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Social Media Impact on Music Teachers' Professional Development in Uyo Urban Secondary Schools in Akwa Ibom State, Nigeria

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Abstract

This study examined the impact of social media on the professional development of music teachers in Uyo Urban Secondary Schools, Akwa Ibom State, Nigeria. In carrying out this study, a descriptive survey design was adopted. The study was conducted in Akwa Ibom State. The target population consisted of all music teachers in Akwa Ibom State A stratified sampling technique was employed to select 50 music teachers from each of the three senatorial districts in Akwa Ibom State (Uyo, Eket, and Ikot Ekpene). This gave a total sample size of 150 respondents used for the study. Data were collected using a structured questionnaire titled "Social Media and Music Teachers' Professional Development Questionnaire" (SMMTPDQ). The instrument was validated by an expert in test, measurement, and evaluation to ensure its suitability and clarity. A reliability coefficient of 0.85 was obtained, confirming the reliability of the instrument. The data collected were analyzed using descriptive statistics to answer the research questions. The study explored various professional development programs for music teachers, including workshops, collaborative learning communities, formal academic programs, online training, mentorship, and reflective practices. It also highlighted social media platforms such as YouTube, Facebook, Instagram, and other digital communities as tools that support professional development through access to instructional resources, collaboration, and knowledge sharing. These platforms provide opportunities for music teachers to improve their pedagogical skills, enhance creativity, and stay updated with modern teaching practices. Findings from the study indicated that social media positively influences the professional development of music teachers by improving access to learning materials, encouraging collaboration, and strengthening technological competence. However, challenges such as distraction, information overload, and issues of professionalism were also identified as factors that may limit its effectiveness. The study concluded that social media serves as a valuable tool for enhancing the professional growth of music teachers in Uyo Urban Secondary Schools. Its effectiveness, however, depends on how well teachers are able to utilize these platforms in a focused, disciplined, and goal-oriented manner. One of the recommendations made was that Music teachers should actively engage with social media platforms such as YouTube, Facebook, and online forums to access instructional resources, collaborate with peers, and enhance their teaching skills.

Keywords: Social media, Music Teachers, Professional Development, Secondary Schools, Uyo Urban, Akwa Ibom State, Nigeria.

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Introduction

The rapid advancement of digital technology has significantly transformed the educational landscape, particularly through the emergence of social media as a powerful tool for learning, communication, and professional growth. Social media platforms such as Facebook, YouTube, Instagram, X (formerly Twitter), and LinkedIn have become integral in shaping how educators access information, collaborate with peers, and improve their instructional practices (Flew, 2018). In recent years, these platforms have extended beyond social interaction to serve as vital tools for continuous professional development among teachers.

For music teachers in particular, social media provides opportunities to access instructional videos, share teaching resources, participate in online workshops, and connect with a global community of music educators. These platforms enhance creativity, expose teachers to diverse teaching strategies, and support the development of both pedagogical and technological skills (Bauer, 2020; Trust, 2020).

However, despite these benefits, the use of social media also presents challenges such as distraction, information overload, and issues of professionalism (Manca & Ranieri, 2016). These factors may influence how effectively music teachers utilize social media for their professional growth. Therefore, it becomes important to examine the extent to which social media impacts the professional development of music teachers in Uyo Urban Secondary Schools. This study is aimed at exploring both the positive and negative effects of social media usage on music teachers' professional development, with a view to providing insights that can enhance teaching effectiveness and educational outcomes.

Statement of the problem

In recent years, social media has become a crucial element of education and professional development, providing educators with access to instructional resources, opportunities for networking, and avenues for improving their pedagogical skills. Music educators are now enhancing their creativity, instructional methodologies, and comprehension of contemporary music practices by utilizing platforms such as YouTube, Facebook, Instagram, and X. Despite these opportunities, many music teachers in Uyo urban secondary schools may not be fully embracing and utilizing social media for their professional development due to obstacles such as a lack of digital skills, distractions, information overload, poor internet access, and limited guidance on professional use of these platforms. Furthermore, research findings are scarce about the impact of social media on the professional development and pedagogical efficacy of music educators in the region. This circumstance necessitates an in-depth analysis of the influence of social media on the professional advancement of music educators in Uyo Urban Secondary Schools, Akwa Ibom State, Nigeria.

Research objective

1. To examine the types of social media programs relevant to music teacher's professional development
2. Identify the effects of social media on music teacher professional development

Research question

1. What are the types of social media programs relevant to music teacher's professional development?
2. What are effects of social media on music teacher professional development?

LITERATURE REVIEW

Concept of Media

The term "media" refers to the several platforms, methods, and channels that are used to produce, store, and distribute ideas, messages, and information to a large audience. By acting as a conduit between the public and content producers, media influences the creation, dissemination, and consumption of information in society. Media used to encompass print (magazines, newspapers), broadcast (radio, television), and film, but with the development of digital technologies, the idea has greatly extended.

Additionally, media is essential for social interaction and the spread of information. In addition to enabling audiences to actively engage in content production and sharing, it facilitates the quick dissemination of news, educational resources, and entertainment. New media differs from conventional, one-way communication platforms in that it is participatory. Research highlights that digital media environments foster engagement, collaboration, and networked communication among users (Jenkins et al., 2016; Sundar, 2020).

Concept of Social Media

Social media refers to digital platforms and technologies that enable users to create, share, and exchange information, ideas, and content in virtual communities and networks. It has become an essential part of modern communication, influencing how individuals interact, access information, and express them globally. It is web-based and mobile technologies—platforms like Facebook, Instagram, and X—that facilitate digital communication, allowing users to create, share, and consume content, including text, images, and videos.

As illustrated by Paljug, Katherine (2026), it refers to online platforms where users can share information and connect with virtual communities through text, video, photos, and other content. Over five billion people worldwide, or more than 68% of the world's population, were using social media as of 2025. This includes community forums like Reddit and Discord; social media sites like Facebook, Instagram, and TikTok; and messaging and chat apps or websites. As illustrated by Paljug, Katherine (2026), it refers to online platforms where users can share information and connect with virtual communities through text, video, photos, and other content. Over five billion people worldwide, or more than 68% of the world's population, were using social media as of 2025. This includes community forums like Reddit and Discord; social media sites like Facebook, Instagram, and TikTok; and messaging and chat apps or websites.

As noted by Kaplan and Haenlein (2020), it can also be defined as a group of internet-based applications that build on the ideological and technological foundations of Web 2.0, allowing the creation and exchange of user-generated content. This demonstrates how social media is participatory, with individuals acting as both content producers and consumers. Furthermore, according to Kietzmann. (2021), social media is characterized by functional building blocks such as identity, conversations, sharing, presence, relationships, reputation, and groups. These factors impact both personal and professional communication by influencing how people interact and participate across various channels.

Concept of Music Teachers

Music teachers refers to a trained professional who facilitates the teaching and learning of music through the development of students' cognitive, emotional, creative, and performance skills.A music teacher is in charge of fostering pupils' artistic expression, cultural awareness, and personal development. Recent research has shown that the job of the music teacher has changed dramatically from that of a typical instructor to that of a facilitator of student-centered education and creative learning.

According to Fautley (2024), the role of a classroom music teacher is highly complex, involving planning, delivering instruction, assessing learning, and managing practical music-making activities simultaneously. This demonstrates that in order to effectively instruct students, a music teacher needs to have both pedagogical and musical experience. Lessons are structured by the instructor to promote

involvement, creativity, and skill development. This demonstrates that in order to effectively instruct students, a music teacher needs to have both pedagogical and musical experience. Lessons are structured by the instructor to promote involvement, creativity, and skill development. Furthermore, Concina (2023) noted that effective music teacher involves multiple dimensions, including teaching competence, musical knowledge, adaptability, and the ability to respond to different learning contexts.

This suggests that teaching music involves more than just technical education; it also entails comprehending the requirements, motivations, and learning contexts of students. Yao and Li (2023) emphasized that even with the advancement of technology in music education, the role of the music teacher remains essential as a guide, mentor, and facilitator of meaningful musical experiences. Technology cannot completely replace the teacher's role in helping students interpret music, acquire new abilities, and connect emotionally with musical content

Moreover, Kadyrov (2024) explained that a modern music teacher must organize educational processes effectively to promote students' personal development and musical worldview. This highlights the importance of the teacher in shaping students' appreciation of music and its relevance in society. Recent perspectives also show that the identity of a music teacher is formed through a balance between being a musician and an educator. Long (2024) noted that music teachers develop their roles through continuous interaction between professional expectations and personal experiences. This indicates that music teaching is dynamic and influenced by both practice and reflection.

Types of Professional Development Programs for Music Teacher

For music educators to improve their pedagogical abilities, increase their musical proficiency, and adjust to changing curricula and educational technologies, professional development programs are crucial. Depending on their aim and style of delivery, these programs can be divided into several categories.

- **Workshops and short-term training programs**

Workshops and short-term training programs, which offer intense, concentrated learning experiences on certain subjects like instrumental techniques, classroom management, or music technology, are one important kind. Teachers can quickly update their expertise through these programs, which are frequently run by professional associations or educational institutions. Research indicates that workshops are effective in improving instructional strategies when they are practical and participatory (Bautista, 2017; Bauer, 2020).

- **Collaborative professional learning communities (PLCs)**.

Collaborative professional learning communities (PLCs) are another significant kind. Under this strategy, music educators collaborate on a regular basis to address instructional problems, reflect on teaching methods, and exchange experiences. PLCs promote ongoing development and peer learning. Studies show that collaboration among music educators enhances reflective practice and leads to better student outcomes (Higgins &Mantie, 2019; Vescio, 2016).

- **Formal academic programs**

Professional development is also greatly aided by formal academic programs. These consist of master's degrees, postgraduate certificates, and music instruction certification programs. These courses offer in-depth theoretical understanding and instructional strategies grounded in research. According to recent studies, formal education programs significantly improve teachers' pedagogical content knowledge and professional identity (Conway, 2019; Schmidt, 2020).

- **Online and digital professional development programs**

Online and digital professional development programs, which have grown in popularity because of their accessibility and flexibility, make up a fourth category. These include virtual conferences, webinars, and online courses that concentrate on topics like online teaching techniques and digital music production.

Research highlights that online professional development enables music teachers to access global resources and adapt to digital learning environments (Trust & Whalen, 2020; Dorfman, 2016).

- **Mentorship and coaching programs**

Programs for coaching and mentoring are additional efficient ways to advance your career. With this method, more seasoned music educators mentor less seasoned educators through assistance, critique, and observation. Mentoring promotes professional development and skill improvement. Studies emphasize that mentoring improves teaching confidence and classroom effectiveness among music teachers (Goodrich, 2018; Barrett, 2021).

- **Action research and reflective practice programs**

Last but not least, action research and reflective practice programs entail educators methodically examining their own pedagogical approaches in order to enhance practice. Teachers of music follow cycles of preparation, activity, observation, and introspection. Professional growth of this kind encourages critical thinking and ongoing self-improvement. Research shows that action research empowers teachers to make informed instructional decisions (Cain, 2019; Burnard & Dragovic, 2018).

Types of Social Media Programs Relevant to Music Teachers Professional Development

Because social media programs provide a variety of platforms for learning, collaboration, and content creation, they are becoming more and more important to music teachers' professional development. These programs can be divided into groups according to how they assist professional development and teaching.

- **Video-sharing programs**

Video-sharing websites like YouTube and TikTok are one significant kind. These sites give music educators access to teaching strategies, performance demonstrations, and tutorials. In order to facilitate peer review and reflective practice, educators can also upload their own instructional videos. Research shows that video-based platforms enhance skill acquisition and pedagogical understanding in music education (Bauer, 2018; Kaye, 2021).

- **Social networking programs**

Social networking sites, such as Facebook and LinkedIn, fall under another category. Music educators can share lesson plans, talk about difficulties, and share ideas in these professional communities and groups. Social networking sites encourage teamwork and ongoing professional development. Studies indicate that these platforms are effective in building professional learning networks and fostering knowledge sharing among educators (Trust et al., 2017; Carpenter, 2020).

- **Micro blogging programs**

Professional development is also greatly aided by micro blogging platforms like Twitter (X). They make it possible for music educators to follow instructional hash tags, take part in real-time conversations, and keep up with the latest findings and trends. Micro blogging promotes professional interaction and succinct knowledge sharing. Research highlights its usefulness in connecting educators globally and supporting informal learning (Greenhow & Lewin, 2016; Veletsianos, 2017).

- **Content creation and blogging programs**

Programs for blogging and content creation, like WordPress and Medium, make up a fourth category. These platforms allow music educators to share educational tools, write articles, and reflect on their teaching experiences. Blogging facilitates the formation of professional identities and reflective practice. According to studies, educators who engage in blogging demonstrate improved critical thinking and pedagogical awareness (Manca & Ranieri, 2016).

- **Collaborative and community-based platforms**,

Reddit, Quora, and specialized music education forums are examples of collaborative and community-based platforms that are pertinent. Teachers can ask questions, get advice, and take part in discussions with a large community of educators on these platforms. They encourage problem-solving and peer learning. Research suggests that such communities enhance collective knowledge and provide practical solutions to classroom challenges (Zhang., 2022).

- **live streaming and virtual meeting programs**

Finally, live streaming and virtual meeting platforms like Facebook Live, Zoom, and Instagram Live are now crucial for career advancement. For music educators, these resources make webinars, online master classes, and virtual workshops possible. They offer chances for immediate communication and worldwide involvement. Studies show that synchronous online learning environments improve engagement and professional skill development (Trust & Whalen, 2020).

Effects of Social Media on Music Teacher Professional Development

Social media has grown to be an important instrument that affects music educators' professional growth in various ways such as:

Changing how they communicate, access information, and enhance their methods of instruction. Depending on how it is used, it might have both beneficial and difficult consequences. Improved access to resources for professional learning is one significant impact. Music educators can find lesson plans, instructional videos, and tutorials on websites like YouTube, Facebook groups, and Twitter (X). Beyond formal training settings, this simple access to a variety of resources promotes ongoing learning. Studies indicate that social media expands opportunities for informal learning and helps teachers stay updated with current pedagogical trends (Trust., 2017; Greenhow & Lewin, 2016).

Additionally, social media helps people strengthen their technology and digital skills. Teachers become more adept in incorporating technology into music education by interacting with platforms that provide audio, video, and music production capabilities. In contemporary classrooms, when digital literacy is crucial, this is especially crucial. According to recent studies, teachers who actively use social media are more likely to adopt innovative teaching methods and digital tools (Tondeur., 2017; Trust, 2020).

METHODOLOGY

In carrying out this study, a descriptive survey design was adopted. The study was conducted in Akwa Ibom State. The target population consisted of all music teachers in Akwa Ibom State A stratified sampling technique was employed to select 50 music teachers from each of the three senatorial districts in Akwa Ibom State (Uyo, Eket, and Ikot Ekpene). This gave a total sample size of 150 respondents used for the study. Data were collected using a structured questionnaire titled *"Social Media and Music Teachers' Professional Development Questionnaire"* (SMMTPDQ). The instrument was validated by an expert in test, measurement, and evaluation to ensure its suitability and clarity. A reliability coefficient of 0.85 was obtained, confirming the reliability of the instrument. The data collected were analyzed using descriptive statistics to answer the research questions.

RESULTS AND DISCUSSIONS

Research Question 1: The research question sought to examine the types of social media programs relevant to music teacher's professional development. To answer the research question, percentage analysis was performed on the data (see Table 1).

Table 1: Percentage analysis of the types of social media programs relevant to music teacher's professional development

Types of social media programs	Frequency	%
Video-sharing programs	37	24.67**
Social networking programs	27	18.00
Micro blogging programs	25	16.67
Content creation and blogging programs	23	15.33
Collaborative and community-based platforms	16	10.67*
Live streaming and virtual meeting programs	22	14.67
TOTAL	**150**	**100**

****The highest percentage frequency**

***The least percentage frequency**

SOURCE: Field survey

The table 1 presents the percentage analysis of the types of social media programs relevant to music teacher's professional development. From the result of the data analysis, it was observed that the highest percentage (24.64) was recorded against "Video-sharing programs," while the least percentage (10.67) was recorded against "Collaborative and community-based platforms". The findings agree the opinion of Bautista (2017), who stated that workshops and short-term training programmes provide intensive and focused learning experiences on areas such as instrumental techniques, classroom management, and music technology. According to him, these programmes enable teachers to update their knowledge and improve their instructional skills effectively, especially when they are practical and participatory in nature. Similarly, Vescio (2016) affirmed that collaborative professional learning communities (PLCs) are another important form of professional development in which music educators interact regularly to discuss instructional challenges, reflect on teaching practices, and share professional experiences. Such collaboration promotes continuous professional growth, peer learning, and reflective practice, which ultimately contribute to improved teaching effectiveness and better student learning outcomes.

Research Questions 2:

The research question sought to identify the effects of social media on music teacher professional development. To answer the research question, percentage analysis was performed on the data (see Table 2).

Table 2: Percentage analysis of effects of social media on music teacher professional development

Effects of social media on music teacher	FRQ	%
Improvement in their communication	32	21.33
Hitch-free access to information	54	36.00**
Enhanced methods of instruction	16	10.67*
Strengthened technology and digital skills	48	32.00
TOTAL	**150**	**100**

** **The highest percentage frequency**

* **The least percentage frequency**

SOURCE: Field survey

Table 2 presents the percentage analysis of effects of social media on music teacher professional development. From the result of the data analysis, it was observed that the highest percentage (21.33) was recorded against "improvement in their communication," while the least percentage (10.67) was recorded against "Enhanced methods of instruction". The result agrees with the findings of Greenhow and Lewin (2016), which stated that social media has transformed the way teachers communicate, access information, and improve their instructional practices. According to him, platforms such as YouTube, Facebook groups, and Twitter (X) provide music educators with easy access to lesson plans, instructional videos, tutorials, and other professional learning resources, thereby promoting continuous learning beyond formal training environments. They further explained that social media expands opportunities for informal learning and enables teachers to stay updated with current pedagogical trends. Similarly, Trust (2020) affirmed that social media enhances teachers' technological and digital skills, as regular interaction with platforms that support audio, video, and music production tools helps educators become more competent in integrating technology into music instruction. This is particularly important in modern classrooms where digital literacy plays a significant role. Studies also show that teachers who actively engage with social media are more likely to adopt innovative teaching strategies and digital instructional tools.

Conclusion

In conclusion, social media serves as a valuable tool for enhancing the professional growth of music teachers in Uyo Urban Secondary Schools. Its effectiveness, however, depends on how well teachers are able to utilize these platforms in a focused, disciplined, and goal-oriented manner. Therefore, when appropriately integrated, social media can significantly improve music teachers' teaching competence and contribute to better student learning outcomes. Furthermore, social media supports continuous learning by enabling music teachers to engage in virtual communities, attend online training sessions, and access global best practices in music education. These opportunities enhance teachers' pedagogical knowledge, creativity, and ability to adapt to new teaching technologies. However, the study also highlights some challenges associated with social media use, including distractions, information overload, and potential breaches of professional ethics, which may hinder effective professional development if not properly managed.

Recommendations

Based on the findings of this study, the following recommendations are made:

1. Music teachers should actively engage with social media platforms such as YouTube, Facebook, and online forums to access instructional resources, collaborate with peers, and enhance their teaching skills.
2. Educational authorities and school administrators should organize training programs to guide music teachers on how to effectively and professionally use social media for learning and instructional purposes.
3. Music teachers should adopt professional ethics and digital responsibility when using social media to ensure that their online interactions reflect positive professional conduct and maintain their credibility.

REFERENCES

1. Barrett, M. S. (2021). Professional learning and the development of expertise in music teaching. *Research Studies in Music Education*, 43(2), 205–220.
2. Bauer, W. I. (2018). Music learning and technology. *Journal of Music Teacher Education*, 27(2), 54–67.
3. Bauer, W. I. (2020). *Music learning and teaching in the digital age*. Oxford University Press.

4. Bautista, A., Wong, J., &Gopinathan, S. (2017). Teacher professional development in music education. *Teaching and Teacher Education*, 66, 101–112.
5. Burnard, P., &Dragovic, T. (2018). Collaborative creativity in music teacher education.*Thinking Skills and Creativity*, 29, 1–13.
6. Cain, T. (2019). Action research in music education. *Music Education Research*, 21(2), 141–153.
7. Carpenter, J. P., Morrison, S. A., & Craft, M. (2020).Teachers' use of social media for professional learning.*Teaching and Teacher Education*, 95, 103160.
8. Concina, E. (2023). *The dimensions of effective music teaching: Skills, knowledge, and adaptability*. Education Sciences Journal, 13(2), 107.
9. Conway, C., Hibbard, S., Albert, D., &Hourigan, R. (2019).Professional development for arts teachers.*Arts Education Policy Review*, 120(3), 101–110.
10. Couldry, N., &Hepp, A. (2017).*The mediated construction of reality*.Polity Press.
11. Dorfman, J. (2016). Theory and practice of technology-based music instruction. *Oxford University Press*.
12. Fautley, M. (2024).*Assessment and pedagogy in classroom music teaching*.British Journal of Music Education.
13. Flew, T. (2018). *New media: An introduction* (5th ed.). Oxford University Press.
14. Goodrich, A. (2018). Peer mentoring in music teacher education. *Journal of Music Teacher Education*, 27(2), 15–28.
15. Greenhow, C., & Lewin, C. (2016). Social media and education. *Learning, Media and Technology*, 41(1), 6–30.
16. Higgins, L., &Mantie, R. (2019). Music education for social change. *Music Education Research*, 21(3), 245–257.
17. Jenkins, H., Ford, S., & Green, J. (2016). *Spreadable media: Creating value and meaning in a networked culture*. NYU Press.
18. Kadyrov, A. (2024). *Improving the professional competence of music teachers in modern education*. *Modern Journal of Social and Educational Sciences*.
19. Kaplan, A. M., &Haenlein, M. (2020). Users of the world, unite! The challenges and opportunities of social media. *Business Horizons*, 63(1), 3–11.
20. Kaye, D. B. V., Chen, X., &Zeng, J. (2021). The co-evolution of short video platforms. *Mobile Media & Communication*, 9(2), 229–253.
21. Kietzmann, J. H., Hermkens, K., McCarthy, I. P., & Silvestre, B. S. (2021). Social media? Get serious! Understanding the functional building blocks of social media. *Business Horizons*, 64(2), 241–251.
22. Kimmons, R., & Veletsianos, G. (2016).Teacher professionalization in the digital age.*Educational Technology Research and Development*, 64(2), 273–295.
23. Long, M. (2024). *Music teacher identity and professional development*. *International Journal of Music Education.*
24. Manca, S., & Ranieri, M. (2016). "Yes for sharing, no for teaching!": Social media in academic practice. *Internet and Higher Education, 29*, 63–74. https://doi.org/10.1016/j.iheduc.2015.12.004
25. Manca, S., &Ranieri, M. (2016). Facebook and the others: Potentials and obstacles of social media for teaching. *Computers & Education*, 95, 216–230.

26. paljug Katherine (2026) . Social Media: Definition, Importance, Top Websites, and Apps
27. Schmidt, P. (2020). Policy and the political life of music education. *Oxford University Press*.
28. Sundar, S. S. (2020). Rise of machine agency: A framework for studying human–AI interaction. *Journal of Computer-Mediated Communication*, 25(1), 74–88.
29. Tondeur, J., Scherer, R., Siddiq, F., &Baran, E. (2017).A comprehensive analysis of preservice teachers' ICT competencies. *Educational Technology Research and Development*, 65(3), 555–575.
30. Trust, T. (2020). Professional learning networks and the role of social media in education. *TechTrends, 64*(4), 1–8.
31. Trust, T. (2020). The role of social media in teacher professional development. *Computers & Education*, 148, 103770.
32. Trust, T., & Whalen, J. (2020). Should teachers be trained in emergency remote teaching? *Journal of Technology and Teacher Education*, 28(2), 189–199.
33. Trust, T., Krutka, D. G., & Carpenter, J. P. (2017). "Together we are better": Professional learning networks. *Computers & Education*, 102, 15–34.
34. Veletsianos, G. (2017). Three cases of educators' use of social media.*British Journal of Educational Technology*, 48(6), 1324–1336.
35. Vescio, V., Ross, D., & Adams, A. (2016).A review of research on professional learning communities. *Teaching and Teacher Education*, 24(1), 80–91.
36. Yao, J., & Li, X. (2023). *Technology and the evolving role of music teachers in education*. Frontiers in Psychology.
37. Zhang, Y., Zhao, K., &Xu, X. (2022). Knowledge sharing in online communities. *Information Processing & Management*, 59(2), 102833.
38. Zhukov, K. (2021). *Student perceptions of effective music teaching practices*. Frontiers in Education, 6, 802560.