

The Role Of Music In Enhancing Motivation For Education Among Children With Special Needs From The Point Of View Of Teachers

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Abstract

This investigation explored the role of music in enhancing motivation for education among children with special needs from the point of view of teachers in Amman. The descriptive approach was used in establishing the study's theoretical foundation. A structured questionnaire was developed as a primary instrument for collecting data from 25 teachers, who were selected purposefully after conducting research with the directorate of education in Amman on teachers who use music in classes with students with special needs. The results indicated strong agreement among teachers regarding the positive impact of music integration in various aspects of art education, including planning and goal setting, training and development, the role of teachers, and the development of creativity and cognition. The findings showed that the gender factor affects the teachers' views, as female teachers believe that music can be used as a source of motivation to teach and encourage students with special needs. On the other hand, the years of experience seem to have less effect on the teachers' views toward using music as a method of motivation for students with special needs.

Keywords: students with special needs, music education, musical games, teachers.

1. Introduction

Art education plays an important role in promoting the all-round development of students, especially in terms of their cognition and creativity. It provides a platform for self-expression, imagination, and critical thinking, enabling students to explore and communicate ideas through various artistic forms (Guo et al.,

2020). In the early stages of education, art education holds greater importance as it lays the foundation for students' future artistic development and nurtures their cognitive and emotional development. Cognition and creativity are fundamental aspects of art education that contribute to students' comprehensive artistic expression and understanding. Perception refers to the process of interpreting and understanding sensory information, while creativity involves generating original thoughts, ideas, and expressions (Sæther, 2020). Both cognition and creativity are closely intertwined and mutually reinforcing. By enhancing cognition, students develop a deeper understanding of and art appreciation, while nurturing creativity enables them to approach art with authenticity and innovation. To enrich the arts education experience, researchers have explored the potential benefits of incorporating music as an educational tool (Conway, 2023). Music, with its unique ability to evoke emotion, capture narrative, and create a multi-sensory experience, has been found to enhance learning outcomes and stimulate creativity across various academic disciplines.

The childhood stage is of special importance because it constitutes the basic foundation upon which the individual's future is built through the possibility of predicting his personality characteristics based on the early experiences that were presented to him in his life. After all, childhood represents the cornerstone of the structure of the individual's personality and emotional stability, as well as his social relationships, which are affected by the environment (Sajjani et al., 2020). And the pattern of education in which he grows up until he becomes an individual with his potential in society. The studies that dealt with raising a child have unanimously agreed that the development and development of the child's skills should be through the use of educational games, but at the same time, it requires good planning, gradual selection of different activities, careful selection, and good follow-up of the child (de la Mora Velasco & Hirumi, 2020). Therefore, decision-makers in the educational process must be established by the educational philosophy and developmental characteristics of children. It must also be aware of its role when using play with children, and it must realize the basic role of play in the child's life and his development and learning.

The benefit of games and music goes beyond their purely educational importance, as they include various aspects of

personality development that address the child's sense of personal competence (Berasategi Sancho et al., 2022). These planned experiences aim to develop the child's sense of achievement, which leads to an increase in his self-esteem and abilities and works to push him to be proactive and creative, because these experiences that he loves give him a set of mental, sensory, motor, emotional, social, and educational skills that work to help him employ them independently and automatically, away from guidance (Shaw & Mayo, 2022). The participation of children with special needs in the process of playing itself leads to interaction through relationships with others that arise from playing these games. Self-esteem comes through experiences of success and learning all kinds of group play. Thus, it becomes clear that playing games with their broad activities works to expand the child's circle of knowledge and makes him able to establish relationships with others and build real knowledge (Alam & Mohanty, 2023).

1.1. Problem statement

Art education plays an important role in developing students' cognition and creativity, providing them with opportunities to explore their imagination, express themselves, and appreciate different forms of artistic expression. However, traditional teaching methods in art education may have some limitations that hinder the full realization of students' artistic potential. Therefore, there is a need to explore alternative approaches that can enhance the teaching and learning experience in art education. One potential avenue for improvement is to incorporate music as a teaching tool in art classrooms. Music has unique qualities that can stimulate emotions, engage the senses, and enhance creativity. By incorporating music into art education, teachers can create a multi-sensory learning environment that enhances students' perception and creative thinking abilities. Despite the potential benefits, there is a lack of comprehensive research that specifically examines the impact of using music as an educational tool in education for students with disabilities in public schools in Amman, Jordan. Understanding the impact of this approach from the teachers' perspective is crucial to evaluating its applicability and effectiveness in the local educational context. Music has been found to elicit emotional responses that can deepen students' understanding of and connection to art. Furthermore, the rhythmic patterns and harmony in music stimulate neural pathways associated with creativity and imaginative thinking.

1.2. Questions of the study

- 1- What is the role of music in enhancing motivation for education among children with special needs from the point of view of teachers in Amman?
- 2- Are there differences in the teachers' perspectives toward using music in enhancing motivation for education among children with special needs according to gender and years of experience?

1.3. Significance of the study

This study helps direct the attention of educators and teachers to implementing educational and musical games that develop the mental, physical, and emotional aspects of the child. Educational and musical games are important for developing social communication skills. The results might benefit teachers from educational situations based on musical and educational games and achieve their goals. The results show the importance of developing creativity and critical thinking skills by using music education, which is an important field for developing students' creativity and critical thinking skills. Using music as an educational medium contributes to developing students' abilities to think critically and innovate by working with artistic and musical elements.

1.4. Study limitations

The study was conducted in several public schools in the Capital city of Amman, Jordan. The participants only included teachers of Art and Music, who teach students with disabilities directly. The study was applied in the first semester of the school year 2021-2022.

2. Literature review

The interest in musical education in many developed countries has become an enjoyable way for children to gain comprehensive development, especially the kindergarten stage, because this stage is considered the basis for educational construction in general, as it prepares the individual for life, and prepares him for a homogeneous and integrated social pattern and thought, and this entails a role that through it, some musical activities can be used properly to carry out this function, such as using musical games (Bonneville-Roussy et al., 2020). These activities develop musical

skills and also develop educational skills and values. Music education generally aims to develop social, religious, and national awareness, achieve global understanding through children's appreciation for people's music, and develop the ability to have artistic, aesthetic, and moral appreciation in general. It also enhances the spirit of cooperation, integration, and a sense of the value of teamwork through the importance of the individual to the group and vice versa through musical activities (Zarza-Alzugaray et al., 2020). Music develops practical skills that contribute to the development of all areas of the arts and practical activities and emphasizes the practice of positive attitudes, such as the tendency toward manual labour.

Musical games are one of the most important and effective ways to influence a child. In addition, this type of musical activity is one of the most important arts that works to build the child's personality in all its aspects, as it varies in its content, tools, and methods. Some of them are performed individually and some are performed collectively. Its importance can be shown through a presentation (Nasritdinova, 2021). Relying on games is a typical method because it covers the needs of children. Games best suit the child's innate needs, respond to his nature, and work to prepare him for mental awareness. Consequently, the modern view of musical education has become the use of musical games (Mayer-Benarous et al., 2021). Educational musical games can provide musical information required for the feeling of the rise or fall of the melody and expressing that with movement, or a feeling of rhythmic unity, and many different musical concepts. There are also some musical games in which the child can recognize which cover musical sounds or their names, and others with an educational purpose

Musical education aims to achieve a set of educational and pedagogical goals, such as unleashing the child's nervous energy to reduce stress and is considered a treatment for situations of frustration that the child witnesses (Blasco-Magraner et al., 2021). It teaches the child some different motor skills, such as jumping and walking correctly, to acquire the skill of motor coordination between the hands and feet. It teaches the child musical information in a fun way, such as feeling the musical elements, perceiving them, and then expressing them and developing the ability to imagine and innovate (Leibl, 2014). The child gets used to group participation and good integration with others. It helps

understand the world of childhood and shapes the child's personality, especially in the kindergarten stage. It is considered an area for the child's psychological and social development and attracts the child to school because it spreads a feeling of happiness and joy in school life (Asmus, 2021). It helps the child to express his feelings and motivations and translate them into expressive activity.

The teacher must work to provide an environment that encourages learning, with the necessity of having group play activities, such as role-playing, where play is intentionally included at the core of the curriculum while providing a quality educational environment (Guo et al., 2020). Observation and monitoring are considered one of the most important tools for educational evaluation and diagnosis, especially in the early education stage, because play is considered an expressive function that allows the teacher to interpret the child's behaviour while playing, which helps her form a general picture of the child from all aspects (Sæther, 2020). The teacher intervenes in play activities with specific goals, such as teaching a skill or clarifying information, and thus she intervenes to correct language and behaviour if the child becomes frustrated.

Motivation is an intrinsic force that stimulates an individual's behaviour and direction to achieve a specific goal, which makes him feel the need for it and sense its material or moral importance (Sajjani et al., 2020). Motivation is an internal stimulus that stimulates the individual's behaviour and directs him to reach a specific goal. It is a desire within an individual that drives him to perform or act in some way. Motivation is the force that drives individuals to perform their work. Individuals with high motivation try to reach the maximum level of performance permitted by their energies, while the level of performance decreases among individuals with low motivation.

Students with special needs are not expected to succeed due to previous experiences of failure and frustration. Therefore, teachers of this group must have good knowledge of the methods of stimulating motivation to learn. Teachers can use reinforcement effectively, which means providing positive experiences, events, or things immediately after the behaviour occurs, which leads to an increase in the probability of that behaviour occurring (Berasategi Sancho et al., 2022). The teachers can increase experiences of success and reduce experiences of failure. Success is the key to

feeling adequate and thus leads to increased motivation, while failure causes frustration and perhaps self-doubt. Teachers should also determine appropriate educational goals (Shater et al., 2023). Stimulating student motivation through goals requires choosing realistic goals that can be achieved. In using music for education, teachers should divide educational tasks by dividing the educational material into small units, making the first step relatively simple, clarifying what is required of the student, and ensuring that he understands the information. Involving the student in decision-making is another important factor (Alkhawaldeh & Khasawneh, 2023). The student must express his inclinations, needs, and interests. Nothing reduces a person's motivation like feeling weak. Providing the appropriate educational climate by the teacher and the school is vital for students with special needs. The nature of the educational climate affects the student's motivation, as an interesting classroom environment is more capable of stimulating motivation.

Previous studies

Rose et al. (2018) investigated musical learning results in a kid with advanced special education needs. At the beginning of the trial, CB, an 8-year-old boy, was diagnosed with comorbid autistic spectrum disorder, dyslexia, dyspraxia, attention deficit hyperactivity disorder, and sensory processing issues. He received an average IQ and a good score for musical talent. On examinations of his motor skills, executive function, and social-emotional ability, however, he received low results. Although teacher and parent assessments indicated a worsening in CB's social-emotional functioning, post-testing showed increases in his motor abilities and fluid intelligence. Additionally, his musical growth was strong.

Sutela et al. (2020) carried out a study within the framework of a special school's music curriculum. The first author delivered additional lessons (one session per week) to a set of students ($n = 13$) as part of a teaching experiment, which yielded the results. The courses covered a variety of activities, including body percussion exercises, relaxation techniques, fast response and follow exercises, and movement-based singing. The information is contained in instructional videos, a study journal, and interviews with educators, teaching assistants, therapists, and special education specialists. According to the study, including movement and music in a music classroom provides opportunities for

nonverbal embodied connection, which in turn fosters students' agency and autonomy growth primarily via the development of their bodies and social skills.

Lee and Li (2016) explored the effects of using music activities in a multimodal learning environment on the development of pleasant emotions and other developmental domains in a child with multiple impairments. Purposive sampling was used to choose a three-year-old kid with several difficulties for the study. This was a twelve-week study that met in groups once a week for fifty minutes each. Four observations were made before the official instruction to ascertain the participant's present state. To evaluate the outcomes, both qualitative and quantitative methodologies were applied. The results demonstrated the beneficial effects of incorporating music activities into multisensory environments on enhancing good feelings in participants.

Gorbunova and Plotnikov (2020) explored the issues with using ICT tools—including MCT technologies, as the authors characterize them—for students' growth in modern general music instruction. Given the current state of technological advancement and societal growth, ICT tools are essential and among the most popular trends in general music teaching. These resources are essential for promoting creativity, learning, and self-education in areas that are indirectly related to music (theatre, choreography, illustration, music videos), and active forms of musical activity (singing, playing instruments, composing, reassembling music, etc.). The document details the experience of instructing schoolchildren based on their training that is connected to the educational project's music, either directly or indirectly.

3. Methodology

The descriptive approach was used in establishing the study's theoretical foundation, preparing instruments, and collecting and analyzing information and data through studying literature and previous studies related to the subject of the study.

3.1. Sampling

The participants of this study were 25 teachers, who were selected purposefully after conducting research with the directorate of education in Amman on teachers who use music in classes with students with special needs. The teachers' approval to be part of

this study was obtained for ethical consideration. The following table presents the data on the participants.

Table 1. Demographic data on the participants

Variable	Category	Frequency	Percentage %
Gender	Male	8	32%
	Female	17	68%
Academic stage	Less than 5 years	5	20%
	5-10 years	6	24%
	More than 10 years	14	56%
Total		25	100%

3.2. Instrument of the study

The study instrument was developed by referring to theoretical literature and previous studies examining the effect of using music as an educational medium on enhancing the motivation level of learning and creativity among students with special needs in the early stages. A structured questionnaire was developed as a primary instrument for collecting data for the study. The questionnaire consisted of 45 items, distributed over four dimensions: (planning and setting goals, which consisted of 10 items; training and development, which consisted of 12 items; the role of teachers and the teachers' point of view, which consisted of 12 items; and developing creativity and the level of motivation, which consisted of 11 items.

The validity of the study instrument was confirmed by presenting it to ten judges, including researchers, supervisors, and workers in the Curriculum Management Department at the Ministry of Education. Their opinions and comments were taken into account regarding the suitability of the questionnaire paragraphs in terms of their clarity and accuracy. Amendments were made to the questionnaire after it was reviewed, according to what the arbitrators recommended, in terms of deleting some paragraphs, dimensions, merging, or reformulating. The Cronbach alpha coefficient and the test-retest were used to check the reliability of the questionnaire items. The correlation coefficient was calculated as shown in the following table.

Table 2. Cronbach's alpha correlation coefficient for the dimensions of the instrument

Dimension	Repeat value	correlation coefficient
planning and setting goals	0.91	0.89
training and development	0.94	0.91
the role of teachers and the teachers' point of view	0.90	0.90
developing creativity and the level of motivation	0.91	0.91
Total	0.94	0.93

Table 2 shows that the reliability of the correlation coefficient for the dimensions ranged between (0.89-0.91), while the reliability of the repetition coefficient ranged between (0.90-0.94). In light of the implications of validity and reliability, the researcher believes that the reliability results are acceptable to achieve the objectives of this study.

3.3. Data analysis

The statistical analysis for the results included calculating the mean scores, standard deviation, and the t-test. To measure differences in the responses of sample members, one-way-ANOVA analysis was used to find the differences according to the years of experience variable.

4. Results and discussion

4.1. Results of question one

The data related to the responses of the teachers to the questionnaire were analyzed by extracting the mean scores and standard deviations. The following table presents the results.

Table 3. The results of the responses of the participants to the dimensions of the questionnaire

Rank	Dimension	Mean score	Standard deviation	Level
1	planning and setting goals	0.92	3.87	High
2	training and development	0.91	3.70	High
3	the role of teachers and the teachers' point of view	0.94	3.63	Medium
4	developing creativity and the level of motivation	0.96	3.63	Medium

The mean score for the planning skill was (3.87). The researcher confirms that the result of the planning skill is considered one of the basic skills that teachers consider necessary or obligatory to acquire. This skill helps teachers plan well for the lesson, which leads to better results for students. It also indicates that planning contributes positively to the use of music as an educational means in teaching art education to reveal the level of perception and creativity among students in the early stages and then reach the desired goals.

The results revealed that the mean score for training and development was (3.70). The researcher confirms that the education process contains many skills that teachers must strive to develop, such as communication skills, problem-solving, and decision-making. The administration must also strive in a correct way to develop these skills among teachers because of their importance in directing them to perform their job tasks correctly in a way that achieves the best-expected results in using music as an educational tool in teaching art education at the level of perception and creativity among students in the early stages, which may be appropriate to the students' abilities.

The mean score for the relationship with teachers as a whole was (3.63). This result can be explained by the role of teachers and the teachers' point of view, which plays an active role in developing the use of music as an educational tool in teaching art education at the level of perception and creativity among students. It also enhances their level of motivation and positively affects students' learning outcomes. The mean score for achievement motivation was (3.63).

This result can be explained by the amount of enthusiasm that teachers provide to students during music lessons, which contributes to raising their enthusiasm, understanding their needs, informing them of their goals, and assigning them jobs that suit their abilities. This is also due to the role of teachers in guiding students to complete tasks collectively. This motivates teachers to make more continuous efforts to achieve educational goals.

4.2. Results of Question Two

The data related to the responses of the teachers to the second question were analyzed using the t-test and one-way-ANOVA to find the difference in the teachers' responses according to their gender and years of experience. The following tables illustrate the results.

Table 4. The results of the difference of the teachers' responses according to their gender

Dimension	Gender	Number	Mean score	Standard deviation	T value	Sig.
planning and setting goals	Male	8	3.96	0.55	1.66	0.098
	Female	17	4.10	0.61		
training and development	Male	8	3.73	0.47	2.07	0.040
	Female	17	3.88	0.55		
the role of teachers and the teachers' point of view	Male	8	3.99	0.54	0.63	0.526
	Female	17	4.04	0.53		
developing creativity and the level of motivation	Male	8	3.95	0.57	0.95	0.341
	Female	17	4.03	0.59		
Total	Male	8	3.93	0.40		

	Female	17	3.99	0.43	1.086	0.279
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Significant at 0.05

The table above shows that the overall significant score was 0.279, which is higher than 0.05. This result indicates the existence of apparent differences between the participants' opinions toward the role of music education in enhancing the levels of motivation among students with special needs. The gender factor affects the teachers' views, as female teachers believe that music can be used as a source of motivation to teach and encourage students with special needs. The inclination of female teachers toward using music more than male teachers could be because of the cultural background that forms a picture of males as more serious and stricter in their teaching methods. The use of music in classrooms for students with special needs can be implemented in schools regardless of the gender of students or the teachers. However, it seems from the perspectives of the participants of this study that females favour using music and musical games more than male teachers.

The difference in the teachers' views according to their years of experience was also measured to provide an idea of the role of years of service in their educational methods. The following table illustrates the results.

Table 5. The results of the difference of the teachers' responses according to the years of experience

Dimension	Source of variance	Sum of squares	Freedom Value	Mean square	F value	Sig.
planning and setting goals	Between groups	1.96	2	0.98	4.253	0.015
	Within groups	61.56	23	0.231		
	Total	63.52	25			
training and	Between groups	2.46	2	1.234	3.494	0.032

development	Within groups	94.29	23	0.353		
	Total	96.760	25			
the role of teachers and the teachers' point of view	Between groups	0.578	2	0.289	1.303	0.273
	Within groups	59.20	23	0.222		
	Total	59.78	25			
developing creativity and the level of motivation	Between groups	1.92	2	0.324	3.232	0.03
	Within groups	62.34	23	0.302		
	Total	64.26	25			

Table 5 reveals the absence of differences between the teachers' opinions according to their years of experience in teaching students with special needs. The *f* value for all dimensions of the instrument was close and the variable of the years of experience seems to have less effect on the teachers' views toward using music as a method of motivation for students with special needs. The teachers receive similar training and instructions on the use of different methods and techniques in the classroom. Some teachers use their innovation and creativity to include new methods, such as music and musical games to be used with students from the category of special needs. The experience of the participants had less effect on their views toward the use of music, and therefore, the results showed similar opinions from new and old teachers in the service.

5. Conclusion

This study explored the role of music in enhancing motivation for education among children with special needs from the point of view of teachers in Amman. The study results provide valuable insights into the impact of integrating music into art education and its positive impact on students' cognition and creativity. By analyzing questionnaire answers from 25 teachers in 25 schools, it was clear that the use of music as a motivational tool in teaching students with special needs is highly valued. The results indicated

strong agreement among teachers regarding the positive impact of music integration in various aspects of art education, including planning and goal setting, training and development, the role of teachers, and the development of creativity and cognition. Results indicate that incorporating music into art education enhances students' understanding, engagement, and appreciation of visual artworks. The findings underscore the importance of integrating music into art education and provide valuable insights for educators, policymakers, and curriculum developers to enhance art education practices and enhance students' artistic development. By implementing the recommendations outlined, additional research can continue to advance the understanding and implementation of integrating music into arts education, leading to enriched student learning experiences.

6. Recommendations

The study recommends conducting more studies to examine the long-term effects of music integration in education, and a longitudinal study spanning multiple academic years will provide a more comprehensive understanding of the ongoing impact on students' cognition and creativity. The study also recommends exploring different musical genres and styles and investigating the specific effects of different musical genres and styles on students' perceptions and creativity. This can provide insight into the role of different types of music in enhancing arts education outcomes. It is also recommended to investigate the potential interdisciplinary impacts of incorporating music into art education in other subjects, such as language arts or mathematics. This would highlight the wider benefits of integrating music across the curriculum.

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References

- Alam, A., & Mohanty, A. (2023). Untapped Power of Music-Integrated Pedagogy: Its Role in Enhancement of "Behaviour and Self-Confidence" among School Students. In *Interdisciplinary Perspectives on Sustainable Development* (pp. 383-387). CRC Press.

- Al-Kahlan, T. B. S., & Khasawneh, M. A. S. (2024). The Degree to Which Secondary School Principals Practice Effective Communication Skills and Their Relationship to The Level of Motivation of Teachers Towards Work in The Kingdom of Saudi Arabia. *Migration Letters*, 21(S3), 77-94.
- Alkhawaldeh, M. A., & Khasawneh, M. A. S. (2023). The Media in Educational and Children with Special Needs. *Journal of Namibian Studies: History Politics Culture*, 37, 69-85.
- Alwaely, S., Almousa, N., Helali, M., AlAli, R., Rashed, R., Mashal, A., ... & Khasawneh, M. (2024). Teacher-student rapport and gamified learning: Investigating the role of interpersonal variables in classroom integration. *International Journal of Data and Network Science*, 8(2), 1319-1324.
- Asmus, E. P. (2021). Motivation in music teaching and learning. *Visions of Research in Music Education*, 16(5), 31.
- Berasategi Sancho, N., Idoiaga Mondragon, N., Dosil Santamaria, M., & Picaza Gorrotxategi, M. (2022). The well-being of children with special needs during the COVID-19 lockdown: academic, emotional, social and physical aspects. *European Journal of Special Needs Education*, 37(5), 776-789.
- Blasco-Magraner, J. S., Bernabe-Valero, G., Marín-Liébana, P., & Moret-Tatay, C. (2021). Effects of the educational use of music on 3-to 12-year-old children's emotional development: a systematic review. *International journal of environmental research and public health*, 18(7), 3668.
- Bonneville-Roussy, A., Hruska, E., & Trower, H. (2020). Teaching music to support students: how autonomy-supportive music teachers increase students' well-being. *Journal of Research in Music Education*, 68(1), 97-119.
- Conway, C. (2023). Music Teacher Education Research: Where We Have Been, Where We Are, and Where We Are Going. *Journal of Music Teacher Education*, 32(2), 3-9.
- de la Mora Velasco, E., & Hirumi, A. (2020). The effects of background music on learning: A systematic review of literature to guide future research and practice. *Educational Technology Research and Development*, 68, 2817-2837.
- for intercultural music teacher education, 63-81.
- Gorbunova, I. B., & Plotnikov, K. Y. (2020). Music-related educational project for contemporary general music education of school

children. *International Journal of Innovation, Creativity and Change*, 12(2), 451-468.

Guo, M., Su, H., & Yue, L. (2020). Ecology-focused aesthetic music education as a foundation of the sustainable development culture. *Interdisciplinary Science Reviews*, 45(4), 564-580.

jadallah abed Khasawneh, Y., & Khasawneh, M. A. S. (2023). The Effectiveness of Digital Tools in Developing Translation Skills. *Journal of Namibian Studies: History Politics Culture*, 34, 7038-7058.

jadallah abed Khasawneh, Y., & Khasawneh, M. A. S. (2023). The Role of Corpus Linguistics in Translation Teaching and Research; Analysing the Perspectives of Doctorate Researchers and Lecturers. *Journal of Namibian Studies: History Politics Culture*, 34, 7078-7101.

jadallah abed Khasawneh, Y., & Khasawneh, M. A. S. (2023). The Use of Artificial Intelligence in Improving Machine Translation Post-Editing; Insights from Translation Editors. *Journal of Namibian Studies: History Politics Culture*, 34, 7123-7146.

jadallah abed Khasawneh, Y., Khasawneh, A. J., & Khasawneh, M. A. S. (2024). Cross-Lingual Sentiment Analysis: Comparative Study of Opinion Expression Across Different Languages. *Migration Letters*, 21(S1), 548-560.

Jarrah, H., Bilal, D., Halim, M., Helali, M., AlAli, R., Alfandi, A., & Khasawneh, M. (2024). The impact of storytelling and narrative variables on skill acquisition in gamified learning. *International Journal of Data and Network Science*, 8(2), 1161-1168.

Khasawaneh, M.A.S., & Arabia, S. (2016). The Impact of a Training Program Based on the Visual Words Composition Techniques on the Development of Reading Comprehension Skills among the Students of Primary Stage. *Advances in BioResearch*, 7(2). https://www.researchgate.net/publication/329091984_International_Journal_of_Academic_Research

Khasawneh, A. J., Khasawneh, M. A. S., & Al-Sarhan, K. E. (2023). UNVEILING THE ROLE OF ICT IN SOCIAL SCIENCE RESEARCH: AN EXAMINATION OF ICT APPLICATIONS IN THE SAUDI ARABIAN AND JORDANIAN CONTEXT. *Journal of Southwest Jiaotong University*, 58(5).

Khasawneh, A. J., Khasawneh, M. A. S., Al-Sarhan, K. E., & Alkhawaldeh, M. A. (2023). Assessment of the Perspectives of Experts on the Evolution of Translation Education in the 21ST Century. *Migration Letters*, 20(S2), 894-908.

- Khasawneh, M. A. S. (2021). An electronic Training Program on Developing the Written Expression Skills among a Sample of foreign language learners EFL who are at-risk for Learning disabilities during the emerging Covid-19. *Academy of Social Science Journal*, 7(10), 1974-1982.
[DOI: HTTPS://DOI.ORG/10.15520/ASSJ.V7I10.2713](https://doi.org/10.15520/ASSJ.V7I10.2713)
- Khasawneh, M. A. S. (2021). Attitudes of teachers of learning disabilities in English language towards the use of information technology in Irbid from their point of view. *Journal of Advances in Social Science and Humanities*, 7(10), 1957-1966.
[DOI: 10.15520/jassh.v7i10.661](https://doi.org/10.15520/jassh.v7i10.661)
- Khasawneh, M. A. S. (2021). Auditory memory among a sample of students with learning disabilities in English in Irbid Governorate. *Science and Education*, 2(11), 609-621.
<https://openscience.uz/index.php/sciedu/article/view/2040>
- Khasawneh, M. A. S. (2021). Challenges resulting from simultaneous online education during the " Covid-19" pandemic: the case of King Khalid University, Saudi Arabia. *Science and Education*, 2(8), 414-430.
<https://openscience.uz/index.php/sciedu/article/view/1774/1696>
- Khasawneh, M. A. S. (2021). Cognitive Flexibility of Students with Learning Disabilities in English Language and Its Relationship to Some Variables. *Shanlax International Journal of Education*, 9(3), 49-56. [DOI: 10.34293/education.v9i3.4003](https://doi.org/10.34293/education.v9i3.4003)
- Khasawneh, M. A. S. (2021). Developing the Imagination Skills among Students with Learning Disabilities in English Language. *Journal of Asian Multicultural Research for Social Sciences Study*, 2(4), 1-8. DOI: <https://doi.org/10.47616/jamrsss.v2i4.187>
- Khasawneh, M. A. S. (2021). Emotional intelligence of teachers of Learning Disabilities in English language from their point of view. *Investigación educativa actual*, 4(4), 1101-1109. [DOI: https://doi.org/10.52845/CER/2021-4-4-1](https://doi.org/10.52845/CER/2021-4-4-1)
- Khasawneh, M. A. S. (2021). Language skills and their relationship to learning difficulties in English language from the students' point of view. *Science and Education*, 2(9), 261-272.
[DOI: 10.34293/education.v9i4.4082](https://doi.org/10.34293/education.v9i4.4082)
- Khasawneh, M. A. S. (2021). Methods of resource room management for teachers of learning disabilities in English language in light of some variables. *Science and Education*, 2(9), 240-249.
[DOI: 10.30659/e.6.2.213-221](https://doi.org/10.30659/e.6.2.213-221)

- Khasawneh, M. A. S. (2021). Obstacles to using e-learning in teaching English for students with learning disabilities during the Covid-19 pandemic from teachers' point of view. *Science and Education*, 2(5), 470-483.
<https://openscience.uz/index.php/sciedu/article/view/1406/1350>
- Khasawneh, M. A. S. (2021). Problems of Teaching Phonological Awareness to Learning Disabilities Students. *GIST-Education and Learning Research Journal*, 23, 135-149.
DOI: <https://doi.org/10.26817/16925777.961>
- Khasawneh, M. A. S. (2021). Problems Teaching English to Deaf Students. *Indonesian Journal of Creative Counseling*, 1(2), 32-42.
DOI: <https://doi.org/10.47679/ijcc.v1i2.107>
- Khasawneh, M. A. S. (2021). Programa de formación para el desarrollo de habilidades de lectura en inglés para estudiantes con dificultades de aprendizaje. *Revista EDUCARE-UPEL-IPB-Segunda Nueva Etapa 2.0*, 25(1), 84-101. <https://doi.org/10.46498/reduipb.v25i1.1445>.
- Khasawneh, M. A. S. (2021). Self-Regulation among students with learning disabilities in English language and its relationship to some variables.
<https://socialscienceresearch.org/index.php/GJHSS/article/view/3660/3549>
- Khasawneh, M. A. S. (2021). Social competence for students with learning disabilities in English. *Technium Social Sciences Journal*, 23(1), 16–27. Retrieved from
<https://techniumscience.com/index.php/socialsciences/article/view/4439>
- Khasawneh, M. A. S. (2021). Sources of work stress of English language teachers in secondary government schools in Saudi Arabia. *Science and Education*, 2(10), 249-254. <https://doi.org/10.37899/journallaedusci.v2i4.450>
- Khasawneh, M. A. S. (2021). Teacher Perspective on Language Competences Relation to Learning Difficulties in English Learning. *Journal Educational Verkenning*, 2(1), 29-37. Retrieved from <http://hdpublication.com/index.php/jev/article/view/125>
- Khasawneh, M. A. S. (2021). The attitudes of Teachers of Learning Disabilities in English Language Toward Using Virtual classes to Teach English Writing. *Journal of Asian Multicultural Research for Social Sciences Study*, 2(4), 9-18.
<https://doi.org/10.47616/jamrsss.v2i4.189>

- Khasawneh, M. A. S. (2021). The degree of practicing effective communication skills among teachers of learning disabilities in English language from their point of view. *Journal Educational Verkenning*, 2(2), 1-9. DOI: [10.47616/jamres.v2i2.175](https://doi.org/10.47616/jamres.v2i2.175)
- Khasawneh, M. A. S. (2021). The difficulties facing students with learning disabilities in English language skills from the point of view of their parents. *Science and Education*, 2(11), 592-608. <https://openscience.uz/index.php/sciedu/article/view/2039>
- Khasawneh, M. A. S. (2021). The Effect of Using a Language Games-Based Electronic Program on Acquiring Oral Expression Skills among People with Learning Difficulties in English Language during Covid-19 Pandemic. *MANAZHIM*, 3(2), 136-150. <https://doi.org/10.36088/manazhim.v3i2.1109>
- Khasawneh, M. A. S. (2021). The effectiveness of a training program based on Erikson's theory in developing independence skills among students with learning disabilities in Jordan. *Science and Education*, 2(8), 457-471. <https://openscience.uz/index.php/sciedu/article/view/1776/1698>
- Khasawneh, M. A. S. (2021). The effectiveness of using multimedia in the developing the concepts of the English language grammar concepts for people with learning difficulties. *Science and Education*, 2(6), 373-384. <https://openscience.uz/index.php/sciedu/article/view/1571/1505>
- Khasawneh, M. A. S. (2021). The extra-curricular environmental activities as practiced by English language students with learning difficulties from their teachers' point of view. *Science and Education*, 2(4), 275-287. <https://openscience.uz/index.php/sciedu/article/view/1226/1177>
- Khasawneh, M. A. S. (2021). The Impact of Phonological Awareness in Improving Sequential Memory among Students with Learning Disabilities. *International Journal of Disability, Development and Education*, 1-13. <https://doi.org/10.1080/1034912X.2021.1995853>
- Khasawneh, M. A. S. (2021). The level of cognitive dissonance among students with learning disabilities in English from the point of view of their teachers. *Science and Education*, 2(11), 577-591. <https://openscience.uz/index.php/sciedu/article/view/2038>

- Khasawneh, M. A. S. (2021). The Level of Emotional Intelligence of English Language Students with Learning Disabilities from the Point of View of Their Parents. *Science and Education*, 2(7), 264-275.
<https://openscience.uz/index.php/sciedu/article/view/1706/1635>
- Khasawneh, M. A. S. (2021). The Level of Job Performance among Teachers of Learning Disabilities in English Language During The COVID-19 Pandemic from Their Point of View. *International Journal of Contemporary Research and Review*, 12(10), 20449-20457.
<https://doi.org/http://ijcrr.info/index.php/ijcrr/article/view/924/947>
- Khasawneh, M. A. S. (2021). The level of moral dependence among a sample of students with learning disabilities in English from the point of view of their teachers. *Science and Education*, 2(11), 528-538.
<https://openscience.uz/index.php/sciedu/article/view/2034>
- Khasawneh, M. A. S. (2021). The level of motivation among teachers of learning disabilities in English language in light of the COVID-19 pandemic. *Social Science Learning Education Journal*, 6(11), 642-651 DOI: <https://doi.org/10.15520/sslej.v6i11.2871>
- Khasawneh, M. A. S. (2021). The level of stuttering severity among students with learning disabilities in English language. *Science and Education*, 2(9), 215-226.
<https://openscience.uz/index.php/sciedu/article/view/1842/1747>
- Khasawneh, M. A. S. (2021). The perceptions of teachers of Learning Disabilities in English language on the level of their psychological burnout. *Journal of Research and Opinion*, 8(10), 3048-3057.
[doi:10.15520/jro.v8i10.130](https://doi.org/10.15520/jro.v8i10.130)
- Khasawneh, M. A. S. (2021). The reality of extra-curricular educational activities from the viewpoint of students with learning difficulties in English language. [6-2-13-161 \(2\).pdf](#)
- Khasawneh, M. A. S. (2021). The relationship between the acquisition of language patterns and oral expression skills among students with learning difficulties in the English language during the Covid-19 pandemic. *Science and Education*, 2(5), 490-499.
<https://openscience.uz/index.php/sciedu/article/view/1408/1352>

- Khasawneh, M. A. S. (2021). The use of autocratic style by teachers of learning disabilities in English language according to some variables. *Science and Education*, 2(10), 255-265.
- Khasawneh, M. A. S. (2021). THE USE OF DEMOCRATIC STYLE BY TEACHERS OF LEARNING DISABILITIES IN ENGLISH LANGUAGE ACCORDING TO SOME VARIABLES. *language*, 4(05).
https://ijehss.com/uploads2021/EHS_4_305.pdf
- Khasawneh, M. A. S. (2021). The use of Laissez-faire style by teachers of Learning Disabilities in English language according to some variables. *Science and Education*, 2(9), 250-260.
<https://openscience.uz/index.php/sciedu/article/view/1845/1750>
- Khasawneh, M. A. S. (2021). The Use of Reading Speed Strategy in Promoting Reading Comprehension among EFL Students with Learning Disabilities. *Al-Lisan: Jurnal Bahasa (e-Journal)*, 6(2), 225-235. <https://doi.org/10.30603/al.v7i2.2135>.
- Khasawneh, M. A. S. (2021). Training program on developing reading skills in the english language among students with learning difficulties. *Revista EDUCARE-UPEL-IPB-Segunda Nueva Etapa* 2.0, 25(1), 84-101. DOI: [10.46498/reduipb.v25i1.1466](https://doi.org/10.46498/reduipb.v25i1.1466)
- Khasawneh, M. A. S. (2022). Developing the imagination skills among students with learning disabilities in English language. *Science and Education*, 3(4), 627-641.
- Khasawneh, M. A. S. (2022). Language Skills and Their Relationship to Learning Difficulties in English Language from the Teachers' Point of View. *The Journal of Quality in Education*, 12(19), 104-113. <https://doi.org/10.37870/joqie.v12i19.308>
- Khasawneh, M. A. S. (2022). The degree of practicing effective communication skills among teachers of learning disabilities in English language from their point of view. *Science and Education*, 3(2), 492-509. <https://orcid.org/0000-0002-1390-3765>
- Khasawneh, M. A. S. (2022). The level of practicing organizational trust among teachers of learning disabilities in English language from their point of view. *Science and Education*, 3(2), 481-491. <https://orcid.org/0000-0002-1390-3765>
- Khasawneh, M. A. S. (2022). Work pressures among teachers of learning disabilities in English language from their point of view. *Science and Education*, 3(2), 510-529. <https://orcid.org/0000-0002-1390-3765>

- Khasawneh, M. A. S. (2023). ANALYSIS OF CRITICAL THINKING ABILITY OF STUDENTS WITH ASD IN MATHEMATICS LEARNING. *Journal of Southwest Jiaotong University*, 58(2).
- Khasawneh, M. A. S. (2023). ANALYSIS OF THE INFLUENCE OF FLIPPED TEACHING ON STUDENT LEARNING AND KNOWLEDGE RETENTION. *Journal of Southwest Jiaotong University*, 58(4).
- Khasawneh, M. A. S. (2023). Communication In Children with Autism Spectrum Disorder. Onomázein hosts unpublished articles derived from scientific research, 69-82.
- Khasawneh, M. A. S. (2023). Data-Driven Social Informatics: Applying Analytics Techniques in Analyzing Social Data in Saudi Arabian Organizations. Onomázein hosts unpublished articles derived from scientific research, 22-34.
- Khasawneh, M. A. S. (2023). Exploring the Benefits and Challenges of Blended Learning Models in Higher Education. *Onomázein*, (62 (2023): December), 81-91.
- Khasawneh, M. A. S. (2023). EXPLORING THE ROLE OF CULTURE IN SHAPING COMMUNICATION PRACTICES IN SAUDI ARABIAN ORGANIZATIONS: A QUALITATIVE STUDY. *Journal of Southwest Jiaotong University*, 58(5).
- Khasawneh, M. A. S. (2023). EXPLORING VIRTUAL REALITY AS A TRANSFORMATIVE TOOL TO ENHANCE LEARNING ABILITIES IN STUDENTS WITH DISABILITIES. *Journal of Southwest Jiaotong University*, 58(4).
- Khasawneh, M. A. S. (2023). Factors Affecting the Improvement of Speaking Skills Among Jordanian EFL Learners. *Journal of Language Teaching and Research*, 14(6), 1559-1568.
- Khasawneh, M. A. S. (2023). IMPACT OF APPLYING EVIDENCE-BASED PRACTICES TO REDUCE STEREOTYPED BEHAVIOR IN CHILDREN WITH AUTISM SPECTRUM DISORDER. *Journal of Southwest Jiaotong University*, 58(5).
- Khasawneh, M. A. S. (2023). Impact Of ICT On Social Science Research Process: Evidence from Saudi Arabia and Jordan. *Journal of Namibian Studies: History Politics Culture*, 35, 2094-2114.
- Khasawneh, M. A. S. (2023). Insights From Lecturers and University Administrators on The Correlation Between Integrating Simulated Learning Strategies and Increasing the Performance of Undergraduates in Foreign Language Education. *Journal of Namibian Studies: History Politics Culture*, 37, 86-106.

- Khasawneh, M. A. S. (2023). INTEGRATING AI-BASED VIRTUAL CONVERSATION PARTNERS IN ENHANCING SPEAKING SKILLS IN FOREIGN LANGUAGES: INSIGHTS FROM UNIVERSITY STUDENTS. *Journal of Southwest Jiaotong University*, 58(5).
- Khasawneh, M. A. S. (2023). Interpersonal Communication Model for Children with Special Needs.
<https://doi.org/10.18576/isl/120623>
- Khasawneh, M. A. S. (2023). Promoting Translation Competence in Language Teacher Training: Strategies for Equipping Lecturers with Translation Skills for Language Instruction. *Journal of Namibian Studies: History Politics Culture*, 37, 131-149.
- Khasawneh, M. A. S. (2023). Saudi Universities Students' Point of View on the Evolution Theory. *Migration Letters*, 20(S2), 303-309.
- Khasawneh, M. A. S. (2023). Supporting Education System for Social Involvement of Children with Special Needs. *Journal of Namibian Studies: History Politics Culture*, 36, 1485-1502.
- Khasawneh, M. A. S. (2023). Teaching Competencies for Science Teachers: A Future Perspective Typology. *Journal of Namibian Studies: History Politics Culture*, 35, 2115-2142.
- Khasawneh, M. A. S. (2023). The Effectiveness of Adaptive Media Techniques in Enhancing Academic Performance of Secondary School Students. *Migration Letters*, 20(S1), 875-888.
- Khasawneh, M. A. S. (2023). The Effectiveness of Barman's Model in Improving the Reading Skills of Eighth Grade Students. *Onomázein* hosts unpublished articles derived from scientific research, 49-68.
- Khasawneh, M. A. S. (2023). The Effectiveness of The Flipped Classroom Strategy in Developing the Critical Thinking Skills of Secondary School Students in Abha Governorate. *Journal of Namibian Studies: History Politics Culture*, 35, 2143-2169.
- Khasawneh, M. A. S. (2023). The Impact of Including an Interactive Educational Video on Enhancing Academic Achievement. *Journal of Namibian Studies: History Politics Culture*, 37, 150-176.
- Khasawneh, M. A. S. (2023). The Potential of Ai in Facilitating Cross-Cultural Communication Through Translation. *Journal of Namibian Studies: History Politics Culture*, 37, 107-130.
- Khasawneh, M. A. S. (2024). Schools Administration Role in Promoting Awareness of The Optimal Use of The Internet in Learning from The School Teachers' Perspective. *Migration Letters*, 21(S3), 42-60.

- Khasawneh, M. A. S., & Al-Amrat, M. G. R. (2023). Evaluating the Role of Artificial Intelligence in Advancing Translation Studies: Insights from Experts. *Migration Letters*, 20(S2), 932-943.
- Khasawneh, M. A. S., & Alatoom, E. K. T. (2022). Developing writing skills among students with learning disabilities in English language. *Journal of Social Studies (JSS)*, 18(1), 63-80.
- Khasawneh, M. A. S., & Alkhawaldeh, M. A. (2018). The Relationship between Successful Intelligence and School-Social Growth among Learning Disability Students in Aseer Area. *Basic Education College Magazine for Educational and Humanities Sciences*, (39).
- Khasawneh, M. A. S., & Alkhawaldeh, M. A. (2020). The Effectiveness of Phonological Awareness Training in Treating Deficiencies in Auditory Processing Among Children with Learning Disabilities Among Elementary Cycle Students in Saudi Arabia. *International Journal of Language Education*, 4(3).
<https://doi.org/10.26858/ijole.v4i3.14758>
- Khasawneh, M. A. S., & Alkhawaldeh, M. A. H. (2017). The attitudes of King Khalid's students who are affiliated with Special Education bachelor's degree toward Blackboard Software in their learning. *International Journal of Humanities and Cultural Studies (IJHCS)* ISSN 2356-5926, 2(4), 2789-2798.
<https://www.ijhcs.com/index.php/ijhcs/article/view/3061/2888>
- Khasawneh, M. A. S., & Al-Rub, M. O. A. (2020). Development of Reading Comprehension Skills among the Students of Learning Disabilities. *Universal Journal of Educational Research*, 8(11), 5335-5341. DOI: [10.13189/ujer.2020.081135](https://doi.org/10.13189/ujer.2020.081135)
- Khasawneh, M. A. S., & Khasawneh, Y. J. A. (2023). Analyzing the Effectiveness of Mobile Devices and Apps in Supporting Learning. *Migration Letters*, 20(S1), 901-910.
- Khasawneh, M. A. S., Alkhawaldeh, M. A., & Hamad, H. A. A. B. (2018). Building a training program based on the theory of voice awareness and measuring its effectiveness in developing the skills of auditory analysis of students with difficulties in synergy, developmental and verbal Verbal Dyspraxia. *Basic Education College Magazine for Educational and Humanities Sciences*, (41).
- Khasawneh, M. A. S., Khasawneh, A. J., & Al-Sarhan, K. E. (2023). ETHICAL CONSIDERATIONS IN ICT-ENABLED SOCIAL SCIENCE RESEARCH: PERSPECTIVES FROM SAUDI ARABIA AND JORDAN. *Journal of Southwest Jiaotong University*, 58(5).

- Khasawneh, M. A.S. (2012). Spatial ability for children with learning disabilities in hail and its relationship with some variables. *European Scientific Journal*, 8(22).
DOI: <https://doi.org/10.19044/esj.2012.v8n22p%25p>
- Khasawneh, M. A.S., Al Ahmad, F. A., & Al Khawaldeh, M. A. (2018). the Effects of Training Program based on Auditory Perception Skills in Enhancing Phonological Awareness among Learning Disability Students in Aseer Region. *Journal of Educational and Psychological Studies [JEPS]*, 12(3), 591-604.
<https://doi.org/10.24200/jeps.vol12iss3pp591-604>
- Khasawneh, M.A.S (2021). Training program for the development of reading skills in English for students with learning difficulties. *EDUCARE-UPEL-IPB-Second New Stage 2.0 Magazine*, 25 (1), 84-101. DOI: [10.46498/reduipb.v25i1.1445](https://doi.org/10.46498/reduipb.v25i1.1445)
- Khasawneh, M.A.S. (2022). The Relationship of Curriculum, Teaching Methods, Assessment Methods, and School and Home Environment with Learning Difficulties in English Language from the Studetns' Perspectives. *Journal of Innovation in Educational and Cultural Research*, 3(1), 41-48.
<https://doi.org/10.46843/jiecr.v3i1.51>
- Khasawneh, M.A.S., Alkhalwaldeh, M., & Al-Khasawneh, F. (2020). The Level of Metacognitive Thinking Among Students with Learning Disabilities. *International Journal of English Linguistics*, 10(5).
[doi:10.5539/ijel.v10n5p343](https://doi.org/10.5539/ijel.v10n5p343)
- Khasawneh, N. A. S., Khasawneh, A. J., & Khasawneh, M. A.S. (2024). Improving Arabic Content Delivery on Cloud Computing Platforms for Jordanian E-learning Environments. *Migration Letters*, 21(S1), 575-585.
- Khasawneh, Y. J. A., & Khasawneh, M. A. S. (2023). The Effectiveness of a Ubiquitous Learning Program on Development of Learning Outcomes among Students of the College of Education at Ajloun National University. *Migration Letters*, 20(6), 1011-1024.
- Khasawneh, Y. J. A., Alanazi, A. S., Almulla, A. A., & Khasawneh, M. A. S. (2023). Employing technology inside and outside the classroom by special education teachers in primary schools. *Humanities and S Mohammad Abedrabbu Alkhalwaldeh, M. A. S. K. (2023). INSIGHTS ON THE USE OF AI-POWERED GAME-BASED LEARNING IN TRANSLATION EDUCATION. Journal of Southwest Jiaotong University*, 58(5). *ocial Sciences Letters*, 12(1), 1-9.
- Khasawneh, M. A.S. (2023). Analysis of the application of pedagogical technology to the learning of children with ASD. *International*

Journal of Special Education (IJSE), 38(1), 82-89. <https://doi.org/10.52291/ijse.2023.38.8>

Khasawneh, M. A.S. (2023). Digital inclusion: Analyzing social media accessibility features for students with visual impairments. *Studies in Media and Communication*, 12(1), 71. <https://doi.org/10.11114/smc.v12i1.6559>

Khasawneh, M. A.S. (2023). Mutual relationships: Saudi universities and the private sector for economic Development. *Information Sciences Letters*, 12(8), 2643-2652. <https://doi.org/10.18576/isl/120818>

Khasawneh, M. A.S. (2023). The use of video as media in distance learning for deaf students. *Contemporary Educational Technology*, 15(2), ep418. <https://doi.org/10.30935/cedtech/13012>

Khasawneh, M. A.S. (2024). Beyond digital platforms: Gamified skill development in real-world scenarios and environmental variables. *International Journal of Data and Network Science*, 8(1), 213-220. <https://doi.org/10.5267/j.ijdns.2023.10.002>

Khasawneh, M. A.S., & Khasawneh, Y. J. (2023). Achieving assessment equity and fairness: Identifying and eliminating bias in assessment tools and practices. <https://doi.org/10.20944/preprints202306.0730.v1>

Khasawneh, M.A.S. (2023). Social attitude of children with special needs in the learning process. *Medical Archives*, 77(2), 149. <https://doi.org/10.5455/medarh.2023.77.149-153>

Khasawneh, Y. J., & Khasawneh, M. A.S. (2023). Availability of voice-recognition devices to support visually impaired students in Saudi Arabian universities. *Journal of Wireless Mobile Networks, Ubiquitous Computing, and Dependable Applications*, 14(3), 186-193. <https://doi.org/10.58346/jowua.2023.i3.014>

Khasawneh, Y. J., & Khasawneh, M. A.S. (2023). The effectiveness of using infographics on the academic achievement of elementary students. *Migration Letters*, 20(5), 1258-1271. <https://doi.org/10.59670/ml.v20i5.4968>

Khasawneh, Y. J., Khasawneh, N., & Khasawneh, M. A.S. (2024). Exploring the long-term effects: Retention and transfer of skills in gamified learning environment. *International Journal of Data and Network Science*, 8(1), 195-200. <https://doi.org/10.5267/j.ijdns.2023.10.004>

- Lahiani, H., jadallah abed Khasawneh, Y., Alhrahshah, R., Khasawneh, A. J., & Khasawneh, M. A. S. (2024). Multilingualism and Social Integration: An Analysis of Language Practices Among Immigrant Communities. *Migration Letters*, 21(1), 916-928.
- Lee, L., & Li, T. Y. (2016). The impact of music activities in a multi-sensory room for children with multiple disabilities on developing positive emotions: A case study. *Journal of the European Teacher Education Network*, 11(1), 1-12.
- Leibl, E. R. (2014). Learning enhancement through music education (Doctoral dissertation, San Diego State University).
- Mayer-Benarous, H., Benarous, X., Vonthron, F., & Cohen, D. (2021). Music therapy for children with autistic spectrum disorder and/or other neurodevelopmental disorders: a systematic review. *Frontiers in psychiatry*, 12, 435.
- Nasritdinova, M. (2021). Pedagogical components and stages of health of develop children through music education. *Galaxy International Interdisciplinary Research Journal*, 9(05), 251-258.
- Rose, D., Jones Bartoli, A., & Heaton, P. (2018). Learning a musical instrument can benefit a child with special educational needs. *Psychomusicology: Music, Mind, and Brain*, 28(2), 71–81. <https://doi.org/10.1037/pmu0000209>
- Sæther, E. (2020). Intercultural game in music teacher education: Exploring El Sistema in Sweden. *Visions Shater, A., AlMahdawi, A. J., & Khasawneh, M. A. S. (2023). The Digital Learning of Disabled Students: Perceptions of Teachers in Public Schools. Inf. Sci. Letters. Int. J*, 12, 879-887.
- Sajnani, N., Mayor, C., & Tillberg-Webb, H. (2020). Aesthetic presence: The role of the arts in the education of creative arts therapists in the classroom and online. *The Arts in psychotherapy*, 69, 101668.
- Salman, O., Khasawneh, Y., Alqudah, H., Alwaely, S., & Khasawneh, M.A.S. (2024). Tailoring gamification to individual learners: A study on personalization variables for skill enhancement. *International Journal of Data and Network Science*, 8(2), 789-796.
- Shaw, R. D., & Mayo, W. (2022). Music education and distance learning during COVID-19: A survey. *Arts Education Policy Review*, 123(3), 143-152.
- Shawaqfeh, A. T., jadallah abed Khasawneh, Y., Khasawneh, A. J., & Khasawneh, M. A. S. (2024). Data-Driven Language Assessment

in Multilingual Educational Settings: Tools and Techniques for Proficiency Evaluation. *Migration Letters*, 21(2), 701-711.

Sutela, K., Juntunen, M. L., & Ojala, J. (2020). Applying music-and-movement to promote agency development in music education: A case study in a special school. *British Journal of Music Education*, 37(1), 71-85.

Zaghlool, Z. D., Alkhawaldeh, M. A., & Khasawneh, M. A. S. (2023). Interrogating The Influence of Automated Writing Evaluation Tools in Language Learning: E-Learners' Perspectives. *Onomázein*, (61 (2023): September), 543-556.

Zarza-Alzugaray, F. J., Casanova, O., McPherson, G. E., & Orejudo, S. (2020). Music self-efficacy for performance: An explanatory model based on social support. *Frontiers in psychology*, 11, 1249.