberspace. The re-articulation of body would challenge the humanist view of education and catalyze the development of posthumanism in educational studies. Wide & Evans (2019) considered empathy to be an emotional interaction with others and illustrated the avatar-player relations in a posthumanist view. As what Wide & Evans have stated, posthumanism potentially leads people to consider "the prevalence of the emotional, embodied and permeable throughout different contexts" (2019). From the perspective, it is important to recognize the role of embodiment in the analysis of posthuman subjectivity. The posthuman subjectivity in their work is shaped by experiences that might transcend the body. Thus, it is impossible to talk about posthuman subjectivity without extending embodied experiences. If there is no such thing existing as a priori subject, sensation emerges from the human and non-human assemblage. In this sense, sensation identified by the posthumanist idea would exist as posthuman embodiment – the experiences composed of human and non-human relations live within and beyond the body. It is worth mentioning that context would constantly affect the construction of sensation, and hence sensation would work as a continuous affective flow through the interaction between human and non-human.

In order to approach posthuman subjectivity (which is regarded as embodied experience in this study), I would like to adopt autoethnography to present my teaching experience which assembles teacher-videoconferencing

relations in KCIS and analyze it to elucidate the posthuman nature of digital pedagogy. In my opinion, autoethnography is not a form of disembodied writing which presents my experience as a kind of subjective reality, but instead, it is an assemblage of elements which compose the entity of teacher-videoconferencing relations. By this definition, autoethnography would become a realization of posthuman methodology and thus help to approach posthuman subjectivity emerging from the teacher-technology interaction.

## Chapter 3: Methodology

On the basis of the narrative literature review, in order to explore how sensation matters in the practice of distance education via video-conferencing, this research mainly applies autoethnography to approach the posthuman nature of digital pedagogy. In this study, the sense of uncertainty emerging from the process of teaching with video-conferencing would be recognized as posthuman embodiment, because it exists as bodily experience which involves human-technology relationship. To capture the bodily experience and then transform it into the process of writing, I intend to adopt autoethnography to collect data. The data would come from my work experience from 2015 to 2020 across the Strait, especially the experience of teaching with video-conferencing and managing the training programme. Before presenting my autoethnography and analyzing it, it is necessary to illustrate my role of being a researcher in this study and explain how I collect data for further analysis. My bodily experience shown in the process of analysis would inevitably involve the politics of representation. Therefore, to make the practice of research method transparent, what to include/exclude for analysis and how I present my autoethnography would be carefully discussed in detail as follows.

### **Posthuman Embodiment as Theoretical Framework**

How does sensation impact teaching with video-conferencing in the context of distance education and further explore the posthuman nature of digital pedagogy? Before answering the research question(s), it is necessary to conceptualize sensation on the theoretical level first.

As reviewed in the narrative literature review, Wide & Evans (2019) adopted a posthumanist perspective to analyze game players' empathy during gameplay. They defined the avatar-player relationship as a form of human-technology relationship, and explored the role of empathy in this process, in particular how empathy reveals the fact that the various elements which constitute the event of gameplay construct each other in motion. In order to portray the process above, Wide & Evans defined empathy as posthuman empathy, while asserting that empathy exists as a kind of bodily experience. Since the avatar-player relationship reflected by gameplay *per se* involves the transformation of posthuman subjectivity, as a result, empathy emerging from the process of gameplay involves the formation process of subjects, and at the same time blurs the boundary of human/nonhuman. As what Wide & Evans propose, "[a] posthuman empathy would mean recognizing that there is no

primary subject, but that empathy is always already an interconnected network of dynamically intra-acting forces or agencies.” In other words, from the perspective of posthuman empathy, the posthuman subjectivity emerging from the process of gameplay can be comprehended via the notion of intra-action proposed by Barad & Kleinman (2012), i.e. individuals only exist materially and materialize within phenomena in motion.

I am deeply inspired by the work of Wide & Evans (2019), because it clearly presents a more relational ontology to identify posthuman embodiment and further points out how to approach intra-actions composed of human and non-human agencies through the analysis of posthuman sensation. Based on what I would like to further examine, I believe that their work would help me theorize the sense of uncertainty in a posthumanist view and analyze it to explore the posthuman nature of digital pedagogy.

Inspired by Wide & Evans, I intend to identify sensation as a kind of embodied experience which is naturally dynamic and changeable in the context. From the perspective of posthuman embodiment, sensational pedagogy would potentially be regarded as posthuman pedagogy. That is, when a teacher teaches via video-conferencing and needs to deal with the sense of uncertainty, digital pedagogy would be considered an intra-action composed of the assemblage of human and non-human relations. The teacher-technology relationship emerging from the pedagogy is a subjectivity shaped by the intra-active relationship between subject and video-conferencing. In other words, when a teacher practices digital pedagogy, experiences the sense of uncertainty, and acts with it, he/she embodies posthuman subjectivity. In this sense, the sense of uncertainty as embodied experience matters, especially the assemblage of posthuman subjectivity. It is not difficult to find the dynamic relations among actors such as human, technology, and sensation from the application of digital pedagogy in the context of distance education.

In order to capture the sense of uncertainty emerging from the process of my teaching with video-conferencing, as well as the subject experience formulated during such process, I would like to adopt autoethnography to approach the reality of posthuman embodiment. Through the writing process of autoethnography, I attempt to collect data to answer the research questions I raise from the perspective of posthuman embodiment.

## **Autoethnography**

Autoethnography can help researchers capture social phenomena through self-reflexive narratives which necessarily involve relations with others in certain contexts. According to Spry (2001), autoethnography is a method emphasizing the reflexivity of self with others in specific social and cultural contexts. The method not only critiques grand theories and objectivism, which might decontextualize subjects in anthropological writings, but also problematizes the narrative representation. In order to include wider dimensions of representational politics, autoethnography takes into account multiple factors which affect the process of self-narrative such as material elements. Therefore, autoethnographical writing is based on the researcher's bodily sensation and recognizes the experience which embodies the relations between self and others in different contexts. From such point of view, the application of autoethnography would help readers understand how the researcher's experience is composed of multiple forces in a way of relational thinking. In this sense, the experience of the researcher would be volatile, because it is always situated and changing in the specific context and a wider network.

The application of autoethnography means the researcher becomes the methodology *per se*. Because the experience of the researcher is open and nomadic, what composes the subjectivity of the researcher would be a significant question for practicing the methodology. The main reason to apply autoethnography to approach the reality has a lot to do with my multiple roles. I am not only a researcher but also a teacher who has abundant experience of practicing distance education with video-conferencing. From the perspective of posthumanist ontology, the subjectivity of autoethnography would be human-decentering. The material elements which compose autoethnography are affective and further cause "the first-person voice of the self [to] become multiple, fragmented, or incomplete and in motion – that is, uncertain" (Warfield, 2019). Therefore, video-conferencing has its agency when I practice distance education with it. The self of my autoethnography would be decentered. In other words, when I apply autoethnography to deal with the posthuman nature of digital pedagogy, I always need to be aware of how technology necessarily participates in the narrative of self.

## **Main Material Elements of the Study (Except the Role of Researcher)**

As a researcher who applies posthumanism to analyze the autoethnography, I need to be conscious about how material elements such as the research site,

the training programme of iGeo in KCIS (also in KCISEC), and the technology of video-conferencing (Zoom) construct the entity of the study. To better understand how I (as a researcher) adopt autoethnography to approach posthuman reality, it is necessary to briefly introduce these elements and clearly identify them in the practice of analysis.

The data in this study mainly comes from my five-year experience (2015-2020) of teaching with video-conferencing and managing the training programme in the Shanghai-based KCISEC. Owing to the application of the teaching mode of distance education, the research site of this study exists across the Strait. The professional teachers in the training programme teach with video-conferencing in KCIS, Taiwan (Figure 2), and the students basically learn with the digital technology in KCISEC, Shanghai (Figure 3). I intend to examine my teaching experience and then respond to the research questions, so I will focus on the phenomena happening mainly in Taiwan. In addition, it is worth mentioning that the phenomenon has no distinct boundaries across places in the context of distance education.



Figure 2. Real-life image taken on 08/05/2018





Figure 3. Real-life image taken on 06/06/2018

The training programme of iGeo starting from 2008 has been a famous course in KCIS, and students who are interested in geography would join the programme. Because the programme supports students with special interest to get academic achievement in geography, the programme is highly valued by KCIS. Therefore, in 2015, when KCIS built its branch KCISEC in Shanghai, KCISEC decided to replicate the successful experience of KCIS and introduced the programme to mainland China. Since 2015, the programme has developed into a mode of distance education. For KCISEC, it is very difficult to find professional teachers of iGeo, so introducing teachers in Taiwan through the mode of distance education is a relatively pragmatic way to build the programme in Shanghai. In order to conduct the course, teachers in Taiwan regularly teach students with video-conferencing (two hours per week). The students would gather in the same classroom and interact with the teacher through video-conferencing. That is, it is video-conferencing that makes the programme across the Strait become possible. Nowadays, KCIS still keeps constructing its branches in mainland China (e.g. in Xi'an). These branches would follow KCIS's successful experience and build the training programme of iGeo through the application of video-conferencing. In other words, for KCIS, distance education becomes a very specific mode to operate the programme.

To ensure the practice of distance education, KCIS used Zoom to build a digital platform for teaching and learning. Zoom is a global brand of digital platform for communication, especially international meeting. Basically, Zoom provides the service of video-conferencing and helps people see and hear each other in distance. Because of its stable quality, KCIS usually adopts

Zoom to hold online meetings and operate the training programme of iGeo across the Strait.

It is very easy to use Zoom for a teacher. A teacher can interact with students by his/her laptop equipped with Zoom. When a teacher teaches with Zoom, he/she can demonstrate the teaching materials easily and see students through the platform at the same time. A teacher can also ask students to respond to the questions by speaking or typing via chat. If the quality of internet connection is stable, members in the class would interact with each other successfully. In this situation, Zoom can construct an environment for teaching and learning that is similar to a face-to-face classroom. As a result, when KCIS set out to design the mode of distance education, Zoom was the first choice for the programme across the Strait.

The introduction of these main material elements would efficiently help clarify the composition of digital pedagogy in the context of distance education and further examine how the elements would matter from the perspective of posthumanism.

### **Process of Data Collection**

In this study, I intend to investigate how sensational experience internally shapes the process of teaching with video-conferencing and foregrounds the posthuman nature of digital pedagogy. On the basis of my intention, I apply autoethnography to explore the feeling of teaching with video-conferencing and identify it as a kind of bodily experience. In order to deal with sensational experience shared between different bodies and present it as data for analysis, it is significant to illustrate my role of being a researcher in this study and explain how to collect data through the writing of autoethnography.

The data analyzed in this research comes from my work experience in KCIS, especially from teaching students in KCISEC with video-conferencing, and is based on my writing of autoethnography. Since 2015, I have taken charge of the training programme of iGeo and led students to learn geography through the mode of distance education. I am not only a teacher but also a manager. When I lead teachers to examine the process of practicing distance education every time, I also get a chance to look closely at my experience in every regular discussion. Therefore, I am very reflexive and aware of my teaching experience, particularly of how digital technology matters in the process of practicing distance education.

The work experience examined here mainly refers to the experience of teaching with video-conferencing. Teaching with video-conferencing basically

involves human-technology relationship. Because of this, I would like to emphasize how I work with digital technology in the context of practicing distance education. According to the research questions I raise, because I intend to analyze the sense of uncertainty emerging from digital pedagogy, how I embody the uncertain feeling and experience it would become a question of posthuman embodiment. It reveals that my work experience internally relates to material elements such as my body, my laptop, and digital technology. In this sense, I would sort out several parts of my work experience from 2015 to 2020 including my teaching experience, regular meetings for teaching and learning, informal discussion with other teachers, and so on, and then focus on how I embody human-nonhuman relationship for constructing my autoethnography.

### **Representation of Autoethnography**

To conduct data analysis, I chose to perform autoethnography via writing and thus approach the bodily experience emerging from my teaching with video-conferencing. Since the experience of distance education realized with video-conferencing inevitably involves human-technology relationship, I thus have to be aware of how technology influences my subject experience. Such self-awareness is mediated by the sense of uncertainty emerging from the process of distance education. In other words, as I intend to present the sense of uncertainty I have felt through autoethnography, I also have to constantly examine the relationship between digital technology (such as video-conferencing) and myself, and to inspect in the intra-action how, as influenced by the sense of uncertainty, digital technology and I construct each other.

In order to analyze autoethnography and to, in turn, respond to the research questions I raised, I attempt to link the writings about my work experience with the content mentioned in the theoretical framework and the literature review section as I present the autoethnography. This endeavor is made to concretely discuss how this sense of uncertainty influences digital pedagogy, and to reveal the posthuman nature of digital pedagogy as a form of sensational pedagogy. In such process of reflection, my goal is to hold a conversation with the digital pedagogy in the humanist perspective, in an attempt to elucidate the viewpoint in which the sense of uncertainty emerging from video-conferencing is considered to be an issue. After that, I can re-define digital pedagogy in the context of distance education from the posthumanist perspective, and point out the positive impacts which can be brought about by

re-defining digital pedagogy.

In the following two sections, based on my previous professional experience regarding the execution of distance learning in particular, I will illustrate two points via autoethnography, i.e. 1) how digital pedagogy can function as a form of sensational pedagogy, and 2) how digital pedagogy can function as a form of posthuman pedagogy in the perspective of sensational pedagogy.

## **Chapter 4: Digital Pedagogy as Sensational Pedagogy**

When a teacher teaches via video-conferencing, it is impossible to ignore the effect of sensation, especially the sense of uncertainty. For a teacher, the sense of uncertainty emerging from the practice of digital pedagogy in the context of distance education should be noted because it potentially transforms digital pedagogy to sensational pedagogy on the theoretical level. To elaborate on the argument, my work experience in Taiwan and mainland China is an appropriate example.

### **Teaching with Zoom**

Since 2015, I have taken charge of the management of a distance learning programme across the Strait, which is called the training programme of iGeo in KCIS. As mentioned in previous sections, KCIS is a famous international school based in Taiwan and mainland China. The training programme of iGeo in KCIS has been operated for almost twelve years since 2008, and has cultivated dozens of students who are interested in geography and social studies while developing their academic abilities. As KCIS started to expand its operation from Taiwan to mainland China in 2015, the programme was introduced to the branch called as Kang Chiao International School East China (KCISEC) located in Shanghai. Because it was relatively difficult to find eligible instructors in mainland China and further localize the curriculum, as the manager of the programme, I needed to build the training programme with the application of digital technology and led teachers to teach the curriculum from Taiwan. In other words, a form of distance education was developed for the programme. In order to make students and their parents get used to distance learning, I adopted video-conferencing to create a similar circumstance closer to face-to-face education. In addition, I also constructed a platform of family-school partnership with the communication technology, WeChat, to share the information about how the curriculum is practiced and answer questions from the parents.

In this programme, I am not only the manager but also one of the teachers who have abundant experience to lead students to learn geography and then to attend relevant academic activities. The training is designed for students from grade fifth to grade eleventh. Typically, three to seven students would be assigned to compose a class. Students need to attend the two-hour training programme on a weekly basis. Because of the good reputation of our programme, the number of students in this programme has been growing

steadily since 2015. Until 2020, almost one hundred students in KCISEC are enrolled in the advanced programme. With the growth in the number of students, the number of teachers steadily increased as well. In 2015, there were only three teachers taking charge of the curriculum, but in 2020, twelve teachers are hired to provide different training courses in the programme. As classes begin, every teacher in Taiwan needs to start an online meeting room via Zoom and share the link with his/her students in KCISEC.

Through Zoom, the teacher and his/her students can immediately interact with each other through the camera, the screen, and the audio function. These functions, to be more precise, all exist and work on the same interface. According to my experience, in order to make sure the curriculum would go smoothly, I would usually ask students to turn on their cameras and microphones when I teach with Zoom. Therefore, I can see every student, talk to and hear from him/her through the platform visualized by the screen, and make sure communication is effective at that time. From the description, a teacher actually interacts with the screen, rather than the students in the process of teaching with video-conferencing. That is to say, the practice of distance education in fact involves more human-technology relationship than the traditional human-human relationship. From this point of view, as I set out to explore the process of a teacher's executing distance education, it is important to keep in mind and discuss agencies which constitute the material elements of digital pedagogy, i.e. laptop, screen, digital technology, etc.

### **Emergence of the Uncertain Feeling**

As I have stated before, when teachers in the programme teach with video-conferencing, they can feel the sense of uncertainty in general, and I am no exception.<sup>2</sup> When I conduct the curriculum via Zoom, I find that it is quite difficult to understand how students learn because I cannot closely observe students' body language, including eye contact, facial expression, the way they sit, and so on. Even though I can ask students to answer questions to realize their progress through this kind of interaction, I would still feel the need to read the students' body language and then take corresponding action to respond to the signs they signal. Such signs can be very intricate and difficult to observe via the camera. On the contrary, when I teach face-to-face classes, I can more

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<sup>2</sup> Because of my responsibility of management, I need to raise regular meetings with teachers who teach in the training programme. When I discuss issues with them, I commonly find that we as teachers share similar experience with each other. It is clear to see that the sense of uncertainty emerging from the practice of teaching with video-conferencing would be quite a common phenomenon to teachers in the programme.

easily sense how students are engaged in the class from the students' reactions. What I sense may not exactly be what the students are consciously doing, but realizing how students take action in the class through sensation emerging from on-site interaction helps me feel confident and secure in the context of face-to-face instruction. In this sense, compared to teaching in the traditional classroom, teaching with video-conferencing seems to cause a stronger sense of uncertainty for me probably because of the new factor of "distance."

How does distance cause the sense of uncertainty? The question may seem a little bit odd, as the practice of distance education in fact creates no distance between the teacher and the students with the application of digital technology. That is, they can interact with each other in the same digital space. It also means that the class could be operated successfully, to such an extent that the effect of distance education could be similar to face-to-face education. Nevertheless, according to my teaching experience, interacting with each other through video-conferencing compresses the time and space, and such a scenario does not necessarily create a reassuring teaching space for a teacher. Feeling of reassurance is, however, a crucial factor in the process of teaching, for whether a teacher feels confident to keep tabs on students' performance in the class would impact the practice of pedagogy on different levels. To improve the digital pedagogy, I have invited teachers to discuss our experiences of conducting distance education several times. On the basis of meaningful discussions, we try to identify the reasons which caused the sense of uncertainty. Although we suggested several possible reasons such as whether a teacher provides appropriate guidelines to students, whether a teacher actively asks students questions, etc. to the problem and further planned strategies of digital pedagogy and practiced them to ease the sense of uncertainty, we still faced the same issue. The sense of uncertainty seems to be an inevitable nature of human-technology relationship, rather than a solvable technical problem in the context of distance education. Therefore, the uncertain feeling may very well be driven by the interaction with technology rather than by the distance between the teacher and his/her students.

Based on this point, for the purpose of bringing the role of sensation into the re-imagination of digital pedagogy on the theoretical level, it is necessary to explore how sensation is internally related to digital pedagogy and intertwined with the human-technology relationship. From the scenarios I described previously, when I teach on the video-conferencing platform, the strong sense of uncertainty emerges from the practice of digital pedagogy.

Theoretically, the platform of Zoom has the visual and audio function of on-site communication so that a teacher can immediately see students and talk to them through the platform. Therefore, for everyone in the curriculum, the application of Zoom would create a similar environment to a face-to-face classroom. However, compared to face-to-face education, it is quite hard for me to observe how students act in a distance-education class because I can only retrieve the information sent through the digital technology. As a teacher, I always ask students to turn on their cameras and microphones. The requirement would not only advance interaction with each other in a class, but also help me better understand whether students are actively engaged in my teaching or not. Even though Zoom can provide such information to me by sending visual and audio clues from the other venue of teaching (i.e. from the students' end), it still presents a relatively partial picture of the students because of the camera's restricted view. In the visual image shown on the screen, some students seem to be concentrating on learning but they might in fact be doing other things in class. As the only approach for me to access the information, digital technology obviously has its limit to help me understand how students learn when I teach on the video-conferencing platform. Under the circumstances, the strong sense of uncertainty arises spontaneously. According to the descriptions above, it is impossible to talk about digital pedagogy without discussing the role of sensation.

### **Digital Pedagogy as Sensational Pedagogy**

As Ellsworth (2005) illustrates, sensation works as the materialization on the basis of embodiment. From this perspective, the sense of uncertainty can be identified as a bodily experience involving the human-technology relationship instead of a kind of cognitive experience. As an experience of embodiment, the sense of uncertainty would emerge from the intra-action rather than the interaction between Zoom and myself. Different from the concept "interaction" which assumes that individuals exist independently and act upon one another, "intra-action" suggests that individuals only exist materially and materialize within phenomena in motion (Barad & Kleinman, 2012). Therefore, when I teach with video-conferencing, digital technology and I construct each other in the practice of digital pedagogy. In this sense, I cannot exist in this process without the application of video-conferencing, and *vice versa*. What I feel in the context actually involves the teacher-technology intra-action, so the sense of uncertainty basically is the intra-action effect of such human-nonhuman relationship. In other words, the emergence of the uncertain feeling internally



relates to the intra-action of material elements, including my body.

Obviously, the material elements which compose digital pedagogy, such as my body, the computer, video-conferencing technology, and so on, assemble the cognitive-affective sensation. On the one hand, I can name what I feel as an uncertain experience; on the other hand, I cannot capture what the uncertainty exactly entails and how it possibly affects the ongoing process of digital pedagogy. The sense of uncertainty thus remains uncertain. According to my experience, the uncertain feeling would internally force me to take further action to intra-act with it. Take my gesture use in a distance-education class for example. Because of the sense of uncertainty, I am usually worried about whether students behind the screen can understand the teaching content. For better understanding, I would use a lot of gestures to emphasize the points of knowledge and try to improve the effect of teaching. My action caused and shaped by the sensation basically changes my way of teaching with video-conferencing. In this sense, the experience of embodiment changes dynamically within the material-sensational webs. From the discussion above, every time that I teach with video-conferencing, or digital pedagogy, would serve as an event which transforms material elements into relations with each other and possibly changes with the emergence of sensation. In other words, digital pedagogy would be refigured as sensational pedagogy.

As sensational pedagogy, digital pedagogy involves not only human-nonhuman relationship but also sensation. Sensation matters when a teacher teaches with video-conferencing. From the humanist view which considers digital technology to be a tool, the sense of uncertainty is a problem because it reveals that something exists out of the human control. However, defined by sensational pedagogy, the sense of uncertainty plays a role of force which relates to material elements in the context and further transforms the material-affective composition of digital pedagogy dynamically. From this perspective, the sense of uncertainty is not something waiting to be solved, but instead something potentially intertwined with the teacher-technology relationship. Therefore, it is worthwhile to mention that sensational pedagogy indeed helps us recognize there is no such thing as pre-existing subject. Every element assembling the entity of digital pedagogy would exist and change within the ongoing process of practice. To understand the sensational-pedagogy nature of digital pedagogy, subjectivity in motion needs to be emphasized.

For Ellsworth (2005), sensation positively affects understanding, but for me, the sense of uncertainty caused by the fact that I cannot really keep track

of how students learn in a distance-education classroom forces me to keep taking action to approach how they perceive and react to the teaching content. As a teacher who applies digital pedagogy, it is meaningful for me to recognize the existence of the sense of uncertainty as a form of affect, or force, because it not only reveals that it is possible for a teacher to embody digital technology instead of considering it to be a kind of tool, but further exposes the posthuman nature of digital pedagogy as well. Basically, because the sense of uncertainty is intertwined with teacher-technology intra-action, it is inevitable to involve the discussion of posthuman subjectivity emerging from the process of practicing digital pedagogy. How does the role of sensation matter in the exploration of digital pedagogy's posthuman nature? How do I as a teacher, video-conferencing, and the uncertain feeling dynamically relate to each other in the context of distance education exactly?

## **Chapter 5: Exploring the Posthuman Nature of Digital Pedagogy through Sensational Pedagogy**

As I have illustrated, from the perspective of sensational pedagogy, the application of digital pedagogy inevitably involves the intervention of sensation. Based on this point, I would like to further argue that digital pedagogy should be recognized as posthuman pedagogy. In my opinion, it is significant to reveal the posthuman nature of digital pedagogy, because it would be helpful for us to re-identify education, especially the role of teacher in the wake of the development of digital technology.

### **Image Shown on the Screen**

Owing to the practice of video-conferencing, my students and I can meet each other and have classes in different places. Even though I am in Taipei, I can teach my students who are in Shanghai with digital pedagogy. In other words, the development of digital technology assembles everyone in the same virtual space, eliminates the barrier of physical distance, and makes distance education possible. Although I can meet students without the restriction of time and space, I encountered a problem that I often find myself teaching to my laptop rather than the students when I teach with video-conferencing in the context of distance education, and my colleagues also have similar experiences. Teaching with video-conferencing would help people who are in different places to meet, but from another perspective, it actually looks like a teacher is teaching to his/her laptop in appearance. The interaction between the teacher and students happens through the mediation of digital technology, or the screen to be more precise, so people who are in the same distance-education class would react to each other on the basis of how the screen performs the image. For me, how I practice teaching would be based on every student's individual image which is presented via his/her camera and then shown on my screen. In this sense, it is significant to place an emphasis on the human-technology relationship, rather than the human-human relationship, in the process of practicing digital pedagogy. As I have stated, the uncertain feeling would emerge from the human-technology intra-action, so it would be helpful to first analyze the sensation and further explore the posthuman nature of digital pedagogy through it. What does the posthuman subjectivity look like through the sensational webs constituted by digital pedagogy?

In the context of teaching with video-conferencing, according to my experience, the visual image presented by the ZOOM platform is extremely significant for a teacher. When I practice distance education with the application of video-conferencing, I always desire to keep a close track of how students are responding to my teaching. For me, the methods to check students' current progress are two-fold. Firstly, I can raise a question about my teaching content and ask one of the students to answer. I can get his/her answer through the audio function. Through the process of Q&A, I can keep an overall, if not comprehensive, track of what is going on in my class. Nevertheless, this way has its limit because I cannot completely realize what other students think, let alone check whether they are concentrating in class or not. Therefore, I need other information – the visual image – to help me handle the entire situation. As a result, before the class starts, I usually require my students to turn on his/her camera. The requirement not only provides a way for me to check whether my students are focusing in class or not, but also works as an alert that reminds the students of the fact that I would take note of everyone's action in the distance-education class. Although people can communicate to each other through video-conferencing, it is still impossible to create exactly the same environment as a face-to-face classroom to make on-site interaction happen. From my perspective, I can see how students participate in my class only through the angle of view from their camera. In other words, the image shown on my screen is basically every student's face. I cannot really get to know whether they are distracted and are doing other things (such as chatting with their friends on social media) at the same time. Obviously, the situation makes me feel uncertain because it is hard for me to 'really' approach how students participate in the class and learn. Therefore, I embody the sense of uncertainty shaped by the teacher-screen intra-action.

### **Posthuman Subjectivity: The Sense of Uncertainty as Embodied Experience**

In the context of distance education, teacher-student relationship is mediated by the application of digital technology, so the embodiment of uncertain feeling would necessarily involve human-technology relationship. In this scenario, the sense of uncertainty could be identified as posthuman embodiment. From the discussion of Wide & Evans (2019)'s case study, empathy is regarded as posthuman embodiment because it emerges from and simultaneously drives the avatar-player relationship. Thus, the boundary between the body and the avatar which is mainly presented by the screen is indistinct and porous.

Inspired by Wide & Evans (2019), the sense of uncertainty could be regarded as an experience which lives within and beyond my body. From the perspective, with the emergence of the uncertain feeling, my body would be definitely blended with the process of practicing digital technology. In other words, when I teach with video-conferencing, I exist with the continuous intervention of the non-human element and then become a posthuman subjectivity.

Existing as a posthuman subjectivity has its own context, so it would be contingent. From the view of technological posthumanism, I am experiencing (or becoming a) posthuman subjectivity when I teach with video-conferencing in the context of distance education. Therefore, the sense of uncertainty as posthuman embodiment happens in a very specific condition of time and space. In that regard, it is worth mentioning that sensation would be considered a kind of contingency of human-nonhuman assemblage. The context is changeable, so the sense of uncertainty might change dynamically. Take my experience for example. Because the internet connection does not work optimally all the time, I sometimes have trouble interacting with my students through the Zoom platform. In this situation, I particularly sense an even stronger uncertain feeling than usual. The material elements such as the condition of internet connection would change the composition of the context and it further affects the emergence of the sensation. Accordingly, the human-nonhuman relationship in the context would exist as webs, as one element has its agency to move the whole entity.

Compared to the view of humanism which regards digital technology as a tool, from the perspective of posthumanism, the sense of uncertainty in the context would be identified as an inevitable element which makes up the digital pedagogy rather than a problem of digital pedagogy. The sensation is not only one element of the entity but also a force to affect the entity. In order to improve the effect of teaching, the sense of uncertainty has played a significant role in making me take action to transform the digital pedagogy. When I started out to teach with video-conferencing in 2015, I recognized the emergence of such uncertain feeling as a kind of problem. Because it was a common problem for every teacher in the training programme, I as the manager of the programme needed to find several strategies to cope with the problem. In the beginning, I tried to erase the sense of uncertainty by laying down regulations/guidelines for the practice of teaching. In order to create a learning environment similar to a face-to-face classroom, I asked students to turn on their cameras and respond to my questions with their microphones.

Furthermore, to avoid students from shifting their attention from the class, I even changed the way of teaching from lecture to seminar. Through the design of Q&A, I could keep interacting with each of my students and further ensure that they are focusing on the class content. Other teachers in this programme also followed my strategies to improve the situation. Obviously, although I considered the sense of uncertainty a problem, it was the uncertain feeling that propelled me to make changes to the digital pedagogy.

### **Posthuman Subjectivity of Being a Teacher**

However, as what I have pointed out, it is futile to attempt to erase the sense of uncertainty as a problem in this context, because the fundamental nature of the sensation is not a problem in the first place, thus proving it an unsolvable issue. I eventually came to realize this reality in 2017. After a two-year endeavor, I still found the sense of uncertainty growing in the context and affecting every teacher's teaching practice. Although my colleagues and I came up with several strategies to erase the effect of the sensation, we could still feel the sense of uncertainty in the process of teaching. It seemed that the sense of uncertainty existed as something permanent when we were teaching with video-conferencing. Because of the observation, an idea came into my mind. During the period, my colleagues and I had worked so hard to transform the digital pedagogy into a better teaching experience. Although the attempts proved unsuccessful in the long run, we certainly made some effective changes to the way of teaching with video-conferencing. In other words, the sense of uncertainty is internally intertwined with the practice of digital pedagogy. Because it forces me to consciously think about how to improve the effect of teaching and further take action to intervene in the original arrangement of the distance education, it would be an opportunity, rather than an issue, for change. In this situation, according to my work experience, every teacher would find his/her own way to lead students to learn via digital technology. It is a dynamic and changeable process rather than a fixated curriculum.

The sense of uncertainty not only changes the digital pedagogy but also the subjectivity of the teacher. I sometimes encounter occasional technological issues, such as a weak internet connection, when I teach with video-conferencing. With the purpose of making the process of teaching look 'natural,' I need to minimize the impact caused by unexpected events which might happen in the class, so I generally try to deal with some unpredictable situations through the revision of my way of teaching. Basically, it is an

appropriate strategy to adopt seminars to ensure that students can stay engaged in the class as much as possible, but it is impossible to practice seminars with video-conferencing without stable internet connection. When I meet the issue of weak connection, I often change the way of teaching from seminar to lecture. Although the practice of lecture also needs a stable internet connection, it does not really require students to react. In that regard, whether the process of teaching and learning would go well or not mainly depends on my performance, instead of the interaction between my students and me. In this sense, I negotiate the application of digital technology with the strategy of revising my way of teaching. My action in the class would be primarily adopted to deal with the sense of uncertainty and involve material elements. The subjectivity of a teacher like me in this context would be posthuman rather than human.

In addition, on the basis of the practice of lecture in the class, it seems that I look more like a streamer instead of a teacher. When I lecture in the class in order to decrease the impact of technological issues, I do not expect students to proactively react to my teaching. Nevertheless, students often respond to what I teach in class through the chat function. They might ask questions and even give opinion or feedback on the teaching content via texting. Such interaction in class is quite similar to a live-stream situation. For me, the experience makes me re-imagine what I do and then re-identify what I am (the role of a teacher) in the process of teaching with video-conferencing. Sometimes I recognize myself as a teacher, but sometimes more as a streamer. It is an in-between situation once the element of online distance teaching is incorporated. In other words, being a teacher would be dynamically nomadic, shifted, and changeable in the context of distance education. Compared to this, when I practice on-site teaching in a face-to-face classroom, I do not feel like a streamer at all. Obviously, it is more likely to find multiple meanings in the role of a teacher when I teach with video-conferencing. In this sense, the sense of uncertainty emerging from the practice of digital pedagogy would transform the role of teacher as posthuman subjectivity, and further give an opportunity to re-imagine what a teacher is in distance education. To sum up, based on what I have discussed above, it is meaningful to explore the posthuman nature of digital pedagogy because it plays an important role to intervene in how people recognize education.

## Chapter 6: Conclusion

Inspired by sensational pedagogy, I find it pragmatic to recognize digital pedagogy as posthuman pedagogy. Through the analysis of my autoethnography, I focused on examining the effect of the above-mentioned uncertain feeling and further find that teaching with video-conferencing would necessarily involve human-technology intra-action in the context of distance education. Because of the sense of uncertainty as a form of posthuman embodiment, the emergence of such uncertain feeling not only results from the teacher-technology relationship but also interferes with it. Therefore, the relationship is dynamic and changeable. In this sense, when a teacher practices digital pedagogy such as teaching with video-conferencing, his/her subject would be appropriately considered to be posthuman subjectivity, and the being as a teacher who applies digital pedagogy would be inevitably affected by the process of human-technology intra-action.

In order to reveal the posthuman nature of digital pedagogy, in my opinion, it is worthwhile to explore the sense of uncertainty emerging from the teacher-technology relationship because of its distinct existence and continuous impact on the teaching process. Based on the examination of my work experience, I not only discussed how the role of sensation in the process of teaching with video-conferencing should be identified, but also illustrated what might be affecting the transformation of posthuman subjectivity in the context of distance education. Basically, with the involvement of uncertain feeling, it is meaningful to recognize digital pedagogy as sensational pedagogy. The sense of uncertainty resulting from the practice of digital pedagogy lives within and beyond my body when I teach with video-conferencing. On the basis of embodiment, sensation works as materialization. The sense of uncertainty would be the assemblage of material elements such as my body, my laptop (or any other electronic device), the digital technology, and so on. Therefore, it is appropriate to identify digital pedagogy as a kind of material-affective composition. From the view of sensational pedagogy, digital pedagogy has its potential to be considered posthuman pedagogy. Obviously, the sense of uncertainty is internally intertwined with the teacher-technology relationship. As a teacher, I take action to deal with the sensation when I teach with video-conferencing. Thus, the nature of digital pedagogy is dynamically changeable in the sensation-material webs. The role of teacher would potentially transform in the application of digital pedagogy. Take my experience for example. I feel that I am not only a teacher but also a live streamer when I



teach with video-conferencing. The in-between experience results from how I intra-act with the practice of digital pedagogy. Because of the interference of the uncertain feeling, being as a teacher as posthuman subjectivity would move in motion in the process of teaching with video-conferencing. In this sense, it is appropriate to consider digital pedagogy to be posthuman pedagogy.

### **Comprehensive Discussion**

Exploring the posthuman nature of digital pedagogy is significant to the pragmatic level for developing distance education. The view of posthumanism would help teachers identify the role of digital technology in education, especially in the aspect of digital pedagogy. From the humanist perspective, digital technology is considered a kind of tool for practicing distance education. In this regard, for a teacher who teaches with video-conferencing, the technology would exist as something separate from the subject of the teacher. When a teacher feels uncertain about the process of teaching with video-conferencing, the sense of uncertainty would be identified as a pedagogical problem which might be solvable. Nevertheless, what if the problem could not be solved, or if it should not be deemed as a problem from the first place? It seems that the humanist definition might prevent us from posing such “what-if” questions. Compared to the humanist view, posthumanism considers teacher-technology relationship to be a form of intra-action, which means there is no pre-existing subject but subject-in-motion in the practice of digital pedagogy. According to the comparison, the sense of uncertainty would be an experience of embodiment rather than a problem waiting to be solved. In other words, the uncertain feeling emerges from and internally co-exists with the application of video-conferencing in distance education. Basically, the sensation not only becomes an inevitable part in the teacher-technology relationship but also forces all of the elements to intra-act with one another. The emergence of such uncertain feeling plays the role of force in revealing digital pedagogy as a dynamic process. In this sense, the sense of uncertainty works as a reminder for teachers who teach with video-conferencing to recognize the changeable nature of digital pedagogy as they practice distance education, and teachers might re-identify their roles in that process. Therefore, the thinking of posthumanism explores the multiple folds of meaning of being a teacher in the process of practicing digital pedagogy.

As I have stated, the sense of uncertainty exists as posthuman

embodiment. From this perspective, the uncertain feeling works as a bodily experience involving the teacher-technology relationship. At the pragmatic level, it is necessary to identify digital technology as a kind of extension of a teacher's body. In other words, there is no distinct boundary between digital technology and the teacher's body. In my opinion, it would be helpful for a teacher to regard digital technology as a part of his/her body, because the teacher can then have an opportunity to (re-)imagine how to intra-act with the technology and might conduct his/her teaching in an alternative way. In this regard, the sense of uncertainty as posthuman embodiment might bring hope, instead of problems, to a teacher.

### **Related Issues**

In the wake of the development of digital technology, it is very common to see distance education through the application of video-conferencing, especially in the era of the COVID-19 pandemic. Because of the practice of the lockdown policy, learning from home becomes a pragmatic way to keep learning and simultaneously maintain social distancing. In this situation, distance education as I have described will become even more significant than before. Thus, for teachers and students, it is necessary to get used to the new norm of distance education and to even ponder human-technology relationship as an issue for further exploration. For me as a teacher, it is time to re-identify the role of technology in the application of digital pedagogy. Actually, there is no such thing as an absolute, clear-cut definition of the role of technology. Apart from being a tool for teaching and learning, digital technology should also be regarded as a mediator in the process of education. In this sense, the posthumanist perspective then matters for educators, because it urges people to re-think the process of practicing digital pedagogy and to further critically examine how to evaluate the effect of teaching with digital technology. In the previous sections of this research, I attempted to present my years of work experience via autoethnography, in order to reveal how the sense of uncertainty which confronts teachers in the distance education setting dynamically involves material elements of digital pedagogy, and to explore the posthuman subjectivity emerging from such process. It is meaningful to recognize the importance of sensation emerging from the process of distance education and point out how the uncertain feeling mediates the application of digital pedagogy. Sensation matters in the analysis of human-technology relationship because it reveals the posthuman nature of digital pedagogy.

Exploring the posthuman nature of digital pedagogy is conducive not only

for a teacher who teaches with video-conferencing but also for students who attend the class in the context of distance education. As what I have stated, when a teacher teaches students with video-conferencing, it is inevitable for both ends to enter a human-technology relationship which must be dealt with. Actually, students in this context are in quite a similar condition, in that they too intra-act with video-conferencing. Their experience of attending virtual classes would be worth discussing in order to evaluate the process of learning in distance education. For students, how do they recognize learning with digital technology? How do they feel in the learning process? How do they respond to teachers' instruction through the embodiment of digital technology? How does the sensation mediate their intra-action with video-conferencing? On the basis of the exploration of these questions, it is possible to improve digital pedagogy and make it posthuman in distance education. Compared to considering technology a kind of tool for teaching and learning, imagining that human in fact embody the technology would provide alternative ways to think about digital pedagogy, particularly the positive meanings which the sense of uncertainty might bring.

In this research, I focused on my own bodily experience in the distance education setting, and explored the posthuman subjectivity which involves the sense of uncertainty through it. However, due to the constraints regarding research design, I was not able to extensively examine and incorporate other teachers' teaching experience in order to compare and contrast it with my own. Thus, the research leaves a gap to bridge in that it can be further enriched if such contrast can be made to pinpoint the theoretical meanings of such sense of uncertainty. If I have an opportunity to expand the present research, I shall incorporate more teaching experience from other teachers, particularly how the teacher and students interact with each other via the video-conferencing platform shown on the screen. On such basis, more data can be collected in an ethnographic approach and analyzed through the posthumanist perspective. Also, though my intention to explore the posthuman nature of digital pedagogy in the context of distance education is more of an interpretative research focusing on theoretical meanings, my findings and arguments (or ideas from related work in the future) would be conducive to the re-imagination of the practice of digital pedagogy, and the development of an entirely different landscape of distance education, provided that teaching with video-conferencing is becoming a new norm in the post-pandemic era which we live in as of now.

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