WORLD-RECOGNIZED TECHNOLOGICALLY EFFICIENT METHODS TO IMPROVE THE EFFECTIVENESS OF MUSIC LESSONS

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ABSTRACT

This article explores the role of Artificial Intelligence and Intellectual Audio Analysis (AI-Driven Assessment) methods in enhancing the effectiveness of music education. It analyzes the capabilities of platforms such as SmartMusic, Yousician, and Solfeg.io to perform real-time performance analysis and visualize student errors

Today, the processes of digital transformation in the world education system are also radically changing the field of musical art. In traditional music classes, control of the student's skills and correction of their mistakes mainly rely on the subjective perception of the teacher, which leads to a decrease in efficiency during the student's independent training. In solving this problem, Artificial Intelligence (AI) and intellectual Audio analysis (AI-Driven Assessment) techniques on a global scale serve as one of the areas with the highest efficiency.

The basis of these technologies relies on the ability to analyze the sounds of a human voice or instrument within milliseconds in frequency, harmonica and rhythmic accuracy. SmartMusic, Yousician and Solfeg.io platforms such as comparing the reader's performance to the original party and showing errors visually (e.g., the wrong note in red) form an independent control skill in the reader. Research.[1]

The basis of this method is that the computer program analyzes the frequency and rhythm result of each note played by the reader. For example, the SmartMusic and Yousician platforms compare the reader's performance to the original party, giving a visual on-screen result. This technology forms an independent control skill in the reader. In a traditional lesson, when a student's mistake is made only by a teacher, here technology acts as an impartial judge. This method is showing a 70% higher performance especially when working on intonation in Instrumental Performance Vocal Lessons .

Assessment solves exactly this problem: systems such as SmartMusic, Yousician or Solfegio ‘hear’ the reader's execution and visually display the problems on the screen. SmartMusic is now known as Make Music Cloud - a web-based platform designed for music

[1] Intelligent Audio Analytics (Интеллектуальный анализ аудио)

teachers and learners to effectively conduct student sessions, give them individual assignments, and immediately during rehearsals.[2]

Yousician program-teaches the right way to learn step by step, one by one. The Yousician app will show you what to play, listen while you exercise, and is a quick feedback app to help you improve quickly. You can choose from 5 tools. Instruments such as guitar, piano, bass, ukulele, or singing can be learned. Starting with one instrument or learning it all. The Yousician program provides clear lessons, quick feedback, and guidance to help you grow at your own pace. To improve skills with Video lessons, you can watch real musicians show you exactly how to play .

Take a closer look at each action and are available for specific, easy lessons to help you improve faster. An interesting day to learn more than 10,000 songs, track your personal progress, continue to take your musical skills to the next level.[3]

Solfeg.io - it is a method of teaching music, in which the syllable names of notes (do, re, mi, fa, sol, la, si) are used to develop the ability to hear, read through sight and memorize melodies, as well as to help master musical instruments and theory through interactive lessons and games Solfeg.io training app. there are two main approaches. These are the invariant Do (Do is always the same note, e.g. Do major) and the flexible Do (Do is always the tonic of the gamma, with the other syllables following it).

Syllable names are marked with notes syllables, e.g. do, re , mi , fa, sol , lya, si .Sounds help to mentally ‘hear’loudness and melodic intervals. Reading and singing:teaches how to sing notes by name and read them out of sight. Helps in auditory Development (audience).

Solfegio app (app Solfeg.io) - teaches playing instruments:piano, guitar, ukulele. Lessons printing.[4]

The AI-Driven Assessment method transfers music education from subjective action to objective accuracy. This technology is the shortest and most effective way to apply to Uzbekistan's music education system, especially in the areas of Solfeggio and Instrumental Performance, ensuring that students receive knowledge at the level of international standards. For example, a misplaced note is red, while a rhythmic delay produces with special lines. Artificial intelligence does not only show the reader the error, but is individual to alleviate it. In addition, high control of the work audio load in the intellectual dimension. The teacher's lesson program allows for more attention to reveal the artistic interpretation, content and feelings of the work instead of the time to feel technical support.

In conclusion, moving the world-recognized technological and pedagogical technological effective methods in the production of music lessons takes the quality of the educational process to a new level.

Bibliography:

1.Intelligent Audio Analytics (Интеллектуальный анализ аудио)
2.makemusic.com/smartmusic/
3.Yousician,oy 2026

[2] 1.makemusic.com/smartmusic/
[3] Yousician,oy 2026
[4] https://webcatalog.io/en/apps/solfeg-io

4.https://webcatalog.io/en/apps/solfeg-io
5.Muallif: Meinard Myuller. Musiqani qayta ishlash asoslari: audio, tahlil, algoritmlar, ilovalar | Springer Publishing, 2015. (Audio signallarni millisekundlarda tahlil qilish texnologiyasi bo'yicha asosiy manba).
6. Yousician Education Team. Gamifikatsiya va AI haqida fikr-mulohazalarning instrumental o'rganishga ta'siri | Research Report, 2022. (70%lik samaradorlik ko'rsatkichi va intonatsiya bo'yicha tadqiqot).
7.Meghan Bogardus Kortez. Musiqada texnologiya samaradorlik yordam, kirishni boshlash | EdTech jurnali, 2017. (AQSH ta'lim tizimidagi komponentlar va DAW platformalari haqidagi maqola).
8. MakeMusic Cloud (SmartMusic). Zamonaviy musiqa ta'limida interaktiv amaliyot vositalari va baholash | Official White Paper, 2023. (Vizual yordam va o'quvchilarga geribildirim berish metodikasi).
9.Solfeg.io o'rganish. Quloqlarni o'rgatish va musiqa nazariyasi integratsiyasi uchun raqamli vositalar | Educational Manual, 2021. (Interaktiv solfejio darslari va o'yinli o'qitish texnologiyasi).
10. PR Webster. Kompyuterga asoslangan texnologiya va musiqani o'qitish va o'qitish | Oxford Handbook of Music Education, 2020. (Musiqa ta’limida kompyuter texnologiyaning obyektiv yo‘nalishdagi o‘rni haqida)