Utilization, Effectiveness and Challenges of EFL Online Teaching in China during Covid-19

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Abstract— *The COVID-19 pandemic has prompted a global shift to online education, including English as a Foreign Language (EFL) courses in Chinese higher education. However, strategies to improve EFL online teaching in China are unexplored. This dissertation investigates the use, effectiveness, and challenges of EFL online courses in China during the pandemic. A descriptive correlational method was used to study the relationship among three variables, with data collected from 383 college English teachers in China. The results showed that EFL teachers are generally skilled at using online courses and find online EFL teaching effective. The main challenges identified were technological issues and reduced interaction. Age and teaching experience significantly impact online teaching utilization, effectiveness, and the ability to overcome these challenges. The study found a positive correlation between the extent of online teaching use and its effectiveness, and a negative correlation between use and challenges faced. As online teaching is used more and its effectiveness is increased, fewer challenges are faced. The dissertation suggests an interactive EFL online teaching model to optimize effectiveness and minimize challenges, offering a guide for delivering highly interactive and effective EFL online courses.*

Keywords— *EFL Online Course, Online Course Challenges, Teaching Effectiveness, Online Course Utilization*

I. INTRODUCTION

The advent of the COVID-19 pandemic has led to monumental shifts in education, with an abrupt transition from traditional classroom instruction to online learning. Particularly in China, where English as a Foreign Language (EFL) courses play a pivotal role in higher education, this transition presents unique challenges and opportunities for exploration.

Previous research has focused on the students' perspective, but few attentions has been given to the teachers' perspectives, thereby creating a significant gap in our understanding of EFL online teaching. Additionally, effective strategies to enhance EFL online teaching within the unique context of China are yet to be fully comprehended and standardized.

This paper aims to address these gaps by examining the utilization, effectiveness and challenges of EFL online courses in China during the pandemic. It investigates how EFL teachers incorporate and navigate online platforms (utilization), assesses the impact and outcomes of online teaching on student learning (effectiveness), and explores the obstacles encountered in implementing EFL online courses (challenges).

Online learning, as defined by Allen and Seaman (2016), is primarily or exclusively delivered online. Adebo (2018) and others (Gonzalez and Louis, 2018; Abbas et al., 2021) describe it as education delivered over the internet, accessible anytime and anywhere through electronic devices. Mohamed Ally (2020) further emphasizes that online learning involves accessing learning materials, interacting with content, instructors, and other learners, and receiving support during the learning process.

The study of EFL online course utilization has developed over time, with research exploring various aspects of online teaching and learning. From the early stages of computer-mediated communication to the recent impacts of online technology integration, online learning has transitioned from a novelty to a mainstream educational delivery method (Wu, 2021). The teacher's perspective on the use of EFL online courses includes aspects such as technology readiness, use of online tools, teaching strategies, and interaction modes, which are the primary research areas in this study.

There is no universal definition of effective teaching in higher education, but it emphasizes the importance of high-quality teaching as a significant factor in enhancing student achievement (Devlin & Samarawickrema, 2010). In the context of online education, teaching effectiveness involves guiding, facilitating, and supporting students to achieve academic goals, encompassing skills to direct the learning process, create an engaging environment, and provide necessary support (Gorsky & Blau, 2009). The TPACK model (technological pedagogical content knowledge) has emerged as a crucial framework for understanding effective online teaching, integrating technology, and promoting higher-order thinking skills (Koehler et al., 2013; Wang, Y. A., 2022). Additionally, Hubbard's eight principles offer guidelines for technology integration, highlighting learning efficiency, effectiveness, access, convenience, motivation, teaching efficiency, teaching effectiveness, and institutional efficiency (Hubbard, 2019). The Technology Acceptance Model (TAM) can be employed to evaluate teaching effectiveness by assessing teachers' acceptance of technology, based on perceived usefulness and ease of use (Charness & Boot, 2016). Positive attitudes lead to behavioral intentions and actual technology adoption and usage (Davis et al., 1989).

Teaching English as a Foreign Language (EFL) online can be challenging. EFL teachers must navigate technology integration, promote interactivity, address language barriers, provide individualized support, manage time effectively, design assessments, and be sensitive to cultural differences. The lack of face-to-face interaction adds another layer of complexity. Ko and Rossen (2017) highlight that teaching a course entirely online can be a challenging task, especially for those who are new to online teaching. The rapid shift to online teaching during the COVID-19 pandemic exposed many teachers to new technologies, leading to challenges such as unstable internet connections, lack of access to necessary hardware, and the need to familiarize themselves with various online teaching platforms and tools (Hodges et al., 2020). In this study, challenges in EFL online teaching are examined, encompassing technology, instruction, students, interaction, and students' macro and micro skills.

The interconnection of these three variables is crucial. High utilization of appropriate tools can enhance the effectiveness of online teaching, while inadequate utilization may increase challenges. Effectiveness is influenced by teachers' ability to overcome these challenges, and addressing these challenges can enhance both utilization and effectiveness.

The potential contributions of this research are manifold: extending understanding of EFL online teaching utilization in China; identifying challenges faced by teachers and suggesting strategies to mitigate them; and investigating the effectiveness of online teaching strategies to enhance student learning outcomes. The findings could serve as a valuable resource for EFL instructors, helping them develop effective online teaching strategies.

II. RESEARCH DESIGN

The study employed a descriptive research design with a quantitative approach to examine the utilization, effectiveness, and challenges of EFL online teaching in Chinese universities.

2.1 Participants

A total of 387 English college teachers participated in the online questionnaire, with 383 responses considered valid for analysis. The questionnaire contained 87 close-ended questions and utilized a Likert scale ranging from 1 to 4. Participants were asked to provide demographic information, and a bilingual version of the questionnaire was used to ensure accuracy and avoid language barriers.

2.2 Instruments

The questionnaire designs used in this study were adapted from various sources related to EFL online teaching. The Utilization of English Online Teaching Questionnaire was based on studies by Yaqiong Cui (2021), Ghazi Algethami (2022), and Daniel Bailey (2021), which explored students' experience, interaction mode, and learner interactions in online EFL courses during the COVID-19 pandemic. The EFL Online Teaching Effectiveness Questionnaire was derived from a study by Bin Zou, Lulu Huang, Wulin Ma, and Yuqing Qiu (2021), focusing on the effectiveness of technology in EFL online teaching from the teachers' perspective. The EFL Online Teaching Challenges Questionnaire drew inspiration from works by Mona M. Hamad, Alrafeea S. Dafaallah, Abdulbasit A. Alhaj (2021), and Abdulhameed Abdulhadi Alhuwaydi (2021), which addressed challenges faced by EFL instructors in online teaching. To assess the reliability of the questionnaire, a pilot test was conducted.

The Cronbach Alpha coefficient for the entire questionnaire reached 0.810, indicating a satisfactory level of internal consistency for the overall questionnaire (Dörnyei & Taguchi, 2010).

III.   RESULTS AND DISCUSSION

3.1 Distribution of the Respondents Profile

This study comprised a sample of 383 English teachers from both public and private universities in China, making it a well-representative population to yield reliable outcomes and comprehensively grasp the viewpoints of college English teachers in Chinese higher education institutions.

Table 1. Percentage Distribution of the Respondents Profile

Sex	Frequency	Percentage %
Male	152	39.7
Female	231	60.3
Age		
25 years old and below	27	7.0
26-34 years old	109	28.5
36-45years old	181	47.3
46 years old and above	66	17.2
English teaching experience		
Less than 5 year	125	32.6
6-10 years	94	24.5
11 years and above	164	42.8
Highest Academic Qualification		
Bachelor degree	43	11.2
Master degree	305	79.6
PhD	35	9.1
Type of University		
Public	225	58.7
Private	158	41.3

Table 1 shows the respondents profile in terms of sex, age, English teaching experience, highest academic qualification and type of university. The study included respondents who were predominantly female English teachers (60.3%), reflecting a higher proportion of female teachers in the EFL context, which aligns with existing research on Chinese EFL teachers (Yu, 2015; Chen, 2013;

Dai & Zhang, 2004). The participants' age distribution was concentrated in the mid-career age group (36-45 years old, 47.3%), followed by the 26-34 age group (28.5%), with the age group of 30-44 being the main force among university teachers in China (Dara-Tafazoli et al., 2019; Chinese Ministry of Education, 2021). Teaching experience was distributed in a typical pattern, with younger participants having less experience (32.6% with less than 5 years) and older participants having more (42.8% with 11 years and above). Most participants held a Master's degree (79.6%), which is consistent with the improvement in educational qualifications among Chinese college teachers (Zhao & Wang, 2017; Wang, 2018). Public universities constituted 58.7% of the respondents, slightly higher than private universities (41.3%), reflecting the distribution of higher education institutions in China (Ministry of Education, 2021). The participants' educational background aligns with research showing that a teacher's educational degree correlates with their effectiveness as a teacher and student achievement (Goldhaber, 2016; Clotfelter et al., 2007).

3.2 EFL Online teaching Utilization

The survey questionnaire reveals some of the key factors in the context of EFL online teaching utilization. The availability of reliable Internet access, computers, and audio-visual devices is essential for effective delivery of online education. EFL teachers heavily rely on screen-sharing as a tool to display teaching materials, photos, audio clips, and videos, emphasizing the significance of using proper English language skills in online courses. Clear communication is a priority for teachers to ensure that students can understand instructions, explanations, and course content accurately. Additionally, educators find great value in peer feedback during live sessions. These practices reflect the efforts of EFL teachers to optimize online teaching and enhance student learning outcomes.

Table 2 Summary Table on EFL Online Teaching Utilization

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. Technology Readiness	2.99	Agree	4
2. Level of online tools utilization	3.10	Agree	1
3. Teaching Strategies	3.09	Agree	2
4. Interaction Mode	3.08	Agree	3
Composite Mean	3.07	Agree	

The result shows that English teachers generally show a positive perception and overall agreement regarding the utilization of online teaching practices, with a composite mean of 3.07 (see Table 2), indicating agreement on the importance of technology readiness, online tool utilization, teaching strategies, and interaction modes in their online teaching. The summary table rankings emphasize the significance of online tool utilization, appropriate teaching strategies, meaningful interaction, and technology readiness in a sequential manner for effective implementation of online teaching. Teachers' commitment to using online tools, employing effective strategies, and promoting interaction creates a conducive online learning environment and enhances the overall teaching and learning experience.

3.3 EFL Online Teaching Effectiveness

In terms of EFL online teaching effectiveness, the survey questionnaire results demonstrate that the respondents are skilled at integrating teaching content, teaching methods, and technology, such as the Internet and digital media, into their online teaching practices. This integration enhances the convenience and efficiency of learning as students can easily and quickly download course materials. The respondents' acceptance of technology is reflected in their perceived ease of use, which is a significant factor influencing their positive attitude towards online teaching technology. Moreover, the ease with which the respondents conduct real-time online English lessons indicates a high level of comfort and acceptance of technology in their teaching methods. These findings suggest that effective integration of technology positively impacts EFL online teaching outcomes and enhances the overall learning experience for students.

Table 3 Summary Table on EFL Online Teaching Effectiveness

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. TPACK Model	2.97	Agree	1
2. Hubbard's Eight Principles	2.81	Agree	3
3. TAM	2.93	Agree	2
Composite Mean	2.90	Agree	

Table 3 presents a ranking of teachers' perception of the effectiveness of EFL online teaching using three theoretical frameworks. The overall composite mean of 2.90 indicates a general agreement among the respondents on the effectiveness of online teaching during the COVID-19 pandemic in China. The top-ranked framework is TPACK, with a weighted mean of 2.97, emphasizing the importance of integrating technology, pedagogy, and content knowledge for effective teaching. The second-ranked framework is TAM, with a weighted mean of 2.93, highlighting the significance of perceived usefulness and ease of use of technology in teachers' acceptance and utilization. The third-ranked framework is Hubbard's Eight Principles, with a weighted mean of 2.81, providing guidelines for integrating technology in language teaching. Overall, the results indicate agreement with all three frameworks, with TPACK slightly leading the others in evaluating the effectiveness of EFL online teaching.

3.4 EFL Online Teaching Challenges

The survey questionnaire results demonstrate that the most pressing challenge in EFL online teaching is technical problems. Additionally, the respondents find the home environment to be a significant challenge that can affect concentration and engagement. Another major challenge is the over-dependence on online translation tools for Chinese students in English online courses, limiting essential oral practice. Furthermore, the shift in communication modes in the online environment may impact speaking skill assessment, highlighting the significance of visibility in evaluating language proficiency.

Table 4 Summary Table on EFL Online Teaching Challenges

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. using technology	3.12	Agree	1
2. EFL instruction	2.93	Agree	5
3. students	3.02	Agree	3.5
4. interaction	3.06	Agree	2
5. students' macro and micro skills	3.02	Agree	3.5
Composite Mean	3.03	Agree	

Table 4 provides an overview of the challenges in EFL online teaching, grouped into five main areas: technology use, online instruction, student interaction, language skills, and general student challenges. The Composite Mean is 3.03, indicating that teachers generally agree that these challenges are significant. The top-ranking challenge is associated with technology use, encompassing issues like costs, technical problems, and lack of training. The second-ranked challenge pertains to online course interactions, including the lack of interactivity and difficulty in reading body language. Challenges related to student access to technology and language skills are tied for third place. Challenges with instructional aspects rank fifth, covering issues like external distractions and creating meaningful activities. Overall, technology usage and interaction are identified as the primary challenges in EFL online teaching.

3.5 Difference of Responses When Grouped According to Profile

The results revealed that age and experience play significant roles in online EFL teaching. Specifically, individuals aged 46 and above, as well as those with over 11 years of English teaching experience, demonstrate proficiency in utilizing online tools, employing effective teaching strategies, and being prepared for technology use. Notably, male respondents aged 46 or older, with more than 11 years of teaching experience, holding a PhD, and affiliated with private schools, receive higher assessments in online EFL teaching. On the other hand, males face greater challenges with students' skills, while individuals aged 25 and below encounter diverse challenges in online EFL instruction. Moreover, teachers with less than 5 years of experience show distinct differences in technology readiness concerning challenges with online EFL instruction and students' skills. These findings underscore the importance of considering demographics and experience in effectively utilizing technology and overcoming challenges in online EFL teaching.

3.6 Correlations among Utilization, Effectiveness, and Challenges

Based on the survey results, the correlations among the utilization of online teaching tools, teaching effectiveness, and the challenges faced in online EFL teaching are summarized in Figure 1.

The study reveals a significant and consistent correlation between online teaching utilization and EFL online teaching effectiveness, as assessed through various models. Integrating technology, employing effective teaching strategies, and fostering interactive environments

are crucial for enhancing EFL online teaching. Additionally, higher technology readiness, increased use of online tools, effective teaching strategies, and optimized interaction modes lead to fewer challenges in online EFL teaching. This underscores the importance of these factors in creating a more efficient and effective online EFL teaching environment. Moreover, as EFL online teaching becomes more effective, the challenges faced decrease, highlighting the pivotal role of technology integration and pedagogical expertise in improving EFL online teaching effectiveness and reducing associated challenges.
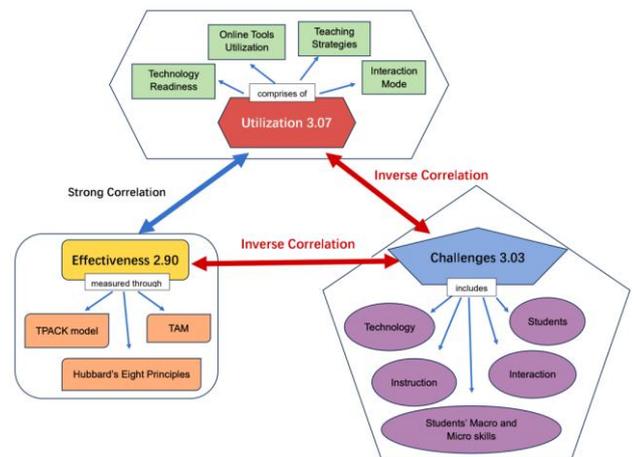

Fig.1: Correlation among Utilization, Effectiveness, and Challenges

Figure 2 illustrates the interrelationships among the 12 sub-dimensions under the variables of EFL online teaching utilization, effectiveness, and challenges. The arrows represent the most significant correlations between sub-dimensions across variables. Notably, technology readiness and interaction mode are ranked lower in the utilization of English online courses. Hubbard's eight principles rank lowest in evaluating EFL online course teaching effectiveness, as shown in Figure 2. Notably, "challenges with instruction" in EFL online courses exhibit the closest relationship with other sub-dimensions. The inverse relations indicate that by improving online tools utilization, teaching strategies, interaction modes, and technology readiness, the challenges with instruction can be effectively reduced. However, challenges related to technology and interaction require more attention for future improvements in EFL online teaching strategies. Addressing technical issues is crucial to ensure a smoother teaching process. By addressing these factors in their teaching strategies, EFL teachers can improve the overall effectiveness of their teaching.
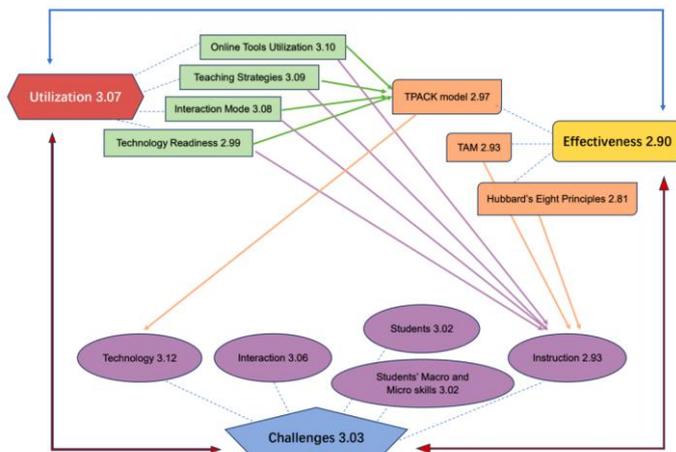
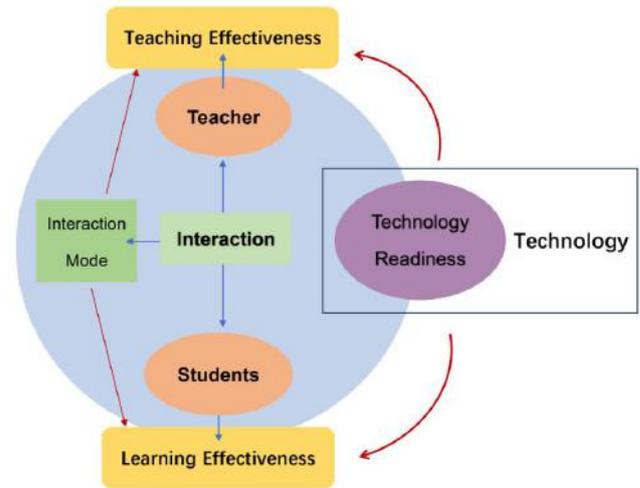*Fig.2: Correlation among 12 sub-dimensions*

Fig.3: Interactive Online Teaching Model

IV. INTERACTIVE ONLINE TEACHING MODEL

Based on the analysis of the results, Figure 3 presents the relationships between the dimensions as an interactive model for online teaching. The model indicates that enhancing the effectiveness of teaching and learning in an EFL online course is closely linked to improving technology readiness and interaction modes. When teachers are well-prepared technologically, they can deliver lessons more effectively and achieve better learning outcomes. This involves being proficient with various online teaching tools and platforms and resolving technical issues that may arise during classes. Similarly, the mode of interaction is crucial for online teaching effectiveness. Active student participation through strategies like peer feedback, real-time discussions, and group activities can significantly enhance learning outcomes, promoting communication skills and critical thinking while fostering collaboration among students. As technology readiness and interaction mode improve, the challenges related to technology utilization and classroom interactions decrease, as teachers become more skilled at managing technical aspects and facilitating engaging and interactive lessons. Therefore, in the context of EFL online teaching, institutions should provide necessary technical support and training to teachers and encourage the use of interactive teaching strategies that promote active student participation.

V. CONCLUSION

Based on the results derived from the data collected, the following conclusions can be drawn. The profile data shows a higher proportion of female teachers, with most respondents falling within the middle-aged category and holding Master's degrees. There is a general consensus among English teachers in favor of utilizing online teaching practices, acknowledging the significance of technology readiness, online tool application, teaching strategies, and interactive modes in online teaching. The integration of technology, pedagogy, and content (TPACK) is perceived as most effective in EFL online courses, followed by the Technology Acceptance Model (TAM) and then Hubbard's Eight Principles. Challenges in EFL online courses mainly revolve around technology use and interaction dynamics, while difficulties related to students' skills are of slightly lesser concern. Older and more experienced teachers exhibit higher proficiency in online teaching utilization. Increased utilization of online teaching positively correlates with the effectiveness of EFL online courses and reduces challenges faced during instruction. An interactive EFL online teaching model is proposed to enhance engagement and effectiveness while mitigating challenges related to technology and interaction.

To enhance EFL online learning, students may actively engage in interactive activities, group discussions, and utilize multimodal content and exercises to improve English skills. Regular assessment and feedback collection are crucial for monitoring progress and fostering continuous learning and community building. Institutions can support EFL teachers by offering professional development to improve technological readiness, providing technical assistance to overcome challenges, and

ensuring a diverse range of instructional materials suitable for online teaching. EFL teachers should regularly evaluate their online teaching practices, seeking feedback from both teachers and students to identify areas for improvement and adapt their interactive teaching strategy accordingly. Future researchers can develop flexible frameworks to assess the effectiveness of online teaching, considering diverse contexts and specific strategies and interaction modes for various digital platforms. The proposed interactive teaching model can be evaluated and implemented in a blended teaching context post-pandemic, redefining the role of technology to enhance in-person teaching and fostering a sense of community, with continuous monitoring and adjustments for optimal effectiveness.

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REFERENCES

[1] Abbas, A., Hosseini, S., Núñez, J. L. M., and Sastre-Merino, S. (2021). Emerging technologies in the education for innovative pedagogies and competency development. Australas. J. *Educ. Technol. 37*, 1–5. doi: 10.14742/ajet.7680

[2] Adebo, P. (2018). Online Teaching and Learning. International Journal of Advanced Research in Computer *Science and Software Engineering, 8*(2), 73. https://doi.org/10.23956/ijarcsse.v8i2.549

[3] Algethami, G. (2022). Teachers' Perspectives towards Teaching English Online at the Tertiary Level in Saudi Arabia. *Arab World English Journal, 2*, 317–328. https://doi.org/10.24093/awej/covid2.21

[4] Allen, I. E., & Seaman, J. (2016). Online report card: Tracking online education in the United States. Massachusetts: Babson Survey. *Research Group.*

[5] Mohamed, Ally. (2022). "Foundations of Educational Theory for Online Learning," in *Theory and Practice of Online Learning*, ed. Terry Anderson (Edmonton, Alberta: Athabasca University Press, (2004), 15–44.

[6] Bailey, D. (2021). Interactivity during Covid-19: mediation of learner interactions on social presence and expected learning outcome within videoconference EFL courses. *Journal of Computers in Education*, *9*(2), 291–313. https://doi.org/10.1007/s40692-021-00204-w

[7] Charness, Neil. & Boot, R. Walter. (2016). *Handbook of the Psychology of Aging (Eighth Edition)*. Academic Press, p. 389-407.

[8] Chen, L. (2013). Analysis of the Current Situation of Faculty in Comprehensive College English Education Majors. *Journal of Chifeng University (Natural Science Edition)*, *09*, 210-212. doi: 10.13398/j.cnki.issn1673-260x.2013.09.096.

[9] Cui, Y. (2021). Perceived Learning Outcomes and Interaction Mode Matter: Students' Experience of Taking Online EFL Courses During COVID-19. *English Language Teaching*, *14*(6), 84. https://dx.doi.org/10.5539/ELT.V14N6P84

[10] Dara-Tafazoli, M., Parra, E. G., & Abril, C. A. H. (2019). Attitude towards Computer-Assisted Language Learning: Do Gender, Age and Educational Level Matter? *Teaching English with Technology, 19*(3), 22-39.

[11] Dornyei, Z., & Taguchi, T. (2010). Questionnaires in Second Language Research Construction, Administration and Processing (2nd ed.). New York Routledge. *Scientific Research Publishing.* (n.d.).

[12] Algethami, G. (2022). Teachers' Perspectives towards Teaching English Online at the Tertiary Level in Saudi Arabia. *Arab World English Journa*l, 2, 317–328. https://doi.org/10.24093/awej/covid2.21

[13] Clotfelter, Charles T. & Ladd, Helen F. & Vigdor, Jacob L. (2007). Teacher credentials and student achievement: Longitudinal analysis with student fixed effects. *Economics of Education Review, Elsevier. vol. 26*(6). p 673-682. December.

[14] Dai, M., & Zhang, X. (2004). A Sampling Survey on the Quality of College English Teachers. Journal of PLA *Foreign Languages Institute, 02*, 42-46. doi: CNKI:SUN:JFJW.0.2004-02-009.

[15] Devlin, M. & Samarawickrema, G. (2010, April). The criteria of effective teaching in a changing higher education context. *Higher Education Research & Development, 29*(2), 111-124

[16] Goldhaber, D. (2016). In Schools, Teacher Quality Matters Most: Today's research reinforces Coleman's findings. *Education Next, 16*(2), 56-62.

[17] Gonzalez, D., & Louis, R. St. (2018). Online Learning. *The TESOL Encyclopedia of English Language Teaching*, 1-6. https://doi.org/10.1002/9781118784235.eelt0423

[18] Gorsky, P., & Blau, I. (2009). *Online Teaching Effectiveness : A Tale of Two Instructors.* 10(3), 1–27.

[19] Hamad, M. M., Dafaallah, A. B., & Alhaj, A. A. (2021). The Challenges of Online English Language Teaching From EFL Instructors' Point of View in KKU, Tehama Campus During COVID 19 Period. *Journal of Language Teaching and Research, 12*(4), 543–556.

[20] Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). The difference between emergency remote teaching and online learning. *Educause Review*, 27.

[21] Huang, X., Liu, X., Hu, Y., & Liu, Q. (2021). The Effect of Online Collaborative Prewriting via DingTalk Group on EFL Learners' Writing Anxiety and Writing Performance.

Springer eBooks, 48–60. https://doi.org/10.1007/978-3-030-92836-0_5

[22] Hubbard, P. (2019). Five Keys from the Past to the Future of CALL. *International Journal of Computer-assisted Language Learning and Teaching*, *9*(3), 1–13. https://doi.org/10.4018/ijcallt.2019070101

[23] Ko, S., & Rossen, S. (2017). *Teaching online: A practical guide (4th ed.).* New York, NY: Routledge.

[24] Koehler, M. J., Mishra, P., & Cain, W. (2013). What is technological pedagogical content knowledge (TPACK)? *Journal of Education*, *193*(3), 13–19.

[25] Education Statistics for 2021. (2021). *Ministry of Education of the People's Republic of China*. Retrieved from http://m.moe.gov.cn/jyb_sjzl/moe_560/2021/

[26] Wang, Yan. (2018). Changes in academic structure of full-time teachers in regional universities. *Journal of Architectural Education in Institutions of Higher Learning*. *2018*(04). Page:151-159.

[27] Wang, Y. A. (2022). A two-dimensional TPACK scale for English as a foreign language teachers. *Education and Information Technologies, 27*(1), 1-23.

[28] Wu, S. Y. (2021). How Teachers Conduct Online Teaching During the COVID-19 Pandemic: A Case Study of Taiwan. *Frontiers in Education, 6*(May), 1–11. https://doi.org/10.3389/feduc.2021.675434

[29] Yu, S. (2015). Analysis of the Gender Imbalance Phenomenon in English Education Majors in Higher Education Institutions: A Case Study of the Education College of N University. *Overseas English, 15*, 242-244. doi: CNKI:SUN:HWYY.0.2015-15-107.

[30] Zhao, Y., & Wang, J. (2017). Analysis of Changes in Educational Background of Full-time University Teachers in China in the Past Two Decades. *Research in Higher Education of China*, (1), 4.