

THE ASSISTANCE OF FLIPPED CLASSROOM BASED ON SELF-DIRECTED LEARNING THEORY FOR PUPILS' MUSIC LEARNING: A LITERATURE REVIEW

Zhu Qisen
Faculty of Education,
University Kebangsaan Malaysia, Selangor, Malaysia
Email p115780@siswa.ukm.edu.my

Nurfaradilla Mohamad Nasri
Faculty of Education,
University Kebangsaan Malaysia, Selangor, Malaysia
Email: nurfaradilla@ukm.edu.my

Khairul Azhar Jamaludin
Faculty of Education,
University Kebangsaan Malaysia, Selangor, Malaysia
Email: khairuljamiludin@ukm.edu.my

ABSTRACT

This literature review examines the impact of a flipped classroom based on self-directed learning theory on elementary school students' music learning. The research examines the characteristics of primary school students, the challenges they face in music learning, the application of self-directed learning theory in the classroom, and the benefits of implementing a flipped classroom model. The review includes 35 selected articles highlighting elementary students' curiosity, interest, and need for interactive and entertaining teaching methods. Challenges include a shallow understanding of music theory, memory and notation skills, collaboration, and emotional expression. The application of self-directed learning theory emphasizes supportive environments, goal setting, instruction, active participation, and assessment. The flipped classroom model provided personalized learning, more interaction, reflection, collaboration, and flexible time management. The study concluded that the model combining self-directed learning theory and the flipped classroom inspires enthusiasm, self-motivation, and a sense of achievement, while fostering independence, cooperation, creativity, and all-around development, thus improving students' music learning. Further research is needed to explore effective strategies and adaptations for successful implementation and to assess the impact of this approach on the music curriculum. The implementation of a flipped classroom based on self-directed learning theory not only enriches primary music education by providing students with engaging and effective learning experiences but also holds the potential to reshape the broader landscape of music education, influencing teaching methodologies and curriculum design across the discipline.

Keywords: Self-Directed Theory, Flipped Classroom, Music Teaching, Classroom Education, Pupil Learning

INTRODUCTION

Music class is an important music initiation program, which plays an important role in developing music interest as an initiation, but the modern primary school curriculum system often neglects music course education (Webber & Koops, 2022). The lack of music education can lead to the unbalanced development of students' moral, intellectual, physical, and aesthetic development and make students' quality education low (Guo, 2023), so the education of music class is not only important but also needs to be paid attention to. On the other hand, a primary school classroom is a combination of knowledge and fun, the physiological and psychological development of students in lower grades is immature and lacks learning initiative (Hou, 2023), and the lack of music teaching skills of teachers can also lead to primary school students being uninterested in music lessons (So, 2023), which needs to be improved in the way of teaching music courses.

The flipped classroom is a teaching model in which teachers revolutionize the traditional teaching structure by integrating information technology into classroom teaching. Traditional teaching is often a "duck-filling" teaching method, in which students only passively receive knowledge, lacking the joy of participation and exploration. The flipped classroom, on the other hand, guides students to make use of the Internet and other media resources to realize the process of independent learning, thus making learning more interesting. However, studies have shown that students need to spend a lot of time in order to complete the tasks required in the flipped classroom, which adds more burdens to them. Therefore, the flipped classroom puts higher demands on how to motivate students and their autonomy (Hao, 2018). Primary school was chosen as the sample for the study because of the special educational needs and opportunities at this stage to effectively test and develop students' self-directed learning skills, improve their academic achievement, and positively impact their future learning and lives.

In contrast, primary school students have relatively ample learning space, they are lively and active, happy to discover new things, and their classroom participation is significantly increased. Therefore, the primary school stage is the best time to carry out the experiment of the flipped classroom. In order to solve these problems, it is necessary to explore how to practice the flipped classroom in primary school music teaching, and to study the design of the specific teaching mode of the flipped classroom, the study of teaching practice, the preparation of learning materials, and the specific implementation of the significance of the flipped classroom. Firstly, it is necessary to analyze the necessity of implementing flipped classrooms in primary school music curricula. Secondly, the research status of flipped classrooms at home and abroad is investigated in depth, from which theoretical and

methodological insights are gained. Finally, the research method, research, and research significance of this paper are summarized and concluded (Luo, 2023). This study can contribute to providing an innovative teaching mode for primary school music teaching, to improve students' learning effect and interest, to inject a new guiding direction for teachers' teaching, and to explore a new direction for Internet education.

The aim of this study was to integrate the flipped classroom and self-directed learning theories in a targeted way in the primary school music curriculum in order to achieve the goal of improving students' music theory knowledge level and music literacy. The key objectives of the study include improving primary school students' music theory knowledge level, developing their self-directed learning skills so that they can benefit from independent learning and inquiry throughout their lives, and improving their music literacy, including the ability to appreciate, create, and express music. This study has significant educational value as the music program is crucial in primary education, but traditional educational methods have shortcomings and innovative approaches need to be introduced. Integrating the flipped classroom and self-directed learning theory is expected to bring new possibilities to music education, stimulate students' interest and motivation, and thus improve the quality of education and students' musical literacy. If the self-directed learning theory and the flipped classroom are successfully implemented, the following impacts will actually occur: to improve primary school students' theoretical knowledge of music, providing them with a solid foundation for their future music learning and creation; to develop students' self-directed learning skills, which will become a key competency for their lifelong learning, benefiting them in all disciplines; and to provide a more interactive and engaging music learning experience, which will inspire students to develop their music passion and develop their musical literacy.

METHODOLOGY

This paper adopted a literature review as a method. The literature review study follows the unique "Literature Review Synthesis Process" (Ibrahim, 2008). Themes were identified based on Ibrahim's research question's construct categorization technique for identifying three different RQ Constructs—"WHO", WHAT" and "HOW—to formulate research questions and keywords. In this research, WHO refers to pupil students, WHAT is music class learning, and HOW, means flipped classroom and self-directed learning theory. According to three RQ Constructs, there are three topics that can be defined to collect the articles: a) the characteristics of pupil students; b) the status of self-directed learning theory applied in class; c) the status of the flipped classroom for students learning. This study selected related articles under RQ Constructs. The search for relevant articles was conducted under these keywords: (pupil*) AND (student*) AND ("music class learning*" OR music OR "music class*" OR "music course*" OR "music study" OR "music learning" OR "music course* learning") AND ("flipped classroom" OR "flipped class") AND ("self-directed learning theory" OR "self-directed learning") through Google Scholar, Scopus, CNKI and Web of Science databases. After those titles were searched and abstracts screened among the whole research articles from 2010 to 2022, 135 articles were initially identified. The original literature was manually screened. Inclusion criteria were: (1) students aged under 14; (2) students learning music class; (3) Flipped classroom as a major assistance or intervention in learning course. Exclusion criteria were: (1) young students but not pupils; (2) School courses out of music. According to the two kinds of criteria, 35 articles were finally selected for this review through a detailed search inquiry. These articles are reviewed according to the identified topics: a) the characteristics of pupil students; b) the status of self-directed learning theory applied in class; c) the status of the flipped classroom for students' learning.

RESULTS AND DISCUSSION

The following themes were presented and discussed:

a) Characteristics of primary school pupils and the problems they encounter in learning music lessons

The characteristics of primary school students are diverse. Firstly, they exhibit curiosity and a strong desire to explore new things, including a keen interest in music and a willingness to experiment with different musical styles and instruments (Xue, 2023). Moreover, primary school students demonstrate strong learning abilities, quickly acquiring fundamental music knowledge and skills, resulting in a commendable performance in music courses (Wan, 2023). Their energetic and dynamic nature is evident in music lessons, where they display high levels of enthusiasm, motivation, and concentration (Su, 2023). However, primary school students thrive on interactive and engaging music learning experiences. Traditional approaches that focus on music theory and analytical aspects may prove dull for them (Zhu, 2023). Incorporating interactive and entertaining methods such as music games, song creation, group singing, and joyful dancing enhances their enjoyment of the learning process and improves its effectiveness.

Primary school students encounter several challenges in learning music. Firstly, their understanding of music theory concepts and terminology may be relatively shallow, necessitating additional explanations and demonstrations (Zhu, 2021). They also need to improve memory and notation skills through practice and repertoire memorization, crucial for instrumental performance and dance (Zhu, 2021). Developing cooperation and communication skills is vital for participating in choruses or orchestras, where students learn to listen and follow instructions from conductors (Ji, 2023). Expressing emotions effectively through music is another aspect that primary school students need to develop, as music is an art form that conveys emotions and feelings (Ji, 2023). Furthermore, cultivating music appreciation, including different genres such as classical and popular music, broadens their musical horizons (Ji, 2023). Effective time management becomes essential for primary school students who juggle multiple subjects and extracurricular activities alongside music lessons, ensuring sufficient practice time (Yang, 2023). Building self-confidence in music is crucial, as some students may lack belief in their musical talents. Teachers can support them through encouragement and positive feedback (Yao, 2023).

b) Application and Current Status of Self-Direction Theory Theory in the Classroom

Self-direction theory emphasizes the importance of creating supportive learning environments to foster students' intrinsic motivation (Beach, 2017). Teachers can encourage students to share their opinions, provide choices and autonomy, and listen to and respect their views, which increases motivation and enthusiasm (Beach, 2017). Setting challenging and feasible goals is also crucial in stimulating intrinsic motivation (Li & Ogata, 2021).

Self-directed learning theory highlights active student participation, decision-making, self-evaluation, and the development of learning strategies (Yusuf & Istiyono, 2021). Teachers can promote self-directed learning by providing clear objectives and guidance, offering learning resources and tools, and encouraging active participation through group discussions and problem-solving (Linkous, 2021; Ginzburg & Schwartzstein, 2021). Assessment and feedback mechanisms play a vital role in promoting self-directed learning, allowing students to understand their progress and make adjustments based on feedback (Zhu, 2021).

Heuristic teaching methods can stimulate students' curiosity and desire to learn, encouraging independent inquiry and choice-making (Doo & Bonk, 2023). Students are empowered to select tasks, resources, and learning styles to fulfill their need for autonomy (Doo & Bonk, 2023). The implementation of self-directed theory requires ongoing teacher professional development and support from educational policies (Lemmetty & Collin, 2021). Teachers must continuously enhance their teaching abilities and acquire the necessary knowledge and skills, while policies should provide training and support for implementing self-directed approaches (Lemmetty & Collin, 2021).

In summary, self-direction theory provides a framework for promoting intrinsic motivation and autonomy. Its application in the classroom creates positive and supportive learning environments, fostering student motivation and engagement. However, specific strategies must be tailored to different age groups, subjects, and educational settings to achieve optimal results (Lemmetty & Collin, 2021). Teachers need to design and implement appropriate teaching strategies aligned with their students' characteristics and needs to effectively utilize self-directed theory in practice.

c) Flipped classrooms address the current state of student learning

Flipped classrooms, combining innovative teaching strategies, have gained recognition as a form of blended learning (Caner, 2012; Eryilmaz, 2015; Radia, 2019). In this model, instructors provide immersive, high-level exercises, such as team meetings and problem-solving activities, through virtual learning videos or notes for students to engage with outside of class (Hava et al., 2018; Jovanovic et al., 2019; Tütüncü et al., 2018). Flipped classrooms, also known as reverse classrooms, interchange activities typically conducted in the classroom and outside of it (Davies et al., 2013; Kim et al., 2014). Scholars argue that flipped classrooms should include computer-based instruction for out-of-class learning and immersive social experiences within the classroom (DeLozier et al., 2017; Hwang et al., 2015; Moffett, 2015).

The advantages of flipped classrooms are noteworthy. Firstly, learners have individual control and organization over their learning processes, allowing for flexibility and increased active participation (Kim et al., 2014; Lai et al., 2016; O'Flaherty et al., 2015). Secondly, interactions between teachers and students become more engaging, enhancing classroom relationships and reducing passive lecture time (Adnan, 2017; Amiryousefi, 2019; Zou et al., 2018). By providing sufficient time for reflection and teamwork, flipped classrooms positively impact academic performance (Thai et al., 2017; Zainuddin et al., 2016).

Flipped classrooms address several shortcomings of traditional music teaching. Firstly, traditional approaches overemphasize memorization of musical knowledge and skills, neglecting the development of musical appreciation and creativity (Giménez & Porlán, 2017). Students mechanically repeat memorized information without a deep understanding or emotional connection to music. Secondly, traditional primary school music teaching often disregards individual student differences, using a one-size-fits-all approach that fails to meet their diverse needs and hampers interest and outcomes (Wan & Meng, 2020). Additionally, the evaluation methods in traditional music teaching centered on performance and memorization, fail to comprehensively assess students' abilities in music appreciation, composition, and performance (Wu Hao, 2021). Overreliance on exams and grading fosters competition and pressure, which can dampen students' passion for music and active participation. Addressing these issues requires a shift in teaching approaches, emphasizing music appreciation and creativity, and adopting diversified evaluation methods to accommodate individual strengths and interests (Zhao, 2021).

CONCLUSION

Although the flipped classroom model is widely used in many areas of education, it is relatively rare in music courses, which sparked our interest in delving into how the flipped classroom can be combined with self-directed learning theories to address potential challenges. This study aims to integrate the flipped classroom and self-directed learning theories in a targeted way in the primary school music curriculum in order to achieve the goal of improving students' music theory knowledge level and music literacy. Based on the previous literature review, the flipped classroom model is widely recognized as a way of integrating online and offline learning, but in music courses, students often face a lack of systematic guidance when learning independently online, so we aimed to investigate how to maximize the potential of the flipped classroom, particularly in music education, by incorporating self-directed learning theory to provide more systematic and tailored learning support to students to help them to better self-directed learning and improve learning outcomes in music programs. The multiple benefits of self-directed learning theory and the flipped classroom model in primary school music teaching include motivation, self-motivation, improved learning outcomes, and a sense of achievement, as well as the development of independent learning, inquiry skills, collaboration, and creativity. The implementation of these teaching methods has positive implications for improving the quality of primary school music education

and promoting the all-round development of students. The findings of this study emphasize the benefits of the self-directed learning theory and the flipped classroom model in primary school music teaching. Although the autonomy theory is not commonly used in music education, it emphasizes the development of independent learning and motivation among students so that they actively participate in the learning process according to their interests and abilities. This approach motivates and self-motivates students and enhances their learning outcomes and sense of achievement. In addition, the flipped classroom model brings a transformative change to traditional teaching methods by shifting the focus of learning from the classroom to the home. Students develop independent learning and inquiry skills by engaging in pre-recorded explanatory videos and learning materials. Class time is then devoted to practice, exercises, and increased student-teacher interaction, resulting in more effective teaching and learning. The flipped classroom also fosters collaboration and creativity among students through independent learning and group work, promoting teamwork and communication skills. Independent learning and creative task assignments further stimulate students' creativity, imagination, and musical expression. In conclusion, the benefits of independent learning theory and the flipped classroom model in primary school music teaching are manifold. They not only motivate and self-motivate students, improve learning outcomes and a sense of achievement, but also foster independent learning, inquiry skills, cooperation, and creativity. Although the limitation of this study is a case study in China, the implementation of these teaching methods is of positive significance in improving the quality of primary school music education and fostering the all-round development of students.

REFERENCE

- Adnan, M. (2017). Perceptions of senior-year elt students for flipped classroom: a materials development course. *Computer Assisted Language Learning*, 30(3), 204-222. <https://doi.org/10.1080/09588221.2017.1301958>
- Amiryousefi, M. (2019). The incorporation of flipped learning into conventional classes to enhance efl learners' l2 speaking, l2 listening, and engagement. *Innovation in Language Learning and Teaching*, 13(2), 147-161. <https://doi.org/10.1080/17501229.2017.1394307>
- Beach, P. (2017). Self-directed online learning: A theoretical model for understanding elementary teachers' online learning experiences. *Teaching and Teacher Education*, 61, 60-72.
- Caner, M. (2012). The definition of blended learning in higher education. In S. Ferebee, A. Heinze, N. Labropoulos, H. Lukosch, F. Mossavar-Rahmani, T.-T. Goh, & T. Zeng (Eds.), *Blended learning environments for adults: Evaluations and frameworks* (pp. 19-34). IGI Global. <https://doi.org/10.4018/978-1-4666-0939-6.ch002>
- Davis, D. D. R., & Elam, T. L. (2013). Neutral Means InnoFensive and Detached. *Education*, 701, B10.
- DeLozier, S. J., & Rhodes, M. G. (2017). Flipped classrooms: a review of key ideas and recommendations for practice. *Educational Psychology Review*, 29(1), 141-151. <https://doi.org/10.1007/s10648-015-9356-9>
DOI: 10.1080/01587919.2021.1956302
- Doo, M. Y., Zhu, M., & Bonk, C. J. (2023). Influence of self-directed learning on learning outcomes in MOOCs: A meta-analysis. *Distance Education*, 44(1), 86-105. DOI: 10.1080/01587919.2022.2155618
- Eryilmaz, M. (2015). The effectiveness of blended learning environments. *Contemporary Issues in Education Research (CIER)*, 8(4), 251-256. <https://doi.org/10.19030/cier.v8i4.9433>
- Evans, B. J., Baker, R. B., & Dee, T. S. (2016). Persistence patterns in massive open online courses (moocs). *The Journal of Higher Education*, 87(2), 206-242. <https://doi.org/10.1080/00221546.2016.11777400>
- Giménez, F. J. P., & Porlán, I. G. (2017). Implementación y análisis de una experiencia de flipped classroom en Educación Musical. *Innoeduca. International Journal of Technology and Educational Innovation*, 3(1), 4-14.
- Ginzburg, S. B., Santen, S. A., & Schwartzstein, R. M. (2021). Self-directed learning: a new look at an old concept. *Medical Science Educator*, 31, 229-230. DOI: 10.1007/s40670-020-01121-w
- Guo Yulu. (2023). The role and effective methods of moral education in primary school music teaching. *New Campus* (06), 76-77.
- Hao, X. (2018). Feasibility analysis on the application of" flipped class" teaching mode to music teaching in colleges and universities. In 2018 4th International Conference on Economics, Social Science, Arts, Education and Management Engineering (ESSAEME 2018) (pp. 481-485). Atlantis Press.
- Hava, K., & Gelibolu, M. F. (2018). The impact of digital citizenship instruction through flipped classroom model on various variables. *Contemporary Educational Technology*, 9(4), 390-404. <https://doi.org/10.30935/cet.471013>
- Hou Wenling. (2023). Exploration of effective ways of choral teaching in primary school music teaching. *Test and Research* (09), 117-119.
- Hwang, G.-J., Lai, C.-L., & Wang, S.-Y. (2015). Seamless flipped learning: a mobile technology-enhanced flipped classroom with effective learning strategies. *Journal of Computers in Education*, 2(4), 449-473. <https://doi.org/10.1007/s40692-015-0043-0>
- Ji Huijuan. (2023). The exploration of aesthetic education in elementary music teaching. *Elementary students* (bi-monthly) (05), 145-147.
- Jovanovic, J., Mirriahi, N., Gasevic, D., Dawson, S., & Pardo, A. (2019). Predictive power of regularity of pre-class activities in a flipped classroom. *Computers & Education*, 134, 156-168. <https://doi.org/10.1016/j.compedu.2019.02.011>
- Kim, M. K., Kim, S. M., Khera, O., & Getman, J. (2014). The experience of three flipped classrooms in an urban university: An exploration of design principles. *Internet and Higher Education*, 22, 37-50. doi:10.1016/j.iheduc.2014.04.003
- Kim, M. K., Kim, S. M., Khera, O., & Getman, J. (2014). The experience of three flipped classrooms in an urban university: an exploration of design principles. *The Internet and Higher Education*, 22, 37-50. <https://doi.org/10.1016/j.iheduc.2014.04.003>
- Lai, C.-L., & Hwang, G.-J. (2016). A self-regulated flipped classroom approach to improving students' learning performance in a mathematics course. *Computers & Education*, 100, 126-140.
- Lemmetty, S., & Collin, K. (2021). Self-directed learning in creative activity: An ethnographic study in technology-based work. *The Journal of Creative Behavior*, 55(1), 105-119. DOI: 10.1002/jocb.438

- Li, H., Majumdar, R., Chen, M. R. A., & Ogata, H. (2021). Goal-oriented active learning (GOAL) system to promote reading engagement, self-directed learning behavior, and motivation in extensive reading. *Computers & Education*, 171, 104239. DOI: 10.1080/10494820.2021.1937660
- Linkous, H. M. (2021). Self-Directed Learning and Self-Regulated Learning: What's the Difference? A Literature Analysis. *American Association for Adult and Continuing Education*.
- Luo Zhenyan. (2023). An analysis of problems and optimization strategies in primary school music teaching... (eds.) *Proceedings of the Sixth Teaching Symposium of Guangdong Teachers' Continuing Education Society (I)* (pp. 965-967).
- Luo, W. (2023). Online distance music teaching platform based on Internet Plus. *International Journal of Information and Communication Technology*, 22(1), 73-88.
- Moffett, J. (2015). Twelve tips for "flipping" the classroom. *Medical teacher*, 37(4), 331-336. <https://doi.org/10.3109/0142159X.2014.943710>
- O'Flaherty, J., & Phillips, C. (2015). The use of flipped classrooms in higher education: A scoping review. *The Internet and Higher Education*, 25, 85-95.
- Radia, B. (2019). Approaching a reading course via moodle-based blended learning: efl learners' insights. *Modern Journal of Language Teaching Methods (MJLTM)*, 9(11), 1-12. <https://doi.org/10.26655/mjltm.2019.11.1>
- Shih, H.-c. J., & Huang, S.-h. C. (2019a). College students' metacognitive strategy use in an EFL flipped classroom. *Computer Assisted Language Learning*, 32(1), 1-30. <https://doi.org/10.1080/09588221.2019.1590420>
- So wamy. (2023). Primary school music teaching strategies are based on the cultivation of core literacy. *Intelligence* (07),13-16.
- Su Mingfei. (2023). An Introduction to Primary School Music Teaching Strategies in the Context of the New Curriculum. (eds.) *Proceedings of the Sixth Teaching Seminar of the Guangdong Teachers' Continuing Education Society (I)* (pp. 1194-1195).
- Thai, N. T. T., De Wever, B., & Valcke, M. (2017). The impact of a flipped classroom design on learning performance in higher education: looking for the best "blend" of lectures and guiding questions with feedback. *Computers & Education*, 107, 113-126. <https://doi.org/10.1016/j.compedu.2017.01.003>
- Tütüncü, N., & Aksu, M. (2018). A systematic review of flipped classroom studies in turkish education. *International Journal of Social Sciences and Education Research*, 4(2), 207-229. <https://doi.org/10.24289/ijsser.405647>
- Wan Yuan Yuan. (2023). Attempts to Innovate Primary School Music Teaching Methods under the Background of the New Curriculum. (eds.) *Proceedings of the Shanghai Sub-Forum of the 2023 Smart City Construction Forum* (pp. 203-204).
- Wan, S., & Meng, S. (2020). Music Flipped Classroom Teaching Mode Under the Background of the Internet. In *Frontier Computing: Theory, Technologies, and Applications (FC 2019)* 8 (pp. 1596-1601). Springer Singapore.
- Webber, S. C., & Koops, L. H. (2022). "A Piece of Normal Life When Everything Else is Changed" Remote Early Childhood Music Classes and Toddler Socialization. *Early Childhood Education Journal*, 1-12.
- Wu Hao. (2021). Exploration and reflection on the application of flipped classroom in primary school music teaching. *Basic Education Forum* (14), 76-77.
- Xue Yuan. (2023). Research on the current situation and reform ideas of primary school music teaching. *Tian Tian Loves Science (Research on Teaching)* (02),120-121.
- Yang Mengdie. (2023). Problems and Countermeasures of Multimedia Information Technology Applied in Primary School Music Teaching. *Intelligence*, 11, 24-27.
- Yao Feng (2023). Improving the efficiency of primary school music teaching through classroom interaction. *Elementary School Students (Mid-Monthly Edition)*, (03), 115-117.
- Yusuf, I., Widyarningsih, S. W., Prasetyo, Z. K., & Istiyono, E. (2021). The analysis of self directed learning (SDL) through Rasch modeling: Case study on prospective teachers during the use of e-learning with HOTS-oriented in the period of Covid-19 pandemic. In *AIP Conference Proceedings (Vol. 2330, No. 1)*. AIP Publishing.
- Zainuddin, Z., & Halili, S. H. (2016). Flipped classroom research and trends from different fields of study. *International Review of Research in Open and Distributed Learning*, 17(3), 313-340. <https://doi.org/10.19173/irrodl.v17i3.2274>
- Zhang Yanxia. (2023). Happy Classroom--Thinking about Primary School Music Teaching under the New Curriculum. *Test and Research* (16), 182-184.
- Zhao, Qufei (2021). The Application of Flipped Classroom in Higher Education Music Teaching: A Review of "Exploration of Higher Education Music Teaching". *Science and Technology Management Research*, 19, 227
- Zhu Hongxia. (2023). The method of primary school music teaching stimulates students' thinking innovation. *New Curriculum Teaching (Electronic Edition)* (02),118-119.
- Zhu Sasha. (2021). Exploration and reflection on the application of flipped classroom in primary school music teaching. (eds.) *2021 Proceedings of the Annual Conference on Educational Sciences Webinar (next)* (pp. 1032-1034).
- Zhu, M. (2021). Enhancing MOOC learners' skills for self-directed learning. *Distance Education*, 42(3), 441-460.
- Zou, D., Xie, H., & Wang, F. L. (2018). Future trends and research issues of technology-enhanced language learning: a technological perspective. *Knowledge Management & E-Learning: An International Journal*, 10(4), 426-440. <https://doi.org/10.34105/j.kmel.2018.10.026>