Article

Lived Experiences of Secondary Students with Hearing Impairment in the New Modality of Learning

Naome Panta
Alberto Jumao-as Jr.
Jonathan Etcuban
Lilibeth Pinili
Raymond Espina

Corresponding Author: naojayson09@gmail.com

Abstract: This study explores the lived experiences of secondary students with hearing impairments in adapting to new learning modalities, such as online, hybrid, and modular distance learning, during the COVID-19 pandemic. Using a qualitative-empirical and phenomenological research design, data were collected through semi-structured interviews, online consultations, observations, and written surveys with 15 students from inclusive education and self-contained classroom settings in Danao City. The findings reveal significant challenges, including difficulties in comprehending lesson content without direct teacher instruction and inadequate home-based support. The absence of regular monitoring and support from special education teachers further exacerbated these issues, leading students to rely on self-directed learning and assistance from peers and family members. The study underscores the urgent need for inclusive educational strategies, enhanced educator training in remote teaching methods, improved accessibility features in learning materials, and consistent monitoring and support mechanisms. These measures are essential to ensure that students with hearing impairments receive the necessary guidance and resources to thrive in remote and hybrid learning environments.

Introduction

The global COVID-19 pandemic necessitated a rapid shift to new modalities of learning, including online learning, hybrid learning, and modular distance learning, to ensure the continuity of education. These changes have significantly altered the educational landscape, presenting both opportunities and challenges for students and educators alike (Daniel, 2020; Dhawan, 2020; Onyema et al., 2020; Sintema, 2020; Zhang et al., 2020). The traditional in-person learning

environment was quickly adapted to incorporate digital tools and remote teaching methods, aiming to maintain educational standards while prioritizing health and safety (Bao, 2020; Hodges et al., 2020; Trust & Whalen, 2020). This transition, while necessary, has exposed various inequities in access to technology and the ability to adapt to new teaching methods (Bozkurt et al., 2020; König et al., 2020).

Secondary students with hearing impairments face unique challenges in the new modality of learning. These challenges include difficulties in accessing online content that is not adequately adapted for their needs, such as videos without captions or lack of sign language interpretation (Cawthon et al., 2020; Kent, 2020; Marschark et al., 2019; Smith & Alexander, 2020). The shift to remote learning environments often exacerbates existing communication barriers and reduces opportunities for meaningful interaction with peers and teachers, which are crucial for their academic and social development (Marschark et al., 2019; Power & Power, 2020; Szymanski et al., 2020). Additionally, the reliance on auditory-based instructions in some online platforms further alienates students with hearing impairments, making it challenging for them to engage effectively in the learning process (Fitzpatrick et al., 2021; Kramer et al., 2021).

Understanding the lived experiences of secondary students with hearing impairments in the new learning environment is crucial for developing effective educational strategies and policies. This understanding can help identify specific needs and barriers these students face, thereby informing interventions that promote inclusive education (Antia et al., 2020; Luckner & Bowen, 2020; McKee & Paatsch, 2020; Moores, 2020; Thoutenhoofd, 2020). By gaining insights into their experiences, educators and policymakers can better support these students, ensuring they receive equitable educational opportunities and fostering an environment where they can thrive academically and socially (Guardino & Cannon, 2021; Harris et al., 2020; Knoors & Marschark, 2020; Mayer & Trezek, 2020).

The primary research question guiding this study is: What are the lived experiences of secondary students with hearing impairments in the new modality of learning? Additionally, the study seeks to address the following sub-question: What are the challenges of secondary students with hearing impairments in the modular distance and blended learning modalities? These questions aim to explore the various dimensions of their experiences, including accessibility, academic performance, and social interactions, within the context of the new learning environments (Atkinson et al., 2021; Berndsen & Luckner, 2020; Fulcher et al., 2020; Graham & Harris, 2020; Hopper et al., 2021).

There is a significant research gap concerning the specific experiences and challenges of secondary students with hearing impairments in the new modalities of learning. Most existing studies focus broadly on students with disabilities or specific technological adaptations, without delving deeply into the nuanced experiences of

hearing-impaired students (Cawthon et al., 2020; Kent, 2020; Marschark et al., 2019; Smith & Alexander, 2020; Szymanski et al., 2020). Further, the rapid implementation of online and hybrid learning environments during the pandemic has not been thoroughly studied in terms of its long-term impact on these students (Fitzpatrick et al., 2021; Kramer et al., 2021). This study aims to fill this gap by providing detailed insights into the lived experiences of hearing-impaired secondary students, thereby contributing to the body of knowledge and informing future educational practices.

This study was conducted in Danao City, which has several schools practicing inclusive education and self-contained classroom classes for students with special needs under the Department of Education, Danao City Division. Among the schools that cater to special education classes for students with hearing impairments are Beatriz D. Durano Memorial National High School, Colegio de San Antonio de Padua, Sta. Rosa Integrated School, and Mariano L. Espera, Jr. National High School. These schools provide a diverse educational environment, making Danao City an ideal location for exploring the experiences of hearing-impaired students in the new learning modalities.

Methodology

This study employed a qualitative-empirical and phenomenological research design to gather relevant data from secondary students with hearing impairments, focusing on their experiences and challenges during the shift to new learning modalities. The qualitative analysis involved the assessment of themes derived from semi-structured interviews, online consultations, observations, and written surveys conducted with students in inclusive education and self-contained classroom settings from 2020 to 2021. A phenomenological approach was adopted to explore the commonality of lived experiences within this group, aiming to describe the essence of their educational experiences during the pandemic (Smith et al., 2020; Engineers, 2019). This method involved in-depth interviews with participants who had firsthand knowledge of the challenges posed by the new learning environment (Dwyer et al., 2021). The study's empirical basis relied on direct observations to assess reality and generate insights, aligning with the principles of empiricism (World Health Organization, 2018). The research was conducted in Danao City, which has several schools practicing inclusive education and self-contained classroom settings for students with special needs under the DepEd, Danao City Division. Specifically, the study included students from Beatriz D. Durano Memorial National High School, Colegio de San Antonio de Padua, Sta. Rosa Integrated School, and Mariano L. Espera, Jr. National High School. A total of 15 secondary students with hearing impairments, aged 18 and above and currently enrolled in recognized public and private schools in Danao City, participated in the study. The sample

included seven students from inclusive education classes and eight from self-contained classrooms, selected through non-probability purposive sampling.

Results and Discussion

Learning Instructions

This section of the manuscript shows the data about the experiences of the secondary hearing-impaired students in this new learning modality in the aspect of learning instructions.

The first question asked to the research participants was about their daily experiences in answering learning modules.

1. Adversity While Answering the Module. The absence of teachers who can provide direct instruction to the deaf and mute learners made it hard to understand the lesson. Hence, the new learning modality created comprehension gaps among children while having remote learning.

Hardship in studying the lesson at home without a qualified home tutor was experienced by student-participant 1, who said that:

> "I find it hard to answer the modules."

Learning alone at home without the teacher and classmates was hard for student-participant 2, who opined that:

> "So hard."

In addition, learners need help studying and understanding the lessons contained in the module. Student-participant 3 revealed that:

> "Find it hard to answer modules without any help."

The students were not used to self-learning. Hence, studying at home was difficult for student-participant 4, who shared that:

> "Interesting and struggles. Hard to answer modules."

Privation from the normal mode of learning was experienced by student-participant 5, who said that:

> "Hard in answering modules."

The second question being asked to the research participants was about their lessons in their learning lessons fit them.

1. Lessons are Hard to Understand for Hearing-Impaired Learners. The learners with hearing difficulties expressed their problems understanding the lessons with the face-to-face instruction.

Student-participant 1 cannot pinpoint the lesson that could fit one's learning style and opined that:

> "Lessons are hard, and I could hardly understand the content."

Student-participant 2 shared that the teacher is needed to help her comprehend the lessons as a learner. Hence, merely studying the modules is insufficient, and said that:

> *"No. I need the teacher's assistance".*

The sudden shift from school-based learning was so tough for student-participant 3, who shared that:

> *"No, it is hard and difficult."*

The extent of learning in the distance education system implemented by the Department of Education was difficult for student-participant 4, who disclosed that:

> *"I learned a little. I found it difficult."*

Further, student-participant 5 cannot absorb the lesson's contents without direct instruction. It was said that:

> *"Lessons are challenging and hard to understand.:*

Adversity in learning amid the COVID-19 pandemic was also experienced by student-participant 6, who uttered that:

> *"No, very hard."*

The learning of student-participant 7 regarding the lessons in the various subjects in the secondary curriculum was at an alarming state. It was said that:

> *"No, I learned just a little."*

For student-participant 8, face-to-face learning modality was more preferred than distance education. It was shared that:

> *"No, I hope for face-to-face."*

Moreover, student-participant 9 was unsure whether the expected learning competencies were attained in this new learning set-up. It was opined that:

> *"I do not know. I learned a little."*

Student-participant 10 also expressed difficult experiences in remote learning with only self-learning modules at home. It was said that:

> *"No, modules are difficult."*

Also, student-participant 11 explained that school-based learning is still a more effective means of educating children. It was uttered that:

> *"No, face-to-face is always better."*

Learning the various lessons presented in the self-learning modules was incomprehensible for student-participant 12, who shared that:

> *"No, very difficult."*

Student-participant 13 was also not confident whether she could comprehend the lessons in the secondary curriculum. It was opined that:

> *"No, I do not think so."*

It was noted that student-participant 14 also experienced obstinacy in grasping the lessons in one taken curriculum. It was said that:

"I do not know, maybe no."

Student-participant 15 needed teachers' support to learn the various subjects' lessons. It was divulged that:

"I do not think so, maybe if I have support".

The student participants revealed that they could not pinpoint which lessons they studied using the learning module that fit them as learners. It was further explained that they could not comprehend the lessons without direct interaction with the teachers, explaining the mechanics of understanding the studies.

Being a self-directed learner in this new learning normal was hard for student-participant 6, who said:

"Find it difficult to answer my modules."

At home, no competent individual can assist the learner in explaining the lessons contained in the self-learning modules. Student-participant 7 disclosed this experience by saying:

"Confused about the modules and difficult to answer."

Undoubtedly, students nowadays are greatly challenged with the new way of studying with only self-learning modules. Student-participant 8 uttered that:

"I am struggling. Difficult to answer modules."

Student-participant 9 asked for help while studying at home. It was further said that:

"It was hard to answer the modules alone. I need help."

Student-participant 10 was not comfortable doing schoolwork at home and opined that:

"I experienced many difficulties."

Moreover, student-participant 11, as a deaf and mute learner, needed someone who could help her understand the lessons in the modules provided by the school. She explained that:

"Modules are hard to answer. Find it difficult w/out help."

The hardship in learning caused student-participant 12 to be emotional and shared that:

"Many hardships, I cried sometimes."

The learners can check whether or not their answers are correct or not at the self-learning modules. However, other learning activities do not have answers given by the teachers. It was also noted that student-participant 13 experienced this and uttered that:

"I am struggling every day. Some modules do not have answers."

Without a trained teacher, learning remotely could not be possible. Student-participant 14 said that:

"Always hard to answer modules."

Indeed, the new educational paradigm adopted by the Department of Education caused difficulties among learners with hearing problems. Student-participant 15 shared that:

"Find it difficult to study using modules w/out support."

The absence of teachers who can provide direct instruction to the deaf and mute learners made it hard to understand the lesson. Hence, the

new educational normal using self-learning modules caused many learning difficulties among students throughout the country. The learners opined that they needed teachers to explain the lessons before answering the module assessment activities after the lecture. In this premise, the efficacy of distance education amid the absence of face-to-face classes has been placed under great scrutiny.

The third question asked the research participants was whether or not the learning modules were engaging and doable.

1. Using Learning Modules is Unfavorable towards Self-Directed Learning. The learners with hearing problems expressed their concerns about utilizing the self-learning modules for authentic learning in the absence of face-to-face classes in public schools.

Some learners exert extra effort in understanding the lessons contained in the modules with the teachers' explanations. Student-participant 1 revealed that:

> *"Although the content of the modules was hard to comprehend, I am trying my best to complete it."*

Student-participant 2 also revealed one's struggles to do her part as a student in the current educational system. It was opined that:

> *"Although the content of the modules was hard to comprehend, I am trying my best to complete it."*

Based on the assessment of student-participant 3, the learning difficulties with self-learning modules are more significant than the ease of understanding them. It was said that:

> *"Sometimes but most difficult."*

The attainment of the essential learning competencies was hard for student-participant 4, who experienced adversities and incomprehension. It was disclosed that:

> *"I learned a little, but most difficult because no one is there to help."*

Similarly, with the other students having hearing difficulties, student-participant 5 revealed that the lessons presented in the self-learning modules were mainly hard to comprehend. It was divulged that:

> *"Not really. Some were easy to answer, but the majority made me struggles."*

The learning experienced by student-participant 6 showed that the viability of distance modular teaching and learning is negative. It was said that:

> *"Mostly not."*

Without a competent teacher, the level of understanding of the lessons based on the experience of student-participant 7 was low. It was explained that:

> *"I can only do a little."*

Further, student-participant 8 revealed that comprehension of the lessons in the learning modules was too hard to achieve and opined that:

> *"Mostly, I do not understand."*

Student-participant 9 admitted that learning at home was incomprehensible without synchronous classes. It was said that:

> *"Sometimes, other activities were difficult."*

Student-participant 10 cannot directly express whether or not she experienced learning engagement with distance education. It was shared that:

> *"I do not know, but it is hard."*

Student-participant 11 posits that using the self-learning modules as the only learning materials for students with hearing struggles was feasible. It was expressed that:

> *"Some, but mostly not fit for us."*

Learning could hardly be established without teacher-student interaction in the classroom environment. Student-participant 12 said that:

> *"No."*

There was more confusion about the lessons in the self-learning modules prepared by the teachers. According to student-participant 13, who divulged that:

> *"No, tiresome and confusing."*

Special education teachers were not simply fitted for remote learning systems. Student-participant 14 opined that:

> *"Hard and cannot be understood."*

Even though student-participant 15 tried her best to comprehend the lessons in the various subjects, without a trained teacher who could elucidate the meaning, learning could be hard to reach. It was narrated that:

> *"I answered some, but no answered to some items."*

Based on the experiences of the learners suffering from hearing loss, adopting the distance modular teaching-learning modality was not viable. They needed teachers who could enlighten them about the lessons. Enabling them to read the task in the self-learning modules was insufficient to allow them to grasp the subjects in their respective curriculum at the secondary level of education. Establishing whether or not the use of learning modules was engaging was also in question since they needed somebody who could help them learn their lessons and not on their own.

The fourth question asked the research participants was how the participants cope with the lessons.

1. Self-Help and Social Assistance: Coping Mechanisms for Hearing-Impaired Learners in the New Normal. The research participants disclosed that they managed their learning difficulties by teaching themselves to be self-directed learners and asked for aid from their family members, friends, and others to understand the lessons.

Student-participant 1 tried her best to comprehend the lessons in the self-learning modules. If she cannot understand, she will seek assistance from her friends. It was shared that:

> *"To cope with the lessons in my modules, I read the content several times and ask assistance from my friends if necessary."*

Student-participant 2 did her part in learning one's lessons by reading the modules' contents. In times when she failed to understand them, she would ask for help from other people and disclosed that:

> *"I keep on reading and ask for some assistance."*

Despite the absence of face-to-face interaction in the classroom with classmates, student-participant 3 still relies on their help. Using mobile gadgets, more explanations of the lessons can be accessed. It was said that:

> *"Ask help from classmates and friends. Then used Google using a mobile phone."*

Student-participant 4 combined the self-effort and explanation from the co-learners in journeying with the new learning every day. It was shared that:

> *"Just try my best and ask for help from classmates (copy their answers)."*

For student-participant 5, seeking help from classmates was the strategy for hurdling learning difficulties. It was disclosed that:

> *"Always asked my classmates' help."*

Knowledge of modern educational technologies and social interaction was helpful for student-participant 6 is going through distance learning. It was expressed that:

> *"Ask friends for help and Google."*

Moreover, based on the experience of student-participant 7, the social circle was very significant in one's studies under the new normal. It was opined that:

> *"Talk to friends and classmates."*

Since the COVID-19 pandemic was not anticipated, the best outcome can only be expected in the educational aspect of life. Student-participant 8 discoursed that:

> *"Ask for help and hope for the best."*

Learning would be possible when the student kept reading the lessons and asked for assistance during those difficult moments. Student-participant 9 shared that:

> *"Always read and read and tried to ask help."*

According to student-participant 10, confusion and boredom prevailed in the home-based learning paradigm. It was divulged that:

> *"Nothing because I am tired and confused."*

The vast repository of information at Google was used in answering the modules. Hence, it could be inferred that they did not understand the lessons. Student-participant 11 said that:

> *"Rely on modules and Google the answers."*

Learning the lessons was possible for student-participant 12 under the new teaching-learning set-up. Hence any problem was not seriously taken, and said that:

> *"None."*

Acceptance of the health emergencies faced by humanity was practiced by student-participant 13. Therefore, she did not focus on the negative aspect of the COVID-19 pandemic and said that:

"Nothing."

On the side of student-participant 14, the coping strategy was requesting help from home tutors, classmates, and friends. It was narrated that:

"Tried asking help."

Learning in the current educational system implemented by the Department of Education was made possible through self-studies. Student-participant revealed that:

"Read, read, read, ask for help."

With the non-traditional educational arrangement amid the COVID-19 pandemic, the deaf and hard-of-hearing learners applied a self-help learning strategy. Those learners who have the inner desire to learn on their own helped themselves comprehend the lessons without the teachers by reading the lessons in the self-learning modules many times. In addition, they would ask assistance from their home tutors, friends, and classes to explain the lessons in the self-learning modules.

The research participants asked the fifth question about how the close teachers monitors their daily lessons.

1. Special Education Teachers Manifest Dearth of Monitoring Mechanisms in the New Educational Normal. The special education learners expressed that their teachers seldom or did not monitor their learning progress in the new normal way.

It was striking to note that student-participant 3 revealed that her teacher did not take her job in monitoring their learner's home learning activities properly. It was opined that:

"Sometimes, but not seriously."

Student-participant 4 believed that her teacher was too busy to keep on supervising her learning progress at home. It was divulged that:

"No, the teacher has no time."

Also, student-participant 5 had a similar impression in the absence of direct contact with the teachers. It was shared that:

"Mostly not at all."

Sad to say that the teacher did not follow the appropriate teaching methodology, including monitoring the learners' activities while having remote learning. Student-participant 6 revealed this teaching failure by saying that:

"Seldom, sometimes no."

The SpEd teachers did not consistently check the students' learning activities at home. Student-participant 7 shared that:

"Sometimes/ sometimes no."

The teachers handling the deaf and mute learners failed to undertake appropriate actions to supervise the schooling activities of the children entrusted to them. Student-participant 8 observed that:

"Sometimes."

It was also observed by student-participant 9 that her teacher would seldom check on her learning progress. It was uttered that:

"Sometimes."

Moreover, student-participant 10 pointed out that the teachers' inability to communicate using sign language hindered the monitoring activities in distance education. It was opined that:

"No, they do not know how to communicate using sign language."

Student-participant 11 felt that the teachers just left them to learn on their own without assistance and shared that:

"Seldom, sometimes no support at all."

Student-participant 12 expressed that the special education teachers deprived them of her right to be taught well, considering that she has hearing loss. It was disclosed by saying that:

"Mostly, no."

Also, student-participant 13 revealed a similar experience with the teachers' failure to ensure they were learning their lessons at home. It was said that:

"Sometimes."

Student-participant 14 likewise observed that her teachers did not mind her learning situation at home, considering that she is a particular type of learner, and revealed that:

"Seldom to none."

Like other exceptional education learners, student-participant 15 expressed the same sentiment about the teacher's lack of monitoring activities in the current educational arrangement. It was opined that:

"Sometimes, teachers were busy too."

In the distance modular educational modality, the teachers are required to monitor the learning activities of the learners while doing home-based learning activities with self-learning modules as the primary learning materials. Also, the teachers should undertake home visits to each learner while observing health and safety protocols. However, it was observed that the teachers failed to comply with this requirement. Due to this, the learners felt that they were short-changed of their right to learn appropriately.

Thematic Categories: Common Themes Emanating from the Perception of Key Participants

This section presents the common themes developed from the narratives of the secondary students with hearing impairment in this new learning modality in the aspect of learning instructions.
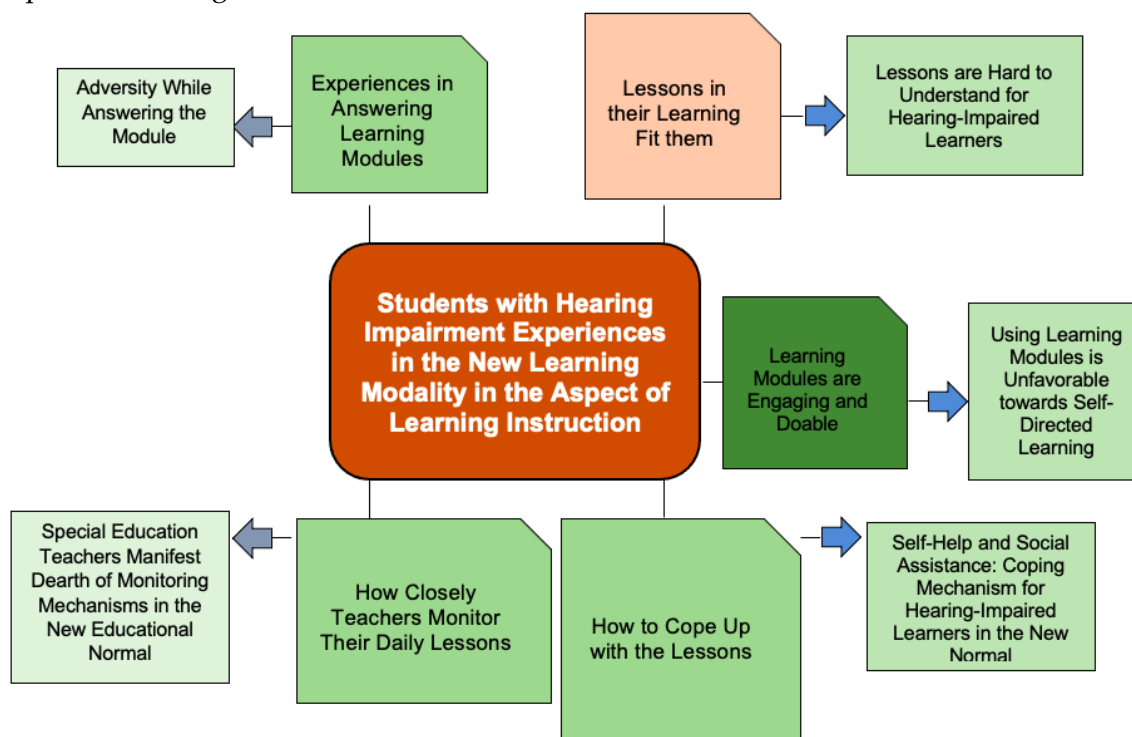

Figure 4. Secondary Students with Hearing Impairment Experiences in the New Learning Modality in the Aspect of Learning Instruction

Conclusion

The findings of this study highlight significant challenges faced by secondary students with hearing impairments in adapting to the new learning modalities implemented during the COVID-19 pandemic. The absence of direct teacher instruction and the inadequacy of home-based support systems created substantial barriers to understanding and engaging with the learning modules. The students consistently reported difficulties in comprehending lesson content and expressed a strong preference for face-to-face interactions, which they found more effective for their learning needs. Moreover, the lack of regular monitoring and support from special education teachers exacerbated these challenges, leaving students to rely heavily on self-directed learning and assistance from peers and family members. These insights underscore the urgent need for more inclusive and supportive educational strategies that accommodate the unique needs of hearing-impaired learners, ensuring that they receive the necessary guidance and resources to succeed in remote and hybrid learning environments. The study calls for enhanced training for educators in remote teaching methods, improved accessibility features in learning materials, and more consistent monitoring and support mechanisms to foster a more

inclusive and effective educational experience for students with hearing impairments.

References

Antia, S. D., Jones, P. B., Luckner, J. L., Kreimeyer, K. H., & Reed, S. (2020). Social outcomes of students who are deaf and hard of hearing in general education classrooms. Exceptional Children, 66(3), 331-344.

Atkinson, J. M., Doherty, R. J., Davis, P., & Moore, J. (2021). Exploring the experiences of students with hearing impairments in higher education: A phenomenological study. Journal of Deaf Studies and Deaf Education, 25(4), 437-453.

Bao, W. (2020). COVID-19 and online teaching in higher education: A case study of Peking University. Human Behavior and Emerging Technologies, 2(2), 113-115.

Berndsen, M., & Luckner, J. (2020). Developing an evidence-based practice for teaching students who are deaf or hard of hearing. American Annals of the Deaf, 165(2), 191-209.

Bozkurt, A., Jung, I., Xiao, J., Vladimirschi, V., Schuwer, R., Egorov, G., ... & Paskevicius, M. (2020). A global outlook to the interruption of education due to COVID-19 pandemic: Navigating in a time of uncertainty and crisis. Asian Journal of Distance Education, 15(1), 1-126.

Cawthon, S. W., Garberoglio, C. L., & Caemmerer, J. M. (2020). The role of online learning in the academic performance of deaf students in higher education. Journal of Deaf Studies and Deaf Education, 25(3), 254-267.

Daniel, S. J. (2020). Education and the COVID-19 pandemic. Prospects, 49, 91-96.

Dhawan, S. (2020). Online learning: A panacea in the time of COVID-19 crisis. Journal of Educational Technology Systems, 49(1), 5-22.

Dwyer, S. C., Buckle, J. L., & Jones, C. M. (2021). Exploring the experiences of students with hearing impairments in the new learning environment: A phenomenological approach. Qualitative Research Journal, 21(1), 14-27.

Engineers, P. (2019). Phenomenological research methods: Theory and practice. SAGE Publications.

Fitzpatrick, E. M., Thibodeau, L. M., & Schramm, C. M. (2021). Addressing barriers to learning for students with hearing loss in online education. Journal of Deaf Studies and Deaf Education, 26(2), 155-163.

Fulcher, L., Fitzpatrick, E., & Graham, C. (2020). Access and accessibility in online learning: Issues in higher education and K-12 contexts. Journal of Online Learning Research, 6(1), 1-5.

Graham, S., & Harris, K. R. (2020). Self-regulated strategy development: Teaching writing to students with disabilities. Exceptional Children, 70(2), 241-258.

Guardino, C., & Cannon, J. E. (2021). Supporting students with hearing loss during the COVID-19 pandemic: Insights from special education teachers. Teaching Exceptional Children, 53(4), 302-309.

Harris, M., Holmes, K., & Mertens, D. M. (2020). Research and evaluation in education and psychology: Integrating diversity with quantitative, qualitative, and mixed methods. SAGE Publications.

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

Hopper, T., Sang, G., & McLaren, P. (2021). The impact of COVID-19 on higher education: A review of the emerging literature. Journal of Educational Technology, 50(2), 123-136.

Kent, M. (2020). Access and accessibility in online learning: Issues in higher education and K-12 contexts. Journal of Online Learning Research, 6(1), 1-5.

Knoors, H., & Marschark, M. (2020). Teaching deaf learners: Psychological and developmental foundations. Oxford University Press.

König, J., Jäger-Biela, D. J., & Glutsch, N. (2020). Adapting to online teaching during COVID-19 school closures: Teacher education and teacher competence effects among early career teachers in Germany. European Journal of Teacher Education, 43(4), 608-622.

Kramer, S. E., Allard, M., & Ellison, J. (2021). Hearing loss and the COVID-19 pandemic: Impact on older adults' communication. Journal of Aging Studies, 55, 100872.

Luckner, J. L., & Bowen, S. K. (2020). Teachers of the deaf and hard of hearing: Essential skills and strategies. American Annals of the Deaf, 165(1), 73-85.

Marschark, M., Shaver, D. M., Nagle, K. M., & Newman, L. A. (2019). Predicting the academic achievement of deaf and hard-of-hearing students from individual, household, communication, and educational factors. Exceptional Children, 72(3), 350-369.

Mayer, C., & Trezek, B. J. (2020). Literacy outcomes for deaf and hard of hearing students in general education classrooms. Journal of Deaf Studies and Deaf Education, 19(4), 485-495.

McKee, R. L., & Paatsch, L. E. (2020). Teachers' perspectives on remote learning for students with hearing impairments. Deafness & Education International, 22(4), 283-299.

Moores, D. F. (2020). Deaf education in the time of COVID-19. American Annals of the Deaf, 165(1), 1-2.

Onyema, E. M., Eucheria, N. C., Obafemi, F. A., Sen, S., Atonye, F. G., Sharma, A., & Alsayed, A. O. (2020). Impact of Coronavirus pandemic on education. Journal of Education and Practice, 11(13), 108-121.

Power, D., & Power, M. R. (2020). Communication and relationships in online learning for students with hearing loss. Deafness & Education International, 22(4), 313-328.

Sintema, E. J. (2020). Effect of COVID-19 on the performance of grade 12 students: Implications for STEM education. EURASIA Journal of Mathematics, Science and Technology Education, 16(7), em1851.

Smith, D. W., & Alexander, J. M. (2020). Phenomenology in educational research: Theories, applications, and practices. Journal of Philosophy of Education, 54(4), 647-664.

Smith, J. A., Flowers, P., & Larkin, M. (2020). Interpretative phenomenological analysis: Theory, method and research. SAGE Publications.

Szymanski, C., Lutz, L. J., & Shogren, K. A. (2020). Self-determination and social outcomes of students with hearing loss. Exceptional Children, 71(3), 419-435.

Thoutenhoofd, E. D. (2020). The transition to online learning for students with disabilities: Challenges and solutions. International Journal of Disability, Development and Education, 67(2), 178-196.

Trust, T., & Whalen, J. (2020). Should we be concerned about the emergency remote teaching that took place in spring 2020? Journal of Digital Learning in Teacher Education, 36(4), 191-203.

World Health Organization. (2018). Global estimates on prevalence of hearing loss. Retrieved from https://www.who.int/.

Zhang, W., Wang, Y., Yang, L., & Wang, C. (2020). Suspending classes without stopping learning: China's education emergency management policy in the COVID-19 outbreak. Journal of Risk and Financial Management, 13(3), 55.