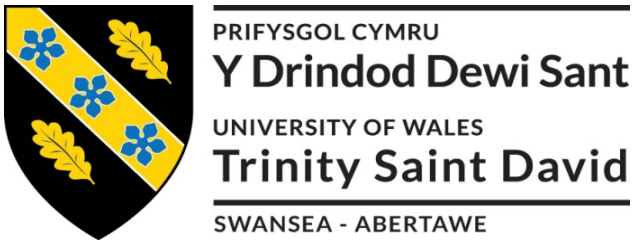


An investigation into Job Satisfaction: a case of DingTalk and Chinese universities

DBA CANDIDATE:

Xiaoyu Zhu

Research Principles and Philosophy Report

Module Leader: **Dr Caroline Jawad**

Abstract

After a "human holocaust" that ended the conflict, the globe returns to normal life in 2023. Even though this global battle has caused pain and loss in all countries, it is also because of this "suffering" that many new issues have surfaced that deserve to be addressed. With its "zero policy," China was one of the countries that coped with the war for the longest period throughout the years of the Covid-19 epidemic. For the past three years, students and teachers in the education sector have used online platforms for teaching and learning. DingTalk (created by Alibaba Group) is one of the most widely used software, and according to official data, DingTalk supports 140,000 schools, 6 million teachers, and 130 million students in China. While there is a lot of literature on online education and the benefits and drawbacks that DingTalk brings to schools and even the country, there isn't much that examines and covers the job satisfaction of Chinese university teachers during the pandemic. As a result, the focus of this report and following research will be on work satisfaction among university professors, which may result in several gaps in government policy regarding university management settings and areas for improvement. The Job Demands-Resources (JD-R) Model serves as the theoretical underpinning for this paper. Second, this paper and following research will investigate and examine Epistemology's 'explanation of causes' idea. Most significantly, this and subsequent studies will explore and collect information using the case study method of qualitative research. This is because this report and subsequent research will be based on in-depth interviews and material gathered through contact with groups of university lecturers, with DingTalk serving as a case study and premise.

Key words: online lectures, DingTalk, Covid-19 pandemic, qualitative research, challenges.

Contents

1.0 Introduction…….5

1.1 Background……..6

2.0 Key aims, objectives, and research questions……...8

2.1 Key aims……...……8

2.2 Research objectives……...8

2.3 Research questions……8

3.0 Literature reviews……8

3.1 Educational social software and online teaching……8

3.2 Teacher job satisfaction with online education and DingTalk……9

3.3 The identities change context in online learning……12

3.3.1 Management identity changes……...12

3.3.2 Teachers' identity changes……13

4.0 Research gap……..13

5.0 Theoretical Framework……..14

5.1 Definition of theoretical framework……...14

5.2 Job demands-resources (JD-R) model……....15

6.0 Research paradigm and research philosophy……18

6.1 Introduction……..18

6.2 Epistemology…….…..19

6.3 Ontology……...23

6.4 Axiology……23

7.0 Research methodology…….…24

7.1 The qualitative research paradigm……...24

7.2 The case study research design……...27

7.3 Narrative research……28

7.4 Grounded theory……29

7.5 Ethnographic research……...29

7.6 Phenomenology……..30

8.0 Ethical considerations……....30

8.1 Deontological……...33
9.0 Reliability and validity……..……...34
10.0 Conclusion…….35
10.1 Contribution to Theory……..35
10.2 Contribution to business practice……36
10.3 Areas to be covered in follow-up research…….36
11.0 Reference list……....37

1.0 Introduction

This report will analyse and discuss the positive and negative effects of online teaching and DingTalk on teachers from a variety of perspectives, investigate whether there have been significant changes in teacher job satisfaction in the online model of teaching, and examine efforts made by school administration to improve and enhance teacher job satisfaction. This report will outline the theoretical framework associated with teacher job satisfaction, analyse the study paradigm, research technique, and ethical issues pertinent to this paper, and conclude with suggestions for overcoming obstacles to enhancing teacher job satisfaction.

With the development of modern society and technology, social media utilisation has become one of the most prevalent social behaviours due to its pervasiveness and the numerous opportunities it offers (Kircaburun.et al, 2020). Social media as well as the internet are becoming increasingly significant as one of the most important information sources, affecting individuals of all ages (Dedeoglu, 2019). As a result of the COVID-19 attacks in December 2019 and the subsequent global spread in a few months, many countries have implemented a lockdown policy to prevent widespread virus infection. Schools around the world will be forced to close campuses and move all academic programmes online in the spring of 2020 (Chakrabarty, 2021). China was no exception; since the establishment of the "stop class, stop class, and stop school" teaching policy in February 2020, the majority of elementary and secondary institutions, as well as colleges, in China have implemented DingTalk. Online teaching is a novel teaching method based on the development of Internet technology that is distinguished by the ability to concentrate a large number of high-quality resources and may facilitate teaching through the incorporation of high-quality materials (Tang,2021). In addition, unlike the conventional offline classroom teaching model, online teaching enables students to view the classroom recording multiple times,

thereby resolving the problem of students not following the teacher's teaching cadence in the conventional mode. The unexpected outbreak has resulted in enormous changes in the educational world, including the easiness of online teaching to overcome time and space constraints, but it has also compelled many instructors to alter their perspectives on day-to-day education compared to previously immutable educational models. Difficulties in long-distance communication, a lack of body language and feedback, and other factors impede lecturers' ability to communicate (Blonder.et al, 2022). Moreover, online teaching is a mandatory home-based remote workplace for instructors, teachers are likely one of the occupational groups most affected by the COVID-19 problem, and the new realities brought about by the pandemic will undoubtedly diminish teacher job satisfaction (Mahmood, 2021). Others may believe that assignments and online learning have caused them to lose their living space and face other difficulties (Kniffin.et al, 2021). Undoubtedly, there are some new and obvious concerns and adjustments for school administration. In order to facilitate online teaching and learning, schools must provide instructors and students with additional support. This includes providing technical support and assistance to students who may have difficulty accessing online learning resources, as well as training instructors on how to use online learning platforms effectively.

1.1 Background

As of 31 August 2021, according to the Chinese people's website, the number of DingTalk users had surpassed 500 million, with more than 19 million institutions of all categories, including businesses and colleges, using the service (people.cn news, 2020). Moreover, as of July 2020, Dingtalk has assisted 140,000 schools, 3 million classes, and 6 million teachers in China to complete over 60 million hours of Dingtalk instruction, reaching 130 million students (people.cn news, 2020). DingTalk is a suite of instant messaging applications developed by DingTalk is an instant messaging, free

communication, and collaboration multi-end system platform developed by Alibaba Group that enables a secure and independent collaborative communication platform that integrates instant messaging, SMS, email, voice, and video, and provides peer-to-peer messaging, reminder, and information services for software users who collaborate (Gou, 2020). Teachers distribute learning tasks via group announcements prior to class, and students' pre-study in advance; in live classes, pre-class tests or sample tests are typically scheduled, followed by heuristic teaching that addresses the course's key concepts and students' learning weaknesses; and after class, students submit written assignments, which are corrected by teachers for timely feedback (YE, 2020). Since the end of 2022, China has gradually adopted the same liberalisation strategy as Western nations in the nation, and as of 2023, all Chinese schools (including primary and secondary schools as well as universities) have switched back to the offline form of instruction. However, most schools have innovated to combine online and offline education to avoid the issue of a disconnect between online and offline education in order to guarantee student learning outcomes and to prevent the uneasy reaction of students to the sudden change from a three-year online to an offline mode of teaching (Cui, ET AL., 2023). According to studies, the majority of Chinese university professors who used DingTalk during the pandemic were satisfied with its use. The platform can also assist university professors in increasing their productivity and information management while also enhancing communication throughout the office. The platform has many features, including a DING function to boost communication effectiveness, real-name authentication, a continuous microphone for faculty-student online conversations and message storage, a sticky note function for quick access to important information, a large-capacity cloud drive, and storage of private files (Zhang, 2023). At the start of the pandemic, some older teachers were unable to completely comprehend and develop their skills in using online education platforms because of their habits and reliance on traditional offline education.

Universities and primary and secondary schools in China still need to train instructors in every facet of the topic so that they are ready for any unforeseen circumstances.

2.0 Key aims, Objectives, and Research Questions

2.1 Key aims

To explore the roles of online educational platform DingTalk and online teaching for teachers and universities related to Job Satisfaction, especially, the change and relationship of teachers' job satisfaction before and after the implementation of online education and the widespread of DingTalk. Moreover, to explore the benefits and challenges of DingTalk and online teaching brings to teachers and schools. Finally, to examine whether DINGTALK and online teaching improve the human resources management and management policy for schools.

2.2 Research Objectives

- Teachers

- Management of Chinese universities

2.3 Research Questions

- what are the roles of DingTalk and online teaching for teachers and universities?
- what factors will affect teachers' job satisfaction in relation to DingTalk?
- What are the changes in teachers' and schools' attitudes and satisfaction towards to DingTalk and online teaching?
- what are the positive impacts brought by DingTalk and online teaching to organisations and teachers?
- what are the challenges brought by DingTalk and online teaching to organisations and teachers?

3.0 Literature reviews

3.1 Educational social software and online teaching

Social software has impacted not only personal lives and day-to-day practises, but also educational settings via a variety of platforms. To maximise the use of SM technologies, educators endeavour to incorporate these practises into classroom instruction (Sabah, 2022). Educational institutions of various user

groups and services use social media as a tool in the learning process, to engage with alumni or the larger community, to enhance the feel of academic sessions, and to advise and assist students (Sideri.et al, 2019). In addition, students of all ages can find a diversity of education that corresponds to the school curriculum on the internet, and with the rise and accessibility of the internet, students' access to information is no longer restricted to schools and teachers (Cao. et al, 2013). According to a study on the importance of social media in education by Alaa Kutbi et al., students are willing to spend time and effort using social media to gain a wealth of knowledge and skills, and they feel a sense of pride so that they do not forget the process of living their own knowledge (Kutbi & Alomar, 2017). In a matter of weeks, the Covid-19 pandemic has compelled traditional teaching and learning online, and educators are expected to supervise, produce, and administer online education. Even though neither students nor professors were adequately prepared or interested in teaching online, there was no choice but to relocate the course online in a time of crisis (Cutri. et al, 2020). Online teaching differs from traditional teaching in that the connection between teacher and student is feeble, and teachers frequently use a variety of teaching aids, such as turning on cameras to observe students or establishing separate 'rooms' for group discussions (Ning. et al, 2022).

3.2 Teacher job satisfaction with online education and DingTalk

According to relevant research, job satisfaction is a significant determinant of a person's commitment to a career or desire to leave a position (Wnuk, 2017). Job satisfaction refers to the extent to which an employee feels fulfilled, motivated, and content with his or her job. An employee is satisfied with their job when they believe they have a healthy balance between employment security, professional advancement, and a pleasurable work life because their job meets their individual expectations. In addition to income, benefits, and other assets that an employee may obtain, work environment, company culture,

and job quality may influence job satisfaction (Skool team, 2023).

Figure 1 illustrates that job satisfaction is a subjective experience that varies from person to person and can be influenced by a variety of factors, such as pay, benefits, working conditions, work-life balance, opportunities for advancement, and relationships with co-workers and supervisors (Wangler. et al 2022).

(Figure1, Wangler. et al 2022).

Employee job satisfaction is directly proportional to the leadership style of the leader. Leaders must "lead and motivate not only individuals, but also entire teams" (braun. et al, 2013) because companies are primarily team-based. Second, mutual trust between the leader and the individual within the organisation is essential, as the leader develops a sense of belonging to the team and distributes resources among the members of the organisation (Wildman. et al, 2012). Consequently, followers who trust their team and extend

that faith to other team members are more satisfied with their jobs. As teaching is commonly perceived to be a difficult profession, stress has been recognised as a necessary consequence of work demands (Chaplain, 2008). The teacher's role is not only to impart written information to students, but also to guide them in a positive direction, which necessitates a constant display of emotional composure and efficacy. Teachers have multiple identities: a leader who serves as a positive notional role model, a coach who encourages students to form teams, a facilitator who assumes responsibility for student achievement, and a communicator who facilitates communication and collaboration (Heuer & King, 2004). Teachers are twice as anxious as the general population (Chaplain, 2008), so school administrators must monitor teachers' psychological and job status to ensure that more can be done to help them experience a strong sense of belonging within the organisation, thereby increasing job satisfaction. Emotional fatigue is a crucial component of burnout, which is characterised by a decline in productivity and disposition (Schaufeli &Greenglass, 2001). Multiple empirical studies have demonstrated that work demands are the most significant predictor of emotional fatigue. Job expectations may induce chronic stress, overwork, and emotional exhaustion, resulting in decreased job satisfaction; job demands may reduce teachers' job engagement, resulting in decreased job satisfaction (Han & Yin,2020).

It is essential that instructors have an understanding of their experience within the context of online education. The authentic sense of engagement between the platform and instructors includes both 'hard' human-machine contact and ‘soft' human-human connection via the platform (Dong & An, 2021). According to the results of a questionnaire study on teachers' satisfaction with DingTalk conducted by China Academic Journal Electronic Publishing House, more than half of the instructors indicated that DingTalk could meet their professional requirements. Internet-based DingTalk instruction can generate live instructional data in real time. Real-time data creation, lag-free live teaching, a robust platform, and simple and engaging live teaching activity design are

among the advantages of DingTalk online teaching (Wang. et al, 2021). Despite this dire situation, many instructors and students are either oblivious of online teaching and learning and DingTalk or do not know how to use it. At the institutional level, schools should seek and provide teachers with professional training resources on online teaching and learning, so that teachers are not only content-knowledge prepared, but also have the pedagogical and technological skills to teach online (Wang. et al, 2020). Moreover, administrators should create policies for online teacher assessment mechanisms (e.g., length of video lectures, number of messages posted in group chats, feedback provided to students) so that teachers can easily assess their own performance and ensure quality consistency, regardless of subject area or grade level (König, 2020). Administrators have not yet investigated how to assist certain student populations with the realities of online instruction. Due to significant differences in teaching resources, facilities, and even hardware required for online teaching, such as network fluency and computer configuration, some students are forced to repeatedly enter and exit live classes, which not only prevents them from truly learning but also negatively impacts student-teacher interaction (Feng & Loan, 2021). As Dhawan also emphasises, a solid IT infrastructure is necessary to ensure the long-term viability of education in times of crisis. Governments and other stakeholders should work to construct and maintain such infrastructures so that learning services can be provided uninterrupted (Dhawan, 2020).

3.3 The identities change context in online learning.

3.3.1 Management identity changes

Online education, as opposed to traditional face-to-face instruction, has prompted institutions to enhance or even implement online learning management systems. Schools must spend a considerable amount of time on mobile devices organising learning materials and converting them into digital or video media forms, which must also be submitted on time and in the proper

format on learning management systems (Ei-soussi, 2022). During the transition period, administrators must provide technology training to instructors and other school personnel so those who are unfamiliar with the new online learning platforms can become proficient in their utilisation. Bringing followers along for the change and identity shift is a process in which leaders must recognise the need for change early on and swiftly implement the identity shift (Parlakkalic, 2014).

3.3.2 Teachers' identity changes

According to this article, when transitioning from a traditional teaching model to an online teaching model, the teacher's role may transform from "classroom instructor" to "facilitator of online learning." As in the practical example in (Ei-soussi, 2022): whereas in the previous offline classroom, the teacher could walk around at any time while capturing the status of individual students and receiving feedback at any time, it is difficult to obtain responses in online teaching because students' silence indicates they are absent. Again, communicating with students via email or otherwise responding to their inquiries significantly increases the instructor's workload.

4.0 Research gap

The vast majority of the literature has focused on the characteristics, popularity, advantages, and disadvantages of online education. In addition, the majority of Chinese literature has focused on the qualities of DingTalk as well as the benefits and drawbacks of online education in China. In addition, a number of researchers have examined the relationship between teachers' job satisfaction and their organisation by accumulating and analysing extensive data. However, there is almost no literature in China that focuses on and investigates teacher job satisfaction, especially in the context of the forced transition from traditional to online education models during the pandemic period, and there is no research that demonstrates the relationship between organisational and

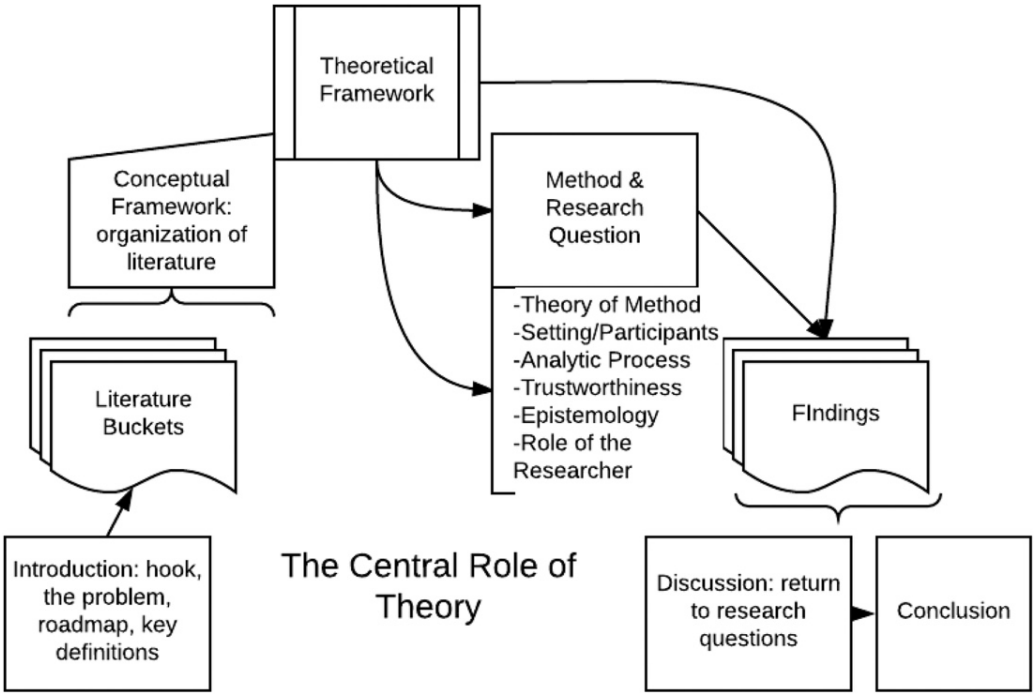
teacher satisfaction during the pandemic period.

This paper and the accompanying in-depth research will investigate how teacher job satisfaction changed prior to and after the introduction of the evolving education model (online education), how successfully organisations increased teacher job satisfaction, and what efforts and enhancements were made by organisations in this regard. Moreover, because China is a vast country with an extremely large population, education programmes differed by region, and the requirements for many aspects of first-tier cities differ from those of third-tier cities. Future research will also investigate teacher satisfaction and school maintenance organisation in the first- and third-tier cities of China.

5.0 Theoretical Framework

5.1 Definition of theoretical framework

A thorough theoretical framework can position the researcher for future research and writing success (McCombes, 2020). The theoretical framework provides answers to two fundamental research queries: 1. What is your research query, and 2. Is your approach suitable for answering it? Only a comprehensive assessment of the literature, including both theoretical and empirical research as well as voids in the literature, can provide answers to these questions (Lederman, 2015). Traditional academic work begins with a question, then the construction of a literature base to justify the topic and document what has been addressed (Collins & Carrie, 2018).



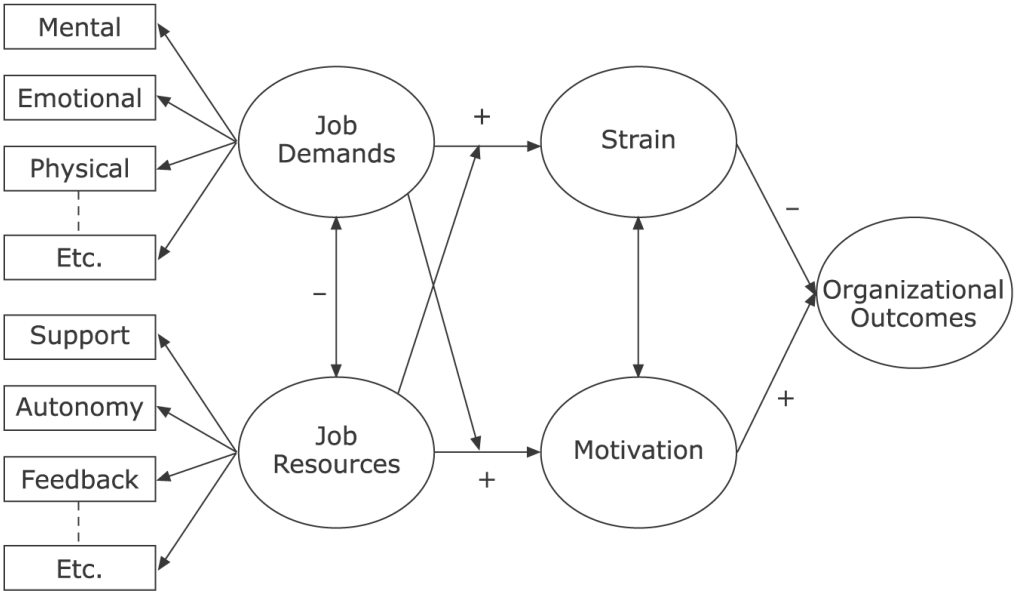
（figure 2, Collins & Carrie, 2018).

Figure 2 depicts the research completion process, which begins with a comprehensive literature review to determine the most appropriate conceptual and theoretical framework. The theoretical framework provides answers to the researcher's research queries and governs the remainder of the study. In addition, the theoretical framework enables the researcher to access future research methodologies and analyses in order to determine the outcomes and findings of the study.

5.2 Job Demands-Resources (JD-R) Model

This report will utilise Arnold Bakker and Evangelia Demerouti's JD-R theory, a unified work design theory that explains how job demands and resources influence job performance through employee well-being and how employees use active and passive work behaviours to influence job demands and resources (Bakker, 2023). They hypothesise that while each occupation may have its own unique risk factors for job stress, these can be classified into two broad categories: job demands and job resources, resulting in an overarching model applicable to a wide range of occupational contexts (Bakker & Demerouti,

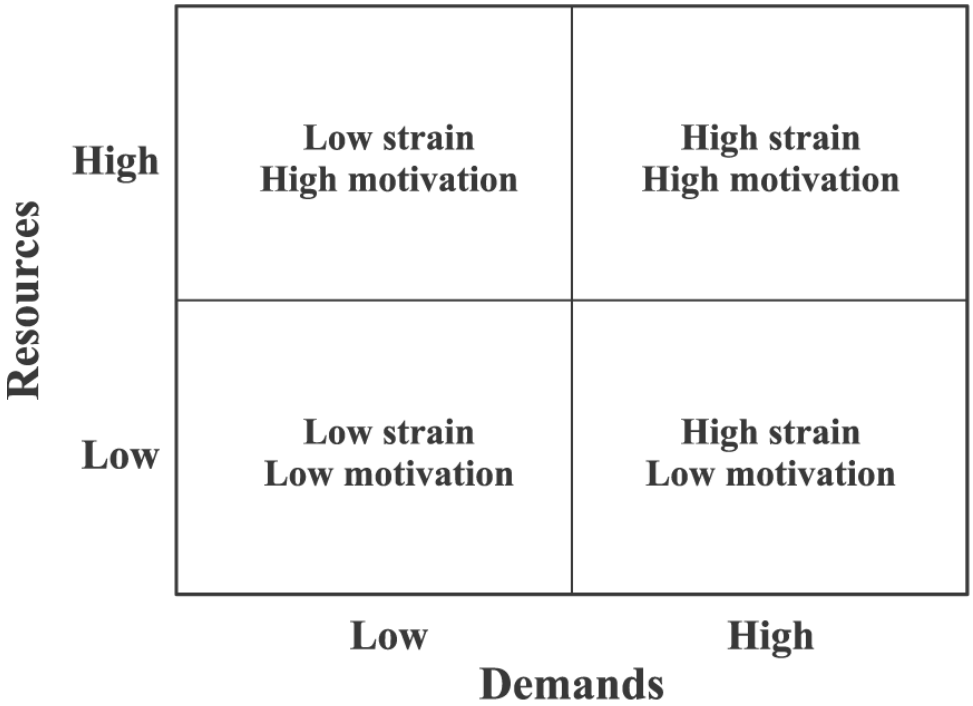
2007). Job demands include physical or emotional pressures such as time constraints, excessive duties, disagreeable work environments, role ambiguity, emotional labour, and poor interpersonal interactions (Mindtools). Despite the fact that companies set work expectations for their employees in order to ensure the company's success, these expectations can become job stressors when attaining them requires a significant amount of effort and individuals are unable to recuperate effectively (Bakker & Demerouti, 2011). On the other hand, job resources are physiological, social, or organisational factors that aid in the achievement of goals and the reduction of stress, such as the function of achieving job goals, reducing job demands and the associated psychological and physiological costs, or receiving the appropriate skill support (Bakker & Demerouti, 2011). According to the JD-R theory, work-related tension and motivation are influenced by two distinct psychological processes.



（figure 3, Bakker & Demerouti, 2011）

Work demands, as depicted in Figure 3, can result in a variety of mental, emotional, and physical health issues, whereas work resources can provide employees with support, autonomy, and feedback. They may become dissatisfied with their employment and less productive, leading to poor results, and the company may face a high rate of employee turnover and an inability to

retain talented workers. If, on the other hand, the organisation and its executives are able to assist workers in reducing their anxiety and tension when confronted with high job demands, employees will feel trusted and cared for by the business and, as a result, will develop a sense of belonging. Work resources motivate individuals by fostering their growth and development and assisting them in being highly motivated to produce greater results for the organisation.



（figure 4, Bakker & Demerouti, 2007).

Figure 4 illustrates the relationship between work requirements and resources in greater detail. When job expectations are high and resources are limited, team members experience elevated levels of tension and anxiety, leading to exhaustion and decreased motivation. When job expectations are high and resources are available, team members will experience high levels of stress and anxiety but be more motivated.

The unanticipated arrival of covid-19 caused significant repercussions in the education industry; instructors were compelled to modify their teaching methods, school organisations were compelled to alter their current administration structures, and students were compelled to adapt to the new teaching paradigm. In the early days of the epidemic, every organisation was

left with ambiguity and increasing uncertainty regarding the future. Currently, leadership and crises are tightly intertwined. According to scholars, crisis preparedness begins with leaders' perceptions and assessments of risk and risk-taking behaviour; if executives do not believe their organisations are vulnerable to crises, they will not allocate resources to prepare for or protect against these risks (Demerouti & Bakker, 2022). Few institutions provide standardised teacher training, even though DingTalk provides a number of elements that enable teachers to illustrate their lessons in the Chinese context in depth. In the early days of the epidemic, many instructors were unable to comprehend and utilise the online teaching platform, impeding progress (Wang.et al, 2021). Creating emotional empathy between professors and students is more difficult in online education than in traditional face-to-face instruction. Teachers may experience psychological stress when confronted with 'unanswered' or 'disruptive' questions in online classrooms; however, there is no literature in China demonstrating the efforts and resources that organisations make available to staff in this area (e.g., psychological assistance, salary increases, or new classroom requirements).

6.0 Research paradigm and research philosophy

6.1 introduction

Many authors have developed Thomas Kuhn’s concept of the research paradigm and according to Guba and Lincoln, Saunders there are 4/5 major paradigms.

According to Guba and Lincoln (1994), a paradigm is a logical point of view that directs a researcher's study and includes axiology, ontology, methodology, and epistemology. （Guba, E.G. & Lincoln, Y.S., 1994.）

In 2010, Bunniss,S and Kelly,D defined a research paradigm as a community of researchers' shared beliefs and practises that govern research within a

discipline, its ontological, epistemological, and methodological differences, and their contribution to the construction of disciplinary knowledge (Bunniss & Diane,2010). According to Kathryn Weaver, research paradigms are the processes that link the discipline's claims to knowledge and the systems that create that knowledge, and paradigms are the lenses through which the discipline's most important substantive concerns are observed and explained (Weaver & Joanne, 2006). "Research philosophy" refers to a collection of ideas and assumptions regarding the production of knowledge (Saunders, 2019). Research philosophy is defined as the development of research hypotheses, knowledge, and properties that are considered preliminary statements of reasoning, implying that different researchers may have different assumptions regarding the nature of truth and knowledge and their acquisition (Žukauskas. et al, 2018).

6.2 Epistemology

Epistemology relates to assumptions about knowledge, what constitutes acceptable, valid, and legitimate knowledge, and how we communicate knowledge to others (Saunders, 2019). The subject of epistemology is the nature and limits of human knowledge about the universe, as well as the determination of truth in the reproduction process (Seth C, 2015). Moreover, epistemology aims to answer two questions: what is knowledge and how is it acquired? (Brown, 2019). The normative function of epistemology extends beyond how knowledge is generated, who is authorised, how putative credibility is assigned, and how the object of investigation is defined. It is also about how knowledge is generated, who has power, and how perceived legitimacy is granted (Scheman, 2012). Epistemology is significant in a variety of academic disciplines, including philosophy, science, and even everyday life. It provides a framework for understanding the nature and foundations of knowledge, and it informs how we approach truth, evidence, and information access in numerous academic disciplines. Epistemology is concerned with the nature of what

knowledge or truth is, the methods used to obtain the answer to this truth or knowledge, and the use of an act to explain a question and thus obtain truth and knowledge, which includes various methods of knowledge acquisition and reasoning processes. Moreover, epistemology should not be about "chance," and whether humans believe in "what the truth of anything is" is comparable to whether they "make sense." Belief in the truthfulness of something (Derose, 2005). There is also the concept of 'believing' in epistemology (Hughes, 2022), which states that the researcher must have a strong sense of belief in his or her study hypothesis and reasoning process in order to acquire knowledge effectively. For instance, if someone wishes to know the current time, they will unconsciously seek out a clock and receive the time, and no one will dispute that a clock is functioning properly. Due to the specific nature of the earth's time scale and the requirement that time within the same time zone be identical, people would certainly embrace a functioning clock. Even though this is a simplified example, the researcher conducting his or her own study must have "clock confidence." Similarly, interpretivism emphasises Jay's subjectivity, and interpretivists seek comprehensive descriptions during the research process in an effort to produce a genuine rather than generic condition of representation. Interpretivists endeavour to comprehend reality through empirical learning, establishing a relationship between the researcher and the subject of study (Irshaidat, 2022). Interpretivism is more than a new methodology; it is a challenge to the fundamental principles of social inquiry and the need to recognise that outcomes are determined by method (Schwandt, 1994). To comprehend a particular social act from an interpretivist perspective, the researcher must comprehend what constitutes the act and discern meaning in an action or behaviour, or comprehend what a specific action signifies (Schwandt, 2003).

For this study, epistemology is concerned with the dependability of the received information, the accuracy of the evaluated data, the plausibility of causality, and

the reflexivity of subsequent research. Moreover, interpretivism in research philosophy will serve as the foundation for this study, which will concentrate on subjective reality and create meaning through social practise and experience.

To commence, the researcher should have a more comprehensive understanding and organisation of the knowledge he or she wishes to investigate. Unlike God, humans cannot comprehend the entirety of the universe. It is the responsibility of the researcher to learn and organise the sustenance that is immediately provided to the sensory organs, to distinguish and classify objects and information that are initially perplexing to knowledge - to place the universe in a very restricted order (Frierson, 2014). To generate common hypotheses, the researcher must conduct a comprehensive examination of theoretical knowledge and pertinent literature on job satisfaction. In addition, the researcher must comprehend the published literature's key concepts, assumptions, and implications for knowledge. Importantly, the researcher must classify the topics he or she wishes to investigate based on the theory and data acquired, so that future research can proceed efficiently.

Second, the researcher must collect data on a particular topic. By analysing relevant government or authority data, researchers can gain a comprehensive understanding of their study. In August 2020, for instance, Xin Zhao and Wei Dong conducted over 200 surveys in twenty regions of China as part of a study on online teaching satisfaction among humorous instructors in China during the epidemic. According to the findings, the majority of university instructors in China were satisfied with online education throughout the pandemic, particularly with instructional support (Zhao & Dong, 2020). Moreover, researchers must select an acceptable research methodology. For this and future studies, a large number of interviews will be conducted with university professors regarding their work fulfilment during the epidemic in order to collect data on their satisfaction with online education and support for DingTalk. In addition, the researcher's interview queries should target the instructors'

attitudes and views regarding school administration through the interview survey. Many instructors may be dissatisfied with the school administration policy during the epidemic, and many instructors may offer outstanding suggestions for reforming the system.

Thirdly, after collecting data from interviews, the researcher must compare the results of the interviews in order to select the correct data; the purpose of this phase is to affirm the source's credibility. Consistency of the study results is linked to reliability. The dependability of the qualitative research method refers to the extent to which numerous participants in data collection and research analysis provide identical responses. Consistency refers to the consensus among survey respondents regarding the study's substance and their interpretation of causality (Thyer, 2010).

Fourth, while reviewing the interview transcripts, the researcher should classify and classify the data according to the age, gender, and position of the respondents, as well as the frequency with which instructors use DingTalk. The analyst is tasked with identifying differences and similarities between the data and the transcripts, as well as examining the factors that contribute to instructors' satisfaction based on the transcripts. Importantly, the data and transcripts are organised so that they can be read and compared both longitudinally and vertically, enhancing the logic of the researcher's findings and analysis.

The researcher must then evaluate the significance of his or her findings within the context of social phenomena. Consider the significance of the researcher's findings for teacher job satisfaction and more manageable education and describe how this study contributes to our comprehension of the acquisition, construction, and validation of knowledge in relation to teacher job satisfaction. In light of the study's epistemological findings, consider the practical

repercussions of supporting and enhancing teacher satisfaction. In addition, the researcher must consider the potential impact of the study's findings on those involved (e.g., instructors, administrators, and policymakers). Finally, the researcher must disclose and reflect on the limitations of the study. Identify any restrictions or issues that may have influenced or diminished the generalizability of the results. Discuss how these limitations may be addressed in future research or how they may impact the interpretation of the researcher's findings.

6.3 Ontology

Ontology, also known as the "study of being," centres on what truly exists in the universe that humans can learn about, and it helps researchers recognise their conviction regarding the nature and existence of the things they study (Moon & Blackman, 2017). Ontology is the philosophical study of the constitution of existence, identity, attributes, and facts, among other topics. According to Annelli Janssen and Marc Slors, ontology has its roots in informatics, where it is necessary to use a consistent set of concepts and relationships described in formal language to facilitate information retrieval and manipulation in enormous databases (Janssen, 2017). In the field of medicine, for instance, the map of the human body's vascular distribution is regarded as an existing fact from which subsequent researchers can learn. In the realm of music, for instance, the pentatonic scale and vocal intonation are immutable facts that succeeding academicians replicate and use as a learning template. However, this report cannot utilise ontology as a model. Given that the purpose of this report is to investigate the effect of online education and the use of dingtalk on teachers' job satisfaction, the researcher must examine the content of the interviews in relation to social phenomena in order to obtain the desired results.

6.4 Axiology

The central concept of axiology is 'value,' and value theory is the study of value: how humans acquire or create meaning and worth. When people describe an

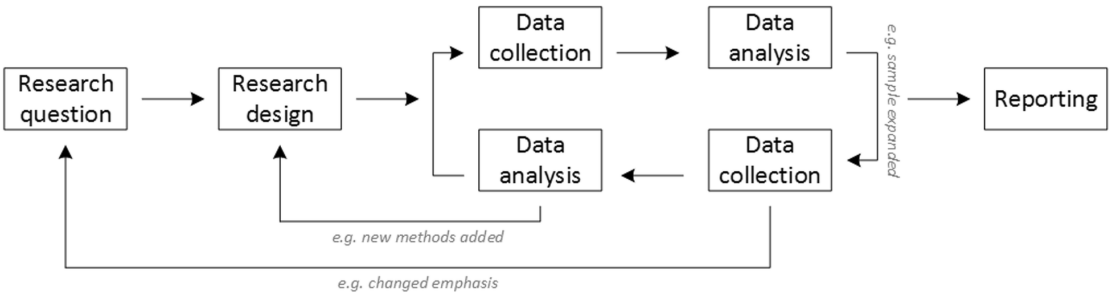
object or an activity as "good," they are referring to its "value." When someone or something is deemed "good," they are referring to its "value." As well as "good," "better," and "best," "Value" contains "bad," "worse," and "worst" (2008). When explanatory causality exists, this study will primarily investigate teacher satisfaction and collect data and oral perspectives through interviews. However, because this report and future research will examine social phenomena, little emphasis will be placed on whether the causal links are "good," "better," or "bad." The investigation will be conducted within the context of social phenomena.

7.0 Research methodology

This section will show in detail the qualitative research paradigm, and the five branches of it: case study research design, narrative research, grounded theory, ethnographic research, and phenomenology.

7.1 The qualitative research paradigm

In contrast to quantitative research, qualitative research does not conceal the 'voice' of the study subject beneath pairs of anonymous standardised data (Roberts, 2014). Qualitative research begins with one or more comparatively broad research questions, which can be refined as the study progresses (Denny, 2022). Qualitative research is the study of the nature of phenomena, including their nature, various manifestations, contexts in which they occur, or perspectives from which they can be perceived, and qualitative research typically includes textual data as opposed to numerical data (Busetto. et al, 2020).



（figure 5, Busetto. et al, 2020).

Figure 5 depicts qualitative research, which is distinguished by considerable flexibility. During the research process, the researcher may be engaged in a cyclical stage between data collection and analysis, where fresh insights and experiences might lead to revisions and expansions to the original plan (Busetto. et al, 2020). Qualitative research is used to understand people's views, experiences, attitudes, behaviours, and relationships by focusing on the 'what' and 'why' of what the researcher thinks. One of the most distinguishing characteristics of qualitative research is its methodological flexibility, which may be used to gather and evaluate a wide range of data (e.g., text, figures, images, diagrams, audio files, videos, objects). This methodological openness necessitates the adaptability and flexibility of qualitative techniques, allowing for the combination and adaption (collocation) of many qualitative methods to fit the researcher's sample, phenomena, context, and ontological paradigm (Köhler, 2021). Researchers work with theories and data derived from different people's descriptions of a thing and social experiences that are sometimes described as explanatory schemes, which inspires the fact that qualitative methods of data analysis are called explanatory methods (Matta, 2019).

The reasons for choosing the qualitative research method for this report are:
Firstly, exploiting DingTalk as a case study, the initial objective of this and subsequent studies was to examine the employment satisfaction of Chinese university instructors during the epidemic. The primary objective of the study was to survey university professors and then interview them to interpret and evaluate the results. This and subsequent reports are primarily concerned with critical research, precise data collection, meticulous interpretation of data, critical analysis of data, and a thorough explanation of how and to what extent online education influences university professors' work satisfaction.

Secondly, using qualitative research techniques enables the study to go deeper. Through interviews or open-ended questionnaires, researchers may acquire a

greater knowledge of teachers' individual experiences, attitudes, and emotions in connection to work satisfaction. In contrast, it is challenging to capture the subtleties of instructors' feelings and individualised assessments of their own work satisfaction using quantitative research techniques. Additionally, by examining a group of teachers' personal, educational, and workload backgrounds, researchers may learn more about the elements that affect job satisfaction in that group of teachers, such as their opinions of the system, the school administration, or the working environment. Additionally, qualitative research is carried out via in-person interactions and conversation, where instructors are more likely to be open and offer their opinions on work satisfaction as well as their personal experiences. To a certain degree, the respondents will be moved to record the depth and detail of the instructors' narratives as a result of the researcher's sincere efforts to respect and highlight the voices and experiences of the participants.

Thirdly, the explanatory method might actually be further characterised as a criticism of the explanation given the qualitative research's propensity to concentrate on "explaining the why" (Matta, 2019). Researchers are obligated to interact with the prejudices and contradictory beliefs of many individuals when conducting interviews with instructors and analysing data. Therefore, the use of interpretive techniques and critical thinking techniques encourages researchers to examine their own biases, prejudices, and assumptions that could have affected the study process. The researcher was able to find plausible explanations (such as why some people despise their jobs while others think that their jobs make them happy) by compiling and analysing teachers' various perspectives and ideas about their job satisfaction and then "explaining" them through rigorous critical thinking. This 'bystander' viewpoint, which is unaffected by the interviewees' prejudice, also enables the results to be presented in a highly topical and rigorous manner, favourably impacting theoretical advancements in the subject.

7.2 The case study research design

Case study research is a research method used to develop an in-depth, comprehensive understanding of complex real-world situations, as well as an empirical investigation that explores, explains, and characterises current phenomena in a real-world context (Crowe, 2011). In chapter 5 of qualitative inquiry research design- selecting among five techniques, for instance, John W. Creswell uses a school shooting incident to illustrate the case study approach. He conducted a comprehensive investigation into the incident by interviewing, observing, analysing documents, and conducting an audio-visual survey of everyone involved, including students and teachers, at the school where the shooting occurred. Moreover, he amassed substantial, exhaustive, and multi-source information. And based on the information he gathered, he analysed a wide range of ideas and perspectives, resulting in new plans to reform the school administration. However, by combining the literature, he combines the complex and limited themes into two overarching perspectives, and he provides his research with a'multi-layered' analysis and a broader interpretation of the significance of the instances (Crewell, 2013).

The case study approach is used in this and subsequent studies because it focuses on changes in teachers' job satisfaction during the pandemic and uses teachers' use of DingTalk as a case study. Similar to the example provided in Crewell's book, the purpose of the survey and analysis of teachers' satisfaction is to identify inadequacies in school administration and planning that can help devise better school management policies and, ultimately, to improve teachers' well-being at work.

To begin, the researcher must collect specific information and data from groups of instructors through in-depth interviews, careful observation of their working conditions, knowledge of their personal histories, and consideration of school policy requirements.

Secondly, the researcher should advocate DingTalk as a case study throughout

the interview. Collect the opinions and even biases of the teacher community regarding being required to use DingTalk for teaching and working during the epidemic.

Thirdly, the researcher must interpret the 'voices' of the interview process within the context of the social actuality of the period and integrate the collected data with the literature.

Fourth, after collecting information and accumulating data, the researcher should provide a broader and multi-layered interpretation of the case's meaning and be able to analyse it critically without being influenced by the interviewees' biases and preconceived notions.

Finally, If the study reveals that the teacher community is dissatisfied with online education and the use of DingTalk during the pandemic, the researcher must make different recommendations regarding school management policies and the current state of affairs. Both qualitative research and case studies are based on "listening" to respondents and acting as their "voice." In addition, future research should contribute to the field's theory.

7.3 Narrative research

The narrative inquirer's focus is not on facts or truth, but rather on discovering how personal experiences shape a person's worldview through the unfolding of events (James, 2017). Narrative analysis research is based on stories as a means of knowledge; stories that emerge when data is acquired and are then framed and presented through an aesthetic and rigorous analytical process (Coulter, 2009). In addition to gathering information and data through interviews and observations of groups of instructors, the narrative research method also entails listening to interviewees' stories. Case study focuses on interviewing respondents in a single or small number of cases as the context of the investigation, whereas narrative research method focuses on understanding how people make sense of their own experiences and lives (which may or may not involve a context of investigation in this instance). The project entails

investigating teacher groups' work contentment during the pandemic based on their perceptions of utilising DingTalk as an online teaching aid; consequently, the case study research method was employed rather than the narrative research strategy for this and subsequent investigations. If the narrative research method had been utilised, the title of this and subsequent studies could have been altered to: Where do Chinese instructors find fulfilment? (During the study, it may have been hypothesised that using DingTalk made them feel more at ease, which increased their job satisfaction).

7.4 Grounded theory

Grounded theory is an analytic strategy for constructing theories based on qualitative inductive data, in which data collection and analysis feed each other iteratively as researchers continue to abstract their ideas (Charmaz, 2010). In 1967, Glaser and Stauss were the pioneers of grounded theory. They believed that it was essential to derive theory from data consistently collected and investigated in social research, and that this was the focus of Grounded theory (Glaser & Stauss, 2017). The purpose of this report and the subsequent study is not to generate theory during the research process, but rather to begin with a particular research component and theory and then develop the qualitative research process around it.

7.5 Ethnographic research

Ethnographic research is a qualitative research approach that entails doing a systematic study of people in their natural context in order to understand their way of life, including how they perceive and interact with the world around them. The goal of ethnographic research is to offer a rich and thorough account of the social environment from the participants' point of view. Based on the promise of a rich and detailed description of a community's everyday life, it requires researchers to spend more time in the field and recognises that the researcher's personal experiences may lead to a deeper understanding of the environment's

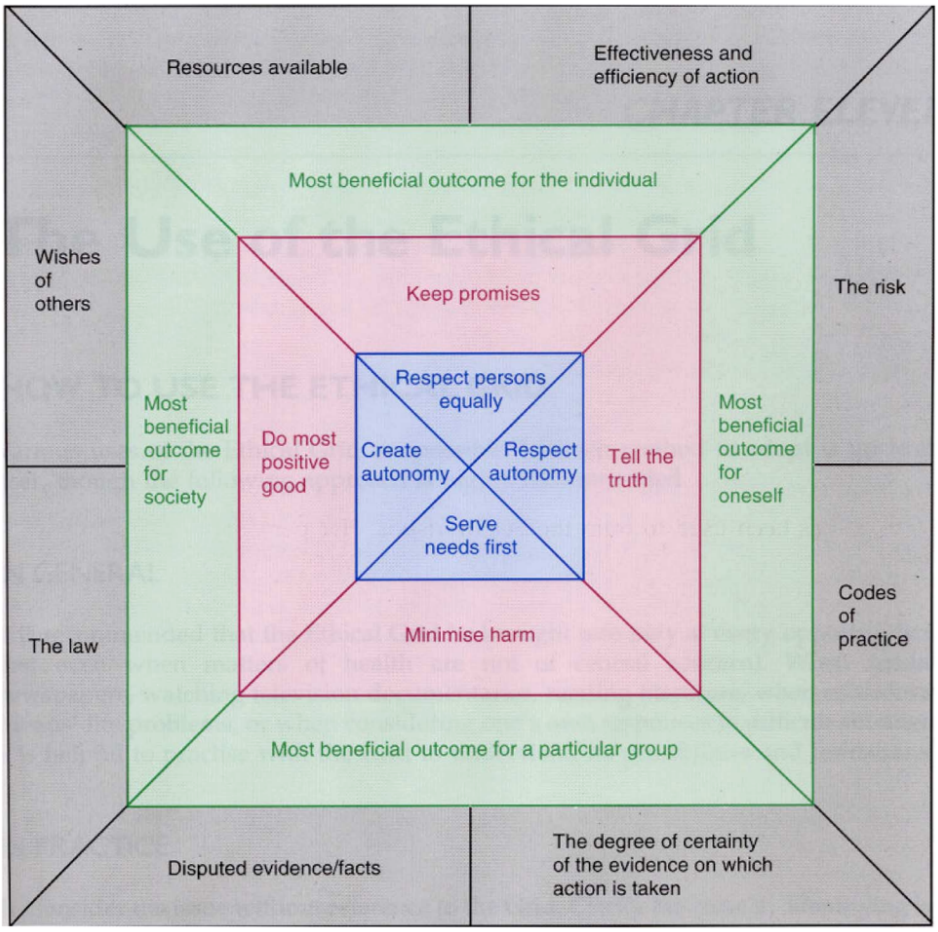
complexity (Cunliffe, 2013). Because ethnography is a time-consuming approach, it demands the researcher to immerse oneself in the everyday lives of the people questioned. Its major objective is to provide the researcher with first-hand insight into a group's culture and practises. As a result, ethnographic research methodologies are inappropriate for this report and future investigations since they are not designed to investigate the everyday lives of particular groups of people and their cultures.

7.6, Phenomenology

Phenomenology is also one of the qualitative research methods that emphasises lived experience from a phenomenological perspective (Van Manen, 2017). If phenomenological philosophy has a unifying principle, it is an emphasis on how the world is presented to perceiving individuals, and it is used to investigate and comprehend human complexity (Zigon & Throop, 2021). Phenomenology focuses on the experience of the respondent, such as "What is this experience like for you?" "What made you think this was a good experience?" Despite the fact that the phenomenological method requires observations and in-depth interviews, it is inappropriate for this report and future investigations. This is due to the fact that the purpose of investigating teacher work contentment using DingTalk was to identify voids in school management guidelines and areas that could be addressed, and the study was limited to a specific time period and online education platform. The researcher was required to conduct a large number of in-depth interviews with respondents to collect information and data, to compile the opinions and data from the teacher community, and then to refine the findings to determine whether there are gaps and areas for improvement in school management and administration within the context of online education.

8.0 Ethical considerations

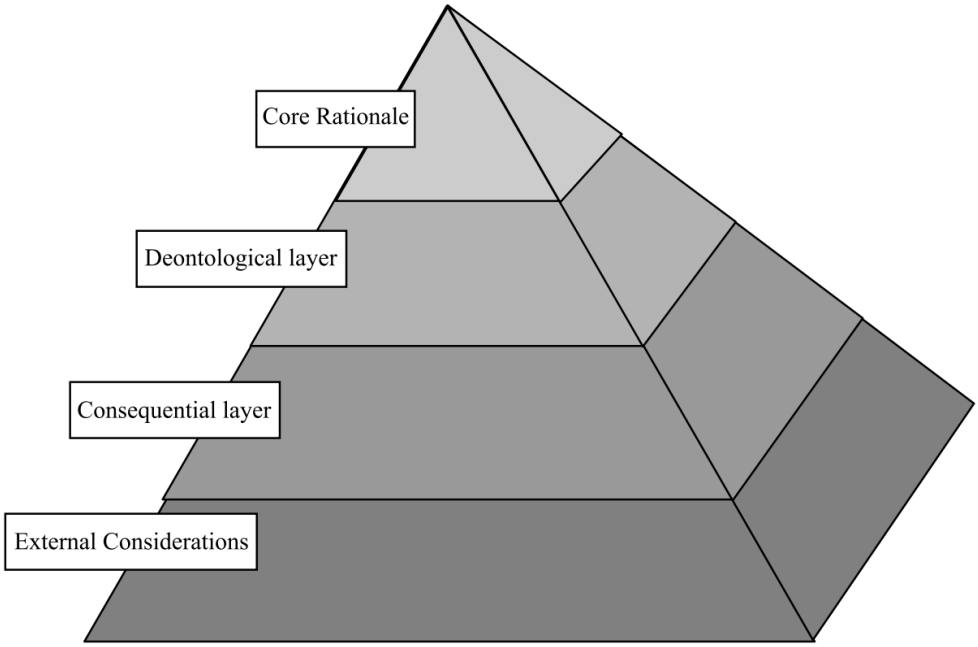
Ethics is always an essential part of research involving human subjects. It is essential that researchers evaluate any prospective ethical issues that may arise during their research. The primary function of human participants in qualitative research is to serve as a source of information. "Protect the life, health, dignity, integrity, self-determination, privacy, and confidentiality of personal information pertaining to research subjects" (Yip, et al, 2016). Stutchbury & Fox's paper on the necessity of ethical analysis in methodology utilises two models from Seedhouse's Ethical Grid (Stutchbury & Fox,2009).



（figure 6, Stutchbury & Fox,2009)

They believe that academics should visualise moral quandaries as a spider's web (figure 6), with each concept linked to other ideas through numerous paths with these ideas overlapping and interwoven (Stutchbury & Fox,2009). The blue or centre layer is located in the grid's centre and contains the key principles: establishing autonomy, respecting autonomy, treating individuals equally, and

providing needs before they are required (Johnston, 2021).



(Figure 7, Stutchbury & Fox,2009)

The second model employed by Stutchbury & Fox is structured like a pyramid (figure 7), which demonstrates the interdependence and interconnectedness of the ethical issues at each level.

1) External factors: this layer corresponds to the sixth figure's outermost circle. All external concerns, including rules of behaviour, legislation, and the utilisation of resources, are included in this layer.

2) Consequential layer: this is represented by the green area in picture 6. It challenges the researcher to think about how potential acts could affect society, particular persons, or certain groups of people.

3) Deontological layer, which is represented by the red portion of figure 6. It addresses the topic of "responsibility" and is focused on how the interview subjects and the researcher conduct themselves throughout the study process. Telling the truth, keeping a pledge, and minimising damage are all part of this layer.

4) Core rationale: this portion, thus, correlates to the figure 6's deep blue area. It illustrates the necessity for the researcher to treat all respondents with great

respect and the findings equally.

8.1 Deontological

Based on a deontological ethical attitude with an emphasis on responsibility (Bishop, 2009), it just demands individuals to obey the laws and fulfil their duty, without assessing the costs and advantages of the circumstance.

First and foremost, researchers must completely respect their subjects' liberty and dignity. As qualitative researchers, we must interact with people and gather information and data via interviews, questionnaires, and participant observation. As a result, it is critical to respect the interviewee's voice, right to knowledge, and sovereignty, and the researcher must preserve the interviewee's and participant's privacy while preserving their ability to resign from the study at any time.

Second, during the interviews with the participants for this study, the researcher must talk to them with perfect professionalism and confidence, so that the participants trust the researcher enough to open up and communicate their perspectives.

Furthermore, the researcher must thoroughly tell the participants about the goal of the study and how it will be carried out so that they may make an informed decision about whether or not to continue participating in the study.

Fourth, after gathering data and information, the researcher must organise the participants' thoughts and statements into different arguments based on the truth, and the researcher must avoid distorting and manipulating the data while presenting the findings in an honest and transparent manner.

Finally, researchers must evaluate the larger possible factors around the respondents. Researchers must evaluate the interview method as well as the possible effect of the results on participants, which may include changes in their physical and mental health as well as aspects such as changes in their work environment. Most notably, with the exception of the interviewee, the researcher has a responsibility to respect the rights of the participants and is

responsible for preventing harmful repercussions of the study results on the participants.

In the case of this study, the researcher must be clear about what the teaching community really needs before the start of the study, and the researcher must thoroughly tell the participants of the study's goal. Following that, the researcher must retain complete secrecy of everything the instructor group says during the interviews, including their names, gender, age, and level of satisfaction with their job. It is critical that the researcher treats each participant equally throughout data and information collection and does not push or compel people to speak things they might otherwise be unwilling to say. Finally, after gathering instructors' ideas and opinions, it is the researcher's obligation to handle all data equally and to guarantee that the findings are fair and impartial, free of their own biased beliefs.

Because the primary goal of this and subsequent research is to raise awareness among school administrators about teachers' well-being at work and to develop better management policies, it is the responsibility and obligation of this report and subsequent research to avoid jeopardising the rights of the participants and to be transparent about the research results.

9.0 Reliability and Validity

Quantitative research applies all defined procedures and follows an organised, rigorous, pre-determined plan. Preliminary procedures must be performed before the design can be completely executed, including first contact and access to the site, obtaining permission, creating, and sustaining confidence, and identifying participants (Cypress, 2017). Without rigour, research loses its value, becomes fiction, and loses its usefulness, which is why all research methodologies place a high emphasis on dependability and validity (Morse, 2022).

The 'appropriateness' of the tools, techniques, and data is required for qualitative research to be valid. Whether the research questions are valid for

the desired outcomes, whether the procedures used to answer the research questions are suitable, whether sampling and data analysis are appropriate, and whether the final findings and conclusions are valid for the sample (Leung, 2015).

The reliability of the researcher's techniques and data creation is regarded to be the dependability of qualitative research, and qualitative research is credible if the study's conclusions can be duplicated in multiple settings (Rose & Johnson, 2020). Qualitative research's dependability assures that researchers exercise care while gathering and assessing data for their investigations. Because the conventional definition of dependability depends on the standardisation of data collection devices, researchers must remain impartial and unbiased when gathering information and data (Long & Johnson, 2000).

10.0 Conclusion

10.1 Contribution to Theory

Any theory must have a clear formulation in order to be tested and developed further (Crittenden & Peterson, 2011). What, how, why, and who/where/when are proposed by Whetten as the pillars of a comprehensive theory (David A. Whetten, 1989).

The model answers the question "what" by defining job demands as parts of work that involve continuous effort and may cause stress, and job resources as factors that contribute to attaining workplace goals and lowering job demands. The JD-R model also argues that resources and job demands interact to affect employee performance and well-being in terms of the 'how'. High job expectations (such as excessive workloads or time constraints) can cause stress and burnout if there is an insufficient balance of resources. On the other hand, the availability of sufficient job resources (such as social support, autonomy, or chances for skill development) can mitigate the negative consequences of job demands and increase engagement, motivation, and job satisfaction. As for the "why," the JD-R model explains probable processes that

might connect job qualities to results. The assumption is that job demands sap employees' enthusiasm and lead to stress, whereas job resources create motivation, lessen stress, and nurture personal development. Demands and resources interact dynamically, which has an impact on employee satisfaction, work output, organisational commitment, and even health effects.

10.2 Contribution to Business Practice

This report and subsequent research focus on the job satisfaction of Chinese university teachers who used Dingtalk to work during the pandemic. Using the JD-R model as the research theory, and the qualitative research method, in-depth interviews will be conducted with university teachers to collect and analyse relevant information and data. The findings of the follow-up study may fall into two categories: firstly, university teachers felt unsupportive of the online education model during the pandemic and were not satisfied with the online education platform. The study may then suggest that universities should improve their management policies and increase resources for teachers in order to increase their job satisfaction. Secondly, university teachers were satisfied with the online education model during the pandemic and indicated that they could fully cover their workload by using the online platform for teaching. The study will then potentially provide an in-depth analysis of the high levels of job satisfaction among teachers during the pandemic, leading to a full range of findings including how school management allocates job demands and job resources to increase teacher job satisfaction.

10.3 Areas should be covered in follow-up research.

1. When online and offline modes of teaching and learning are blended, schools may need to further improve and enhance their curriculum. The aim is to 'mix modes' but 'not mix ideas', as the hybrid model requires greater clarity of knowledge and curriculum for teachers and students. For example, some courses may be suitable for online delivery, but others are not, and the school

needs to improve this part of the curriculum in more detail. Teachers working in the simplest and most straightforward way and transferring knowledge to students (avoiding complexity) may increase teacher satisfaction compared to a messy curriculum.

2. For some students living in poor mountainous areas or in poor families, they may not have the internet speed and equipment to accommodate online teaching. School management will still need to observe these students to provide more specific assistance.

3. School management may also need to protect the confidentiality of teachers' online lessons. With the rapid development of the internet and the level of sophistication nowadays, teachers' rights to their likenesses and ownership of their lessons can be compromised without a word of warning. Schools should encrypt their teachers' videos in order to protect their privacy and the content of their courses from being circulated freely on the internet, thereby avoiding the possibility of unscrupulous individuals using them for illegal profit.

11.0 Reference list

Bakker, A. B., Demerouti, E., & Sanz-Vergel, A. (2023) Job Demands–Resources Theory: Ten Years Later.

Bakker,A.B. & Demerouti,E. (2007) The job demands-resources model: state of the art. *Journal of Managerial Psychology. Volume 22 Issue 3.*

Bakker,A.B. & Demerouti,E. (2011) The job demands-resource model: challenges for future research. *SA Journal of industrial psychology.Vol.37 n.2*

Bishop, L. (2009) Ethical Sharing and Reuse of Qualitative Data. T*he Australian journal*

of social issues. 44 (3), 255–272.

Blonder, R. et al. (2022) What can be learned from lecturers' knowledge and self-efficacy for online teaching during the Covid-19 pandemic to promote online teaching in higher education. PloS one. 17 (10), e0275459–e0275459.

Braun, S., Peus, C., Weisweiler, S., & Frey, D. (2013) Transformational leadership, job satisfaction, and team performance: A multilevel mediation model of trust. *The Leadership Quarterly,* 24(1), 270-283.

Brown,M. & Duenas,A. (2019) A Medical Science Educator's Guide to Selecting a Research Paradigm: Building a Basis for Better Research

Bunniss, S., & Kelly, D. R. (2010) Research paradigms in medical education research. Medical Education, 44(4).

Busetto, L., Wick, W. & Gumbinger, C. (2020) How to use and assess qualitative research methods. Neurol. Res. Pract. 2, 14

Cao, Y. et al. (2013) Using social media applications for educational outcomes in college teaching: A structural equation analysis: Social media use in teaching. *British journal of educational technology*. 44 (4), 581–593.

Chakraborty, P. et al. (2021) Opinion of students on online education during the COVID-19 pandemic. *Human Behavior and Emerging Technologies*. 3 (3), 357–365.

Chaplain,R. (2008) Stress and psychological distress among trainee secondary teachers in England, *Educational Psychology,* 28:2, 195-209

Charmaz, K. & Bryant, A. (2010) Grounded Theory. *International Encyclopedia of*

Education (Third Edition), 406-412.

Collins, C. & Stockton, C. (2018) The Central Role of Theory in Qualitative Research. *International Journal of Qualitative Methods*.

Coulter, C. A. & Smith, M. L. (2009) The Construction Zone. *Educational Researcher.*

Crewell,J. (2013) qualitative inquiry research design- choosing among five approaches

Crittenden, V.L., & Peterson, R.A. (2011) Ruminations about making a theoretical contribution. *AMS Rev* **1**, 67–71.

Crowe, S. et al. (2011) The case study approach. BMC Med Res Methodol 11, 100.

Cui, Y., et al (2023) A survey on big data-enabled innovative online education systems during the COVID-19 pandemic. *Journal of Innovation & Knowledge*, *8*(1), 100295.

Cunliffe, A. L. & Karunanayake, G. (2013) Working Within Hyphen-Spaces in Ethnographic Research: Implications for Research Identities and Practice. *Organizational research methods. 16 (3), 364–392.*

Cutri, R. M. et al. (2020) Faculty readiness for online crisis teaching: transitioning to online teaching during the COVID-19 pandemic. *European journal of teacher education.* 43 (4), 523–541.

Cypress, B.S. (2017) Rigor or Reliability and Validity in Qualitative Research: Perspectives, Strategies, Reconceptualization, and Recommendations. *Dimensions of Critical Care Nursing 36(4): P 253-263.*

Dedeoglu, B. B. (2019) Are information quality and source credibility really important for

shared content on social media? *International journal of contemporary hospitality management*. 31 (1), 513–534.

Demerouti, E., & Bakker, A. B. (2022) Job demands-resources theory in times of crises: New propositions. Organizational Psychology Review.

Denny, E. & Weckesser, A. (2022) How to do qualitative research?: Qualitative research methods. BJOG : an international journal of obstetrics and gynaecology. 129 (7), 1166–1167.

DeRose,K. (2005) Yale University, What Is Epistemology? *A Brief Introduction to the Topic*

Dhawan, S. (2020) Online Learning: A Panacea in the Time of COVID-19 Crisis. *Journal of Educational Technology Systems.*

Ding,N. & Shi,J.(2022) Study on the influence of off-line teaching methods on teaching effect of epidemic background. *Journal of Changchun Institute of Education. 38(06):32-38.*

Dong,Y & An, S. (2021) "An analysis of the experience of Dingping from a teacher's perspective during the pandemic." *China Educational Technology and Equipment, pp 38-41.*

El-Soussi, A. (2022) The shift from face-to-face to online teaching due to COVID-19: Its impact on higher education faculty's professional identity. *International Journal of Educational Research Open*, *3*, 100139.

Feng,X. et.al.(2021) Comparison of the effect of online teaching during COVID-19 and pre-pandemic traditional teaching in compulsory education, The Journal of Educational

Research, 114:4, 307-316,

Glaser, B. & Strauss, A. (2017) Discovery of Grounded Theory: *Strategies for Qualitative Research*

Guba, E.G. & Lincoln, Y.S., (1994). Competing paradigms in qualitative research. *Handbook of qualitative research, 2(163-194), p.105.*

Guo, J.J(2020) Thoughts on the application of Dingtalk in remote live classroom. *China Educational Technology and Equipment,* 020(10):34-36.

Han,J. ET.AL (2020) Job demands and resources as antecedents of university teachers' exhaustion, engagement and job satisfaction, Educational Psychology, 40:3, 318-335.

Heuer, B. P., & King, K. P. (2004) Leading the band: The role of the instructor in online learning for educators. *The Journal of Interactive Online Learning,* 3(1), 1–11.

Hughes, N. (2022) Epistemology without guidance. Philos Stud 179, 163–196.

Irshaidat,R. (2022) Interpretivism vs. Positivism in Political Marketing Research, Journal of Political Marketing, 21:2, 126-160.

James,N. (2017) Using Narrative Inquiry to Explore the Experience of One Ethnically Diverse ESL Nursing Student.

Janssen,A. Klein,C. & Slors,M. (2017) What is a cognitive ontology, anyway?, Philosophical Explorations, 20:2, 123-128.

Job Satisfaction - Meaning, Importance, Factors & Example, (2023) Published by MBA Skool Team.

Johnston, B., & Stevens, E. (2021). Exploring the Dilemma of Ethical Issues Using the Lens of Seedhouse Can Help Oncology Nurses to Gain a Different Perspective on Caring for Older Adults with Cancer. *Seminars in Oncology Nursing*, *37*(6).

Kircaburun, K. et al. (2020) Uses and Gratifications of Problematic Social Media Use Among University Students: *A Simultaneous Examination of the Big Five of Personality Traits, Social Media Platforms, and Social Media Use Motives. International journal of mental health and addiction.* 18 (3), 525–547.

Kniffin, K. M., et al. (2021a) COVID-19 and the workplace: *Implications, issues, and insights for future research and action. American Psychologist,* 76(1), 63.

Köhler, T. et al. (2022) Templates in Qualitative Research Methods: Origins, Limitations, and New Directions. Organizational research methods. 25 (2), 183–210.

Kutbi, A. & Alomar, M. (2017) The Importance of Social Media in Education and Prioritizing Process. *Journal of King Abdulaziz University-Engineering Sciences.* 28 (2), 27–37.

Lederman, N.G., Lederman, J.S. (2015) What Is a Theoretical Framework? A Practical Answer. J Sci Teacher Educ 26, 593–597.

Leung, L. (2015) Validity, reliability, and generalizability in qualitative research. *Journal of Family Medicine and Primary Care*, *4(3), 324-327.*

Long,T. & Johnson,M. (2000) Rigour, reliability and validity in qualitative research. *Clinical Effectiveness in Nursing. 4, PP 30-37*

Mahmood, F. et al. (2023) Teachers' teleworking job satisfaction during the COVID-19

pandemic in Europe. Curr Psychol 42, 8540–8553.

Matta,C. (2022) Philosophical Paradigms in Qualitative Research Methods Education: What is their Pedagogical Role?, Scandinavian Journal of Educational Research, 66:6, 1049-1062.

McCombes,S.(2020) What is a theoretical framework? | a step-by -step guide. [online] https://www.scribbr.co.uk/thesis-dissertation/the-theoretical-framework/
Mind Tools Content Team, The JD-R Model. [online] https://www.mindtools.com/a5igk4e/the-jd-r-model

Moon,K. & Blackman,D. (2017) A guide to ontology, epistemology, and philosophical perspectives for interdisciplinary researchers. [online] https://i2insights.org/2017/05/02/philosophy-for-interdisciplinarity/

Morse, J. M. et al. (2002) Verification Strategies for Establishing Reliability and Validity in Qualitative Research. *International Journal of Qualitative Methods*.*1 (2), 13–22.*

Parlakkilic, A. (2014) Change management in transition to e-learning system. Q*ualitative and Quantitative Methods in Libraries* (QQML) 3:637 –651, 2014

Patrick R. Frierson (2014) Maria Montessori's Epistemology, British Journal for the History of Philosophy, 22:4, 767-791.

People.cn, (2020) On-line "student number" nail into education.

People.cn, (2021) The number of users exceeded 500 million, Dingding announced the "two digital" strategy.

Roberts, J. M. (2014) Critical Realism, Dialectics, and Qualitative Research Methods.

Journal for the theory of social behaviour. 44 (1), 1–23.

Rose,J. & Johnson,C.W. (2020) Contextualizing reliability and validity in qualitative research: toward more rigorous and trustworthy qualitative social science in leisure research, *Journal of Leisure Research, 51:4, 432-451,*

Sabah, N. M. & Altalbe, A. A. (2022) Learning Outcomes of Educational Usage of Social Media: *The Moderating Roles of Task–Technology Fit and Perceived Risk. Sustainability (Basel, Switzerland)*. 14 (14).

Saunders, M, Lewis, P, & Thornhill, A (2019) Research Methods for Business Students, Pearson Education, Limited, Harlow. Available from: ProQuest Ebook Central.

Schaufeli, W. & Greenglass, E. (2001) Introduction to special issue on burnout and health, *Psychology & Health,* 16:5, 501-510

Scheman,N. (2012) Toward a Sustainable Epistemology, Social Epistemology, 26:3-4, 471-489.

Schroeder,M. (2008) Value Theory, *The Stanford Encyclopedia of Philosophy.*

Schwandt, T. A. (2003) Three epistemological stances for qualityative inquiry: Interpretivism, hermeneutics, and social constructionism. In: N. K. Denzin, & Y. S. Lincoln (Eds.), The landscape of qualitative research (2nd ed., pp. 292-331). Thousand Oaks, CA: Sage.

Schwant, S (1998) Constructivist, interpretivist approaches to human inquiry
Seth C. Lewis & Oscar Westlund (2015) Big Data and Journalism, Digital Journalism, 3:3, 447-466.

Sideri, M. et al. (2019) E-Governance in educational settings: *Greek educational organizations leadership's perspectives towards social media usage for participatory decision-making. Internet research.* 29 (4), 818–845.

Stutchbury,K. & Fox, A. (2009) ethics in educational research: introducing a methodological tool for effective ethical analysis, *article in Cambridge journal of education.*

Tang, H.& Guo, Y. (2021) Exploration and Practice of Online Teaching Mode Based on Ding Talk Platform. *university education,* 2021(02), page: 57-6.

They,B. (2009) reliability and validity in qualitative research, the handbook of social work research methods, chapter 19, page 355

Van Manen, M. (2017) Phenomenology in Its Original Sense. *Qualitative health research. 27 (6), 810–825.*

Wangler, S. & Ayerle, G. M. (2022) Measuring job satisfaction of midwives: *A scoping review.* PLOS ONE, 17(10).

Weaver, K., & Olson, J. K. (2006) Understanding paradigms used for nursing research. Journal of Advanced Nursing, 53(4), 459-469.

Whetten,D.A. (1989) What Constitutes a Theoretical Contribution? *Academy of Management ReviewVol. 14, No. 4*

Wildman, J. L., et al (2012) Trust Development in Swift Starting Action Teams. *Group & Organization Management.*

Wnuk, M. (2017) 'Organizational Conditioning of Job Satisfaction. *A Model of Job*

Satisfaction', Contemporary economics, 11(1), pp. 31–43.

Ye,L.X (2020) Practice and Exploration of Hybrid teaching of linear Algebra based on Learning Tong and Dingding. *Journal: Computer age.* 2020(09):106-108.

YIN, X. (2020) Discussion on online teaching based on "Super Star Learning Pass + Dingding Live Streaming" under the background of COVID-19 prevention and control. (Research of Online Teaching Based on "Super Star Learning APP + Ding Talk Live Broadcast" against the Background of COVID-19 Prevention and Control) (40),306-307.

Yip,C. et.al. (2016) Legal and ethical issues in research. *Indian Journal of Anaesthesia 60(9):p 684-688.*

Zhang, F.,et al (2023). A Study of Factors Influencing the Use of the DingTalk Online Lecture Platform in the Context of the COVID-19 Pandemic. *Sustainability*, *15*(9), 7274.

Zhao,X. & Dong,W. (2020) Survey on online teaching satisfaction of college teachers under the background of epidemic prevention and control. [online] https://www.fx361.com/page/2020/0820/14509333.shtml

Zigon,J. & Throop,J. (2021) Phenomenology. n *The Open Encyclopedia of Anthropology*, edited by Felix Stein. Facsimile of the first edition in *The Cambridge Encyclopedia of Anthropology*.

Žukauskas P, Vveinhardt J& Andriukaitienė R. (2018) Philosophy and Paradigm of Scientific Research. Management Culture and Corporate Social Responsibility.