❧ Polgári Szemle ❧

The Role of Cultural Heritage in 21st-Century Music Education

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Summary

Cultural heritage is an integral part of Hungarian music education. Folk traditions and folk songs are taught in every school, from the capital city to the smallest villages. Thousands of songs were collected by Zoltán Kodály and Béla Bartók, who adopted them in their classical compositions. With this they earned fame for Hungarian folk music and traditions. Zoltán Kodály also composed a series of music reading materials, mainly based on folk songs, which is currently used on all levels of Hungarian music education. Not only the Kodály concept, but the Táncház-method was also selected in the Register of Good Safeguarding Practices of UNESCO Cultural Heritage. In our digital age, the net-generation, unlike the previous student populations, can have different habits, which is the reason why students' music skills were tested with technology-based methods and tools. They are surrounded by popular media; however, the value that folk tradition offers should be inevitable in their education. The findings of our research provides input for the educational system about Hungarian students's music literacy, and their familiarity with its various elements, especially with certain components of their cultural heritage.

Keywords: cultural heritage, digital age, music education, Kodály concept

Introduction

Music is one of the mainsprings of any culture and behaves in a way almost opposite to language. As language could be an obstacle to understanding a culture, music is about opening up and welcoming people (Mannes, 2011).

The inclusion of cultural heritage in music education has a double role: making traditional folk music accessible for everyone through mainstream education, and developing music skills. Music education also has to deal with historical and contemporary practices and their relative positioning between the extremes of identity and diversity in different regions of Europe within formal, non-formal and informal contexts of music learning (Sagrillo, 2019).

Hungarian music education based on the foundations of Kodály's ideas is well-known worldwide. Zoltán Kodály's music pedagogical method has been successfully applied in many countries of the world and many foreign music teachers and students come to Hungary every year to study it. The success of the Kodály concept is proven by the fact that it was selected for inclusion in the Register of Good Safeguarding Practices of UNESCO Cultural Heritage in 2016, a list of methods that are worthy of international dissemination as good examples to follow.

Cultural heritage of music

In 1989, the United Nations Educational, Scientific and Cultural Organisation (UNESCO) proposed parameters for the items that need to be preserved, and defined "folklore" as "the totality of tradition-based creations of a cultural community, expressed by a group or individuals and recognized as reflecting the expectations of a community in so far as they reflect its cultural and social identity". UNESCO gave recommendations on how to preserve folklore: design inventory systems of intangible cultural heritage, introduce formal and out-of-school curricula to emphasise respect for folklore, and promote scientific research relevant to folklore preservation.

UNESCO initiated the "Intangible Cultural Heritage" programme and the "Living Human Treasures" project in 1993. Specific types of intangible cultural heritage were listed in 2003, oral traditions and expressions, including language as a vehicle of the intangible cultural heritage; performing arts; social practices, rituals and festive events, and traditional craftsmanship (Inawat, 2015). Apart from the Kodály concept, the other Hungarian teaching concept in the UNESCO list of Intangible Cultural Heritage is the Táncház method, a tradition that began in Hungary with focus on teaching folk dance and music (Sagrillo, 2019).

Diversity is the main aspect of cultural heritage on a European level and beyond. The European Music Council claims to foster "in varietate concordia, united in diversity" (motto of the EU) as a main aspect of cultural heritage on a European level. Europeanism is also promoted by the joint preservation of past traditions and cultural values.

The Kodály concept

The music curricula at schools in Hungary are based on the principles of Zoltán Kodály. Kodály's music pedagogical activity was closely related to his activity as a composer and an ethnomusicologist. The different fields of activity he performed complemented and fertilised one another (Pukánszky, 2005). Kodály's musical educational principles were based on folk music and contribute to the unfolding of a new lifestyle, and they are based on active relationship with music, where the child is in the center (Pethő, 2011).

According to Gruhn (2019), the present situation of music teaching and learning is also characterised by a socially and culturally determined shift from the *objects* of education to its *subjects*, from *content* to *action* and from the orientation on *traditional values of artworks* to an understanding of *music as action in social praxis* that offers the possibility of *participation* rather than calling for factual *knowledge* (Table 1).

Table 1: Schematic confrontation of the core elements of an epistemological paradigm change

UNIVERSAL CONCEPTIONS		INDIVIDUALIZED CONCEPTIONS
Consistent philosophy of music education at large that governs all actions based on social consensus about functions and intentions of education.		Orientation on the individual learning process based on students' potential and cognitive development that directs all educational decisions.
homogeneous society		multicultural society
tradition determines **cultural values** relevant to education	shift	globalization determines **musical identity** in Communities of Practice; music as social praxis
education based on contents (objects)		education based on individual potential **(subjects)**
goal: contents and values		goal: **action and participation**
Learner adopted to the CONCEPTION		**Conception adopted to the LEARNER**

Source: Gruhn, 2019

Kodály's vision of musical formation had a broad foundation and envisioned an active and musically literate student. As the folk music of Hungary is one of the country's most important expressions of national iden-

tity, his approach pursued the goal of establishing and consolidating national culture as part of Hungarian identity (Gruhn, 2019).

Ittzés (2006) highlighted four principles to define the essence of Kodály's ideas: 1) all children should receive music education; 2) the bases of the music education are the human voice and singing; 3) exposure to music should take place on the basis of the principles of value-orientation guaranteed by the native musical language; and 4) the prerequisite of educating music experts is the acquisition of musical literacy coupled with the use of relative solmization. The application of the relative sol-fa syllables can serve as a memory aid for reading pitch.

Kodály became interested in relative solmisation sometime in the 1930s, when Sarah Glover's tonic sol-fa system was adapted by John Curwen. Curwen published a number of textbooks and songbooks including *The Standard Course of Lessons on the Tonic Sol-fa Method of Teaching to Sing* (1858). In the 1872 edition of *The Standard Course*, Curwen excluded the staff system of notation from the tonic sol-fa course, relying solely on his own invented notational system in the publication of textbooks, vocal music and even instrumental music. Kodály discovered that relative solmisation could make an excellent tool for achieving his educational goals: music literacy, in the training of school children as it was achieved in Britain in the 1930s.

Teaching experience shows that singing with sol-fa syllables facilitates the rapid and secure development of important musical skills, such as singing, intonation and music reading. Hand signs are often used in connection with sol-fa singing. They give character to each sound, show their spatial relationships, and help to acquire a clear concept of the sounds and the intervals. Hand signs are performed during singing exercises to provide a visual aid.

The role of folk song in music education

Many of Kodály's children's choruses are based on Hungarian folk songs, like the first one from 1925, when Kodály's interest turned towards music education (*Villő / Straw Guy'* and *Túrót eszik a cigány / See the gipsy munching cottage cheese*). Kodály believed that every ethnicity has a suitable body of folk songs for teaching music, so it should be simple to use folk songs in the national core curriculum. However, very few ethnicities have experts like Kodály, who invest in the pedagogical elaboration of their cultural heritage. The composers Zoltán Kodály and Béla Bartók were also collectors of folk songs, and their experiences in the field of ethnomusicology inspired their compositional work. According to Kodály's observations, folk tunes do not only have a single authentic form to be adhered to note by note. The type, which is a certain kind of frame including the structure, is more important than a single variant. The reason for giving an outstanding role to folk songs in Hungarian music education is that a series of important musical phenomena belongs to the basis of musical thinking, and they are the easiest learnt in folk music. Folk songs can be read with text or with sol-fa. Many songs are richly decorated, and at higher levels students need to be taught to read decorations (Chart 1).

Chart 1: Example of folk song notation

Students not only sing folk songs, but also analyse them according to the features of the different styles. They study the fifth answer types of folk songs usually in the pentatonic tone system. Teachers also explain the unfamiliar terms, related to the texts of folk customs, folk costumes and folk instruments. Original sound recordings are used during music lessons, because listening to songs several times can help lead the popular diction and vocal techniques for learning. Students sing songs in bunches, taking care of the topic and the landscape plan, and the songs relate to on another. As a variant of a popular song can teach you more, music teachers can show the students the work by Kodály that includes the particular song. In Hungary, students do not only learn children's songs, but many folk songs and their characteristics to distinguish between old and new-type folk songs. There is usually a descending fifth change in a pentatonic melodic structure in old-type folk songs.

Kodály's singing and reading exercises

As a composer, Kodály characterised his life-work as human voice-centred music. Music education (including the writing of pedagogical pieces) was more important for him than composing larger symphonic works (Ittzés, 2006). He claimed that anyone can learn music reading and writing. In Hungarian music education, solfege lessons are primarily built on the pedagogical compositions of Kodály. These works not only improve music reading and writing, musical memory and intonation, they also introduce students to the common musical activities, to group or choir singing via an invaluable music material. The book entitled *333 Elementary Reading Exercises* (1943), had the original title of *Introduction to Hungarian Folk Music*. The book contains Kodály's own unison melodies from the two-note material or d-r steps to the whole pentatonic scale (l,-d-r-m-s). The tunes are related to Hungarian folk music but show several Western musical characteristics (e.g. periodic structure.) The aim of the booklet is to establish music reading skills via sol-fa notation and the practicing of simple rhythm patterns (Ittzés, 2006).

In *Pentatonic Music* Volumes I-IV, in addition to Hungarian folk music Zoltán Kodály also uses folk tunes from other Finno-Ugric peoples. The four volumes comprise a total of 440 pentatonic melodies. The first and the third volume contain a hundred Hungarian and Mari melodies, and the fourth one contains 140 Chuvash folk songs. The second volume of *100 Little Marches* (1947) contains Kodály's own compositions. Elementary-school students can practise by singing or playing the xylophone (or any other available instrument). Music reading exercises are done without lyrics. All of the four booklets are published with sol-fa notation to practice the pentatonic scale in more detail. Kodály's *Biciniae Hungarica* volumes I-IV aim to introduce the reader to two-part singing. The four booklets include 480 biciniae (1947). The first three booklets contain polyphonic arrangements of Hungarian folk songs, and the third volume also presents historical songs. The fourth volume contains 57 Mari and three Finnish folk songs. The *Bicinia Hungarica* present an independent style of Palestrina. Although Kodály claimed that these volumes were not intended for public performance, most biciniae can be performed in concerts. Kodály's two-part reading exercises were published in several series from the 1950s, entitled 77, 66, 55, 44, 33 and 22 two-part practices, respectively, and then his Tricinia was released including 29 three-part singing practices.

Functional music literacy

Music literacy is traditionally defined as an acquired musical knowledge and a skill to translate notation into vocal sound (reading/singing) and sound into notation (notating/writing). Both reading and notating skills are fundamental prerequisites for comprehensive musicianship. However, the term 'literacy' is continually changing and evolving, and we cannot narrow its meaning to this simple definition.

Furthermore, it is important to take into consideration the new ways and forms of communication, the nature and speed of information, and the growing role of technology. Music reading is a highly complex activity on multiple levels, and the acquisition of reading literacy includes learning, using and perfecting a corresponding set of highly interrelated operations, skills and strategies which can and should be improved until adulthood even in the case of highly skilled students (Schnotz and Molnár, 2012).

The term 'functional music literacy' was coined by Jorgensen (1981). It means the minimum level of musical skills which enables students to play an instrument or sing musical materials. Functional reading literacy is generally seen as an enculturation process, where literacy practices at school are designed so that

they resemble literacy events, practices, and authentic texts used for specific purposes in real-life contexts, emphasising social interaction and collaborative construction of meaning (Linnakyla, 2007). One of the principal aims of music education is to develop a functional musical literacy through solo or group (choir, chamber, or orchestra) performances. However, music reading achievement is usually weak, only a few music programmes address reading skills beyond the most perfunctory level (Ester, 2010).

As it contains music-reading comprehension, functional music literacy allows students to enjoy music and active music-making through contributing to the development of their musical taste. Through culturally relevant and authentic activities, which could partly be in the hands of public schools, it fosters the acquisition of musical reading and musicianship, nurturing the development of musicians, in addition to the development of future audiences.

Digital technology as a tool for preserving cultural heritage in music education

Our students are faced with learning multiple new literacies to succeed in our information-rich world, yet most schools have not caught up with the digital reality that students live in day by day. Lately, more than 30,000 musical applications have appeared on iPad and more than 7000 on android software (Sagrillo, 2016). According to Janols (1990), the new technology has increased students' sense of the basic elements of music. Research into computer-assisted music education started at the end of 1960s in the United States and the United Kingdom. The first computer programs were intended as ear-training exercises (Raynold, 1967).

The use of ICT tools not only improves students' music skills, but at the same time also develops their digital competence. Basic computer skills can also increase students' labour-market opportunities in the future. Although ear-training programs are often used abroad (EarMaster Pro, GnuSolfege etc.), Hungarian music teachers rarely use any kind of ICT tool in solfege lessons (Buzás, 2012).

The rapidly increasing database of the Internet provides resources for teachers as well as students in many cases. Supplementary data for music history, supporting material for ear-training or music analysis, several kinds of software or plug-ins for certain software are always available. Emails can support independent activities, homework or co-operation with, for example, other schools.

Since 2000, Web 2.0 has been characterised by a participatory culture. In this context, users are involved, they interact with the content and collaborate with each other online to create "user-generated content". Culture is produced, consumed and mediated differently thanks to digitisation in general and to the set of new web technologies that facilitate publishing and sharing (Sagrillo, 2016).

In Europe computer-based assessment was first initiated in Luxembourg almost in every field of education. This system was adapted by the OECD PISA 2009 Electronic Reading Assessment (ERA) and OECD PIAAC (Program for International Assessment of Adult Competencies) (Molnár, 2010).

Online testing of students' music literacy skills

Our studies were the first attempts to examine students' music literacy skills with the help of the latest digital technologies. We investigated procedures that encompass a broad spectrum of the components of music literacy based on the Kodály concept. The following research questions are addressed: 1) How reliably does the online music reading instrument assess music literacy skills among music school students? 2) What is the music literacy level of students of the age between 9 and 14? 3) How does the music literacy achievement of the students correlate with certain background variables? 4) What is the role of the digital technologies in music students' life?

Participants were tested in the spring of 2017. A total of 204 music school students from five consecutive grades participated in the study. Students were selected from five different music schools, located in Hungarian cities including the capital (Table 2). These students, aged between 9 and 14, have various opportunities to practise music reading in music schools, such as in orchestras and chamber groups, or at solfege classes. All the students learn to play a musical instrument twice a week.

Table 2. Sample for the study

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Grade	N	Boys (per cent)	Girls (per cent)
4	41	21	78
5	40	35	65
6	43	40	60
7	38	47	53
8	42	62	38
Total	**204**	**41**	**59**

Source: Edited by the author

The data was recorded on the eDia platform. The advantage of an electronic diagnostic system over paper-based measurements is that the tasks can be made more enjoyable and lifelike due to images, sounds, animations and varied forms of response (selecting, clicking, colouring, moving and rearranging). Participants completed the online music-reading test that consisted of four sub-tests with 55 closed multiple-choice questions. Each appropriate response was awarded one score, with the maximum possible test scores being 55.

The different areas of music-reading skills were covered by the following sub-tests: rhythm reading (including simple meters, symmetrically compound meters, and some rhythm values and patterns), melody reading (including different musical notation systems, the recognition of melodic patterns, such as intervals, scales, triads and musical signs). Melody and rhythm reading with soundtracks were also integrated. To test students' timbre hearing, tasks with certain choir and orchestra compositions were added. Different music reading signs and symbols are taught from the first school years and, in the case of hand signs, even earlier, in the kindergarten.
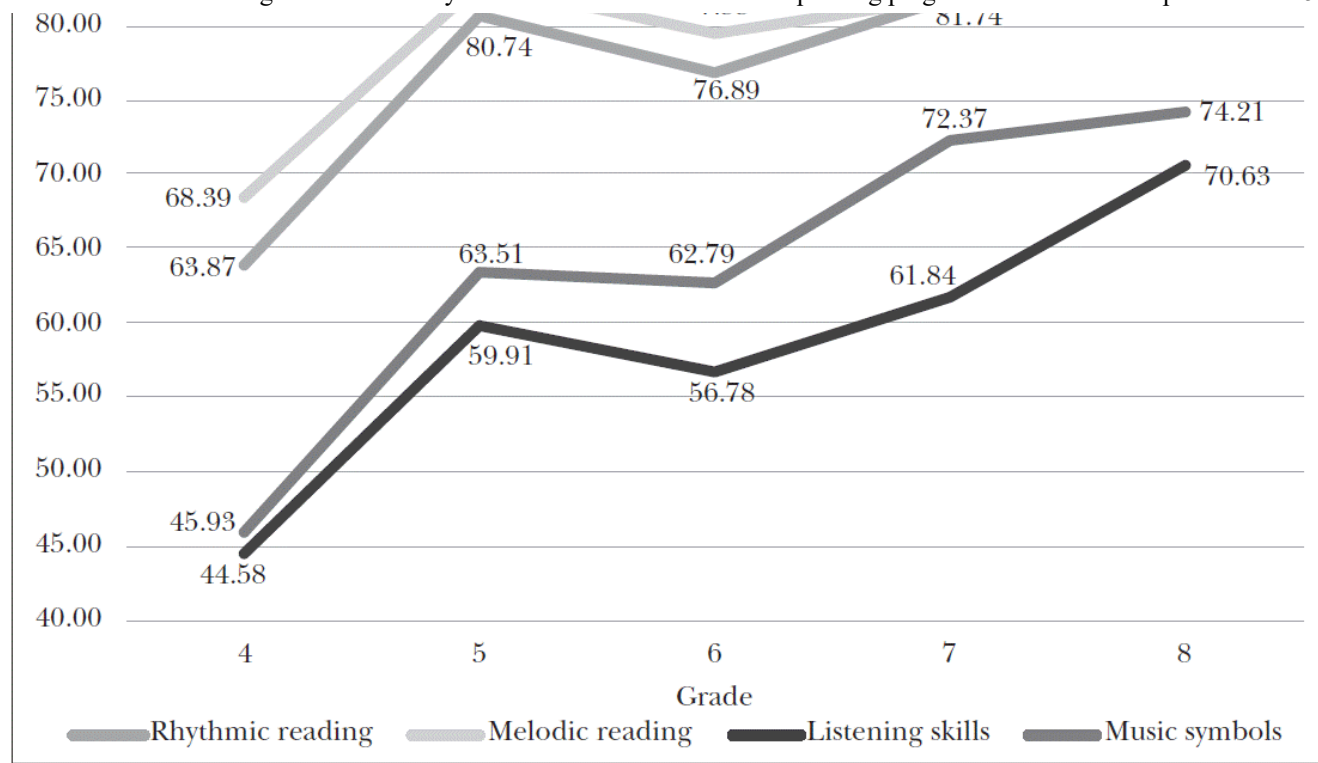
Findings

In terms of difficulty, the test corresponds to the development level of the grades assessed. The students' achievement was 73 per cent, with a standard deviation of 12.35. According to the results of variance analysis ($F=4.206$, $p=0.007$), significant differences were found between sixth and eighth graders, evidencing that music literacy skills improve in these grades.

We can observe a higher achievement in rhythm reading than for melody reading. Identifying musical clefs, note names and the perfect intervals proved to be the easiest for students. They had no difficulty with syncopation or recognising a song by its notation. The most difficult task was identifying the 6/8 meter, which is uncommon in Hungarian folk music, so the relative difficulty of identification was in accordance with the assumptions. Finding the four major triads was the second most difficult task in the entire test: 51 per cent of the fifth grader music school students and 45 per cent of the eighth graders identified them. With the use of variance analysis, a significant difference can be demonstrated between the achievements of the fifth, sixth and eighth graders on the task that dealt with a modal scale ($F=5.308$; $p=0.032$). Modal scales are typical in Hungarian folk songs. All students gave the correct answer to the task in connection with the perfect fifth interval that is a characteristic of the songs and it was also easy for them to identify the style of a song.

On the other hand, students found it difficult to identify the tonality of a melody. Only 30 per cent of the sixth graders succeeded in identifying the pentatonic scale, while 50 per cent of the seventh graders recognised the tonality. Almost 100 per cent of the eighth graders made the correct choice between the notations after listening to the melody. Recognising the timbre of a mixed choir was one of the easiest tasks: 93 per cent of the eighth graders gave the correct answer (Chart 2).

Chart 2: Descriptive statistics of sub-tests
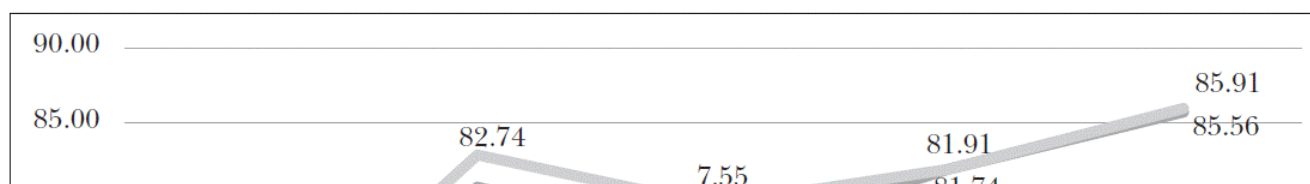
Source: Edited by the author

The influence of background variables on students' performance

A background questionnaire was also included in the assessment process. The analysis gives a straightforward explanation for the findings of the research, and helps in the interpretation of the context of music education. The majority of the music-school students (43 per cent) found the test to be moderately difficult, whereas 32 per cent of them considered it easy. A weak correlation was found between students' subjective estimation of their own performances and their actual performance in the music reading test ($r=0.214$, $p<0.05$). We found no relationship between the music reading achievement and the parents' educational level. There were no significant differences between boys' and girls' achievements in the sub-tests.

Several studies identify a correlation between students' achievement at school and their motivation. We found correlations between the students' attitude to some activities during solfege classes and their achievement in rhythm reading ($r=0.286$, $p<0.01$) and their attitude to singing ($r=0.237$, $p<0.01$), and between students' achievement and attitude to listening activities ($r=0.245$, $p<0.01$). A positive attitude to singing correlates with music reading achievement ($r=0.305$, $p<0.01$), which accounts for 9.3 per cent of variance in the music reading achievement. It also correlates with the achievement of the rhythm reading sub-test ($r=0.204$, $p<0.05$), the melody reading sub-test ($r=0.274$, $p<0.01$) and with the musical signs and concepts sub-test.

Students' use of digital technology

We were curious about students' use of digital technologies at home in this rapidly developing world. Nowadays, the Internet plays an important role in teaching, research and learning processes, as it is the only and the most powerful tool to provide access to unlimited information. We asked how often students surfed the Internet. 25 per cent reported that they used it 2-3 hours a week, and nearly 30 per cent claimed that they used the Internet 1-2 hours every day. Less than 10 percent of the students reported that they used it more than 4 hours a day (Chart 3).

*Chart 3: Amount of time students surf the Internet (%p)*
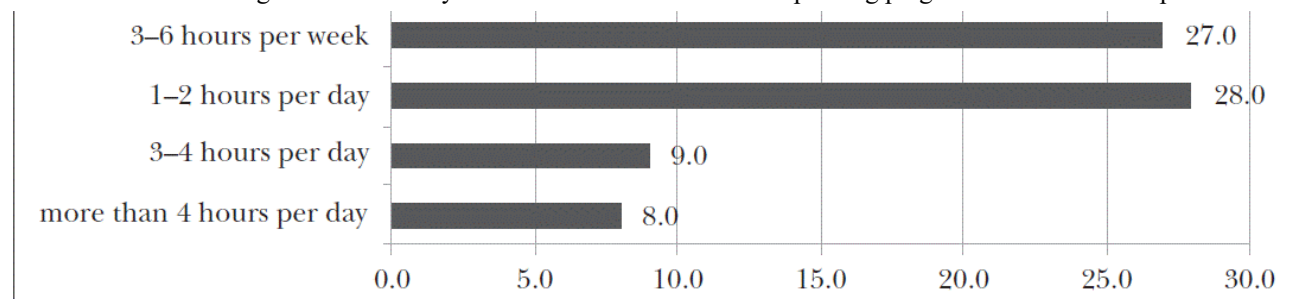
Source: Edited by the author

Solfege classes contain various activities, such as music reading, writing or listening to music. In our research, students' experience with YouTube as one of the main online music sources was also examined. Almost 25 per cent of the students use it for 1 or 2 hours a day. However, no significant correlation was found between the use of digital devices and music literacy achievement (Chart 4).

Chart 4: Amount of time spent on YouTube (%p)
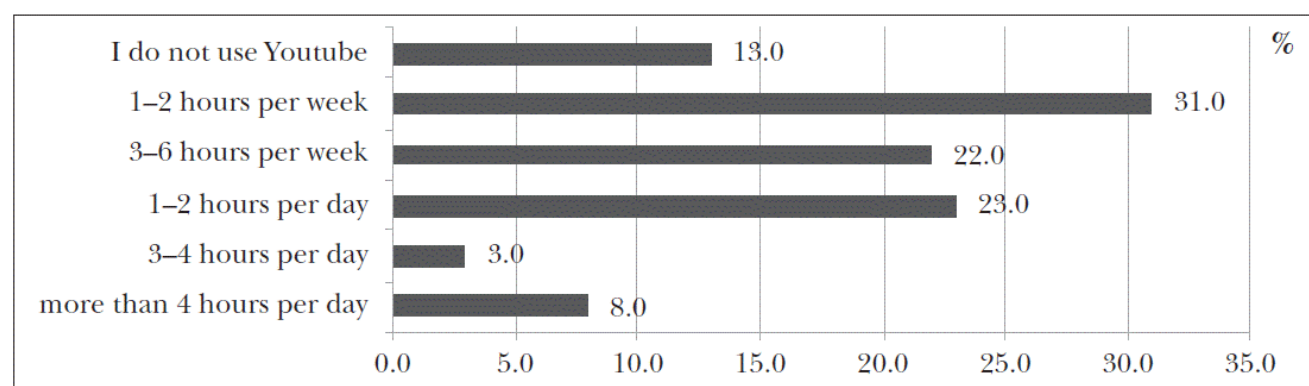
Source: Edited by the author

Summary

Music has been part of the cultural heritage since the origins of mankind, not only in an artistic and cultural aspect. In the *Epilogue of Pentatonic Music*, Zoltán Kodály highlighted that learning world music is useful in the study of our ancient music culture. Hungarian folk music draws influences from multiple sources and it has been affected by other peoples' music.

Hungarian music education is based on the Kodály concept. Our online test results revealed that students' music literacy skills are well-developed in the digital age.

According to Kodály: "Hungary is also an integral part of Europe: and as such, it should embrace European traditions. For a country and a people living at the point of impact between East and West, the purpose of life can only be to be long to both, to reconcile any conflict between the two and absorb both to merge them. In this respect, to identify as a Hungarian without a European identity is worthless, and to me, Europeanness without simultaneous Hungarianness is worthless. We should and can learn from the musical culture of all nations. ... Isolation and the lack of education will also strip away national characteristics" (Bónis, 1974). According to his concept, every teacher and musical expert has the role to transmit our culture heritage to the next generations.

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