**Challenges facing developing countries in the production and teaching of Braille music: case study from Iran**

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Iran.

My name is Dr Meysam Khataminia. I am a lecturer in Persian and Arabic literature at the University of Tehran. I lost my sight when I was 14 years old and have become am an award-winning pianist, conductor, composer and arranger, have written two books in Persian on music theory and piano lessons levels one and two, and in 2009 I established Afra, the largest music school in Eastern Tehran. My music school currently boasts 500 students and more than 30 teachers, teaching traditional, pop and classical music. All of the profits of Afra go toward providing Braille music supplies for my many blind music students.

In this presentation I will discuss some of the difficulties blind students in countries with low-income economies, using Iran as a case study, face in accessing Braille technology and supplies, as well as other access issues to Braille music.

Throughout history, the disabled in general and the blind in particular have experienced the inadequacy of living in isolation, lacking the dignity and status of their communities. Also due to misconceptions among different societies inevitably the blind were marginalised, a trend that continued for about two centuries. There have been some exceptions throughout history, but fortunately today with the rapid growth of technology on the one hand, and the profound intellectual and cultural developments in human societies on the other, increasingly the opportunity has been provided for the vision impaired to be present in the context of society. Thus today society is witnessing the remarkable activities of the blind in various fields, including those that were considered impossible decades ago.

The expansion of employability for the blind has been a priority to those involved in the wellbeing of the blind in ‘advanced’ countries of the world in recent decades. One of these fields is in music, and the blind have shown exceptional talent for learning and applying themselves to different aspects. Due to the breadth of the field, music has shown strong support for meeting spiritual, physical and occupational values. Accordingly, the idea of providing Braille music resources, which has a long history in the advanced countries of the world, has come to the attention of those involved in this area. This is a subject that is discussed in Iran, but it usually remains a matter of talk. In this study, I will try to provide some solutions to reduce these challenges while discussing the software used by the blind in the field of Braille music and the challenges facing blind people in Iran.

Braille is a system of rectangular cells which have raised dots. Each cell consists of a possible six dots in the form of two three-dot columns, which by their combinations make various letters, words and signs. In the various sciences and languages the Braille code is different. Braille paper sheets or digital displays can be read by touching fingers to the Braille line. Musical signs can also be read and written by this series of six dots. The blind in Iran also use Braille code to read and write text as well as music.

Braille has been used in Iran for about a century. At first the blind used simple writing tools, but with the passage of time and with the advancement of new technologies, they have partially achieved the use of modern means and promoted the use of Braille as a universal need. However the idea of Braille art supplies, which has a long history in progressive countries, is mostly void in developing countries, including Iran. Mostly Braille is only used for text, so the blind in Iran use Braille to read and write, but as the Braille line is standardised for all languages, musical signs can also be read and written. Fortunately, with the introduction of computers into the blind world, the increasing use of Braille embossers, and the availability of specialised software capable of converting ordinary texts to Braille, books can be easily converted to Braille.

Converting music notes however to Braille is one of the most difficult types of conversions because there are so many details in music that have to be scrutinised very carefully. In a file containing text only, deleting a letter or even a word may not cause much difficulty in understanding the text, But in a moving piece of music, even the rhythm of a note will lead to a mistake in that piece. It is important to emphasize that blind people interested in learning music must be very familiar with reading and writing Braille before they attempt to learn to read or write Braille music. For example in a piece of music many details such as key, time signature, tempo, duration, pitch, colour, dynamic, octave, Articulation, rhythm, adornments and many other details are mentioned that are essential in the accuracy of writing Braille music.

Despite their shortcomings, there are various ways to convert musical notes to Braille that can still be very useful to the blind. One of these software packages is GOODFEEL, which offers features such as scanning capability, editing of scanned material and Braille printing.

Another software is BME2 Braille Music Editor, which has useful features such as being lightweight and compact, and has simultaneous execution of notes while writing, has easy movement between notes and editing, a database for different musical instrument signs, and the ability to print notes in Braille and in visual print formats.

In Iran, people are making an effort to convert musical notes into Braille. These efforts have yet to achieve their desired results as many problems, including the expense of the software in a struggling economy, and the deteriorating economic situation in Iran, especially after US sanctions and the severe collapse of the Iranian rial. These music programs are therefore of little importance to the government, thus the blind are deprived of these proficiencies available to most of the rest of the world. The Iranian government does not provide support for purchasing these software packages; hence the blind and the vision impaired have virtually no access to the world’s new technologies. There is only one institution in Iran which has GOODFEEL software, although this also has not been successful due to the lack of specialist musicians in the institution and the lack of a specialised music committee in the community.

Some of the other problems with Braille music in Iran are that the Iranian political system is a system of religious ideology. The ideology of the Iranian political system has led to the unrestrained power of religious institutions and decreased the amount of attention and importance on music and musicians so they are marginalized. In a country where policies are formulated in such a way that music lies on the border between lawful and forbidden, accepted and not, the rulers view is that they either don’t look to music as an accepted art form, or they don’t pay much value to it, And thus they do not strive for its growth and prosperity. They do not appreciate this art form and its followers, and they do not respect its achievements and unfortunately, they occasionally make disparaging and insulting public remarks about the artists themselves. Musicians and musical instruments are not shown on television, and Women are not allowed to sing, and dance is forbidden, and so on … The political divisions that have led to international sanctions have also made Braille music extremely hard to get, which includes hardware, software and even Braille paper. In this context Braille music is meaningless.

I believe that the educational ministry should enable blind people to get acquainted with different instruments in view of the necessity of learning music for the blind from an early age, and they should consider teachers who are familiar with brail and visual musical notes in order to teach music to the blind. This was relatively possible before the Islamic Revolution, but is now near impossible.

Since blind musicians cannot play and read sheet music concurrently, their interest in using Braille is somewhat reduced, which has further limited the existence of Braille music books. Most blind people in Iran will tend to choose to play piano, as there is a severe lack of Braille music supplies for other instruments. In fact, even if a keen vision impaired person can afford to obtain Braille supplies for another instrument, the problem remains with Iranian instruments, which have no Braille resources at all. Obviously sighted musicians who want to learn Iranian instruments, don’t have this problem, so blind musicians are locked out of using Braille music to learn and play Iranian instruments.

The lives of blind and vision impaired people in Third World countries are always subject to discrimination, and lack of access to Braille resources in the field of music is a manifestation of this discrimination. Nevertheless, with all its shortcomings, Iran is witnessing the flourishing of the musical talent of the blind and its influential presence in various fields of music, including the management of music institutions, writing books and essays, translating musical works of epic performances, and performing magnificent peaces which require special attention in the field of learning and applying music among people with vision impairment.

Other problems include that Iranians cannot easily obtain or buy from the world's Braille libraries, and often cannot even create accounts in some digital libraries. I hope that pioneering institutions for the blind, especially international Braille libraries around the world will increasingly pay special attention to the blind communities in Third World countries by adopting humanitarian policies which will decrease the problems of the blind in these countries. Another solution could be that blind music organisations could offer active training for Braille music experts in Third World countries so they can teach other blind and vision impaired people about the latest changes in Braille music and the latest equipment.

The free Music Schools in Iran do not accept blind student admissions due to the lack of Braille resources for blind Students, as well as teachers familiar with the Braille music code. Enabling effective communication between blind students in these free and public music schools is necessary since the government in Iran is shrinking these schools’ intakes and parts of them are being outsourced to the private sector. The private sector does not bother with public interest and pursues only its economic benefits. As a result, attention to the concerns of people with disabilities is being decreased. There is a non-acceptance of responsibility of NGOS over Braille music and by diminishing the functions of these organizations they are not organising camps or giving provisions to the blind. Basically, non-government organisations in the field of the blind in Iran do not have much power, but neither does the government allow them to become powerful. Experts who want to do anything to improve the situation of vision impaired people face disruptions and obstacles.

Another part of the problem with Braille music is related to the blind themselves. In Iran the blind are not demanding or united. The Iranian blind people could solve many of their issues, but they do not have the will to solve these problems. There is a lack of even a music community owned by the blind, and as a result there is no consistency of blind artists.

It is also important to note that Iranian music is rich and has a history dating back thousands of years. The variety of Iranian instruments necessitates the need for specialised committees composed of experts familiar with Braille music to accurately compose the signs of Iranian music notation and to be accepted internationally. Existing music software also needs to support this additional Braille music code. For example, in Western and classical music, the smallest interval between two notes is a semitone, or half tone. In Iranian music there is an interval of a quarter-tone. This quarter-tone has a contractual mark for writing it in Braille, but it has not been officially registered. Neither have native Persian percussion instruments been officially registered in Braille music code.

In recent years, an encyclopaedia on Braille has been developed in Iran, but needs updating. There is a strong desire among Braille music experts in Iran to have specific signs in Iranian music approved at Braille international assemblies, obviously following all due diligence. It is important to note that the World Symposium on Braille Music at the 1954 Paris Conference was planning to compile signs for Eastern music, but these have not been properly implemented so far.

The Music Symbols Handbook in Braille compiled of all the musical symbols has seven chapters and thirty-six tables, with explanations of each. It was published in February 2012 in Farsi in Iran. In the sixth chapter of this book were added the invention of signs for Iranian instruments, which do not conflict with any of the international symbols. Other chapters in this book are from the Braille revised international manual of Braille music notation published by RNIB London.

In the face of challenges such as lack of open source Braille music software and official Iranian Braille music code, music students in Iran find it more difficult than many other countries to analyse music forms or to analyse various orchestras, such as symphonic orchestras and to perform classical works.

In conclusion, it is suggested that in the domestic arena policymakers pay more attention to the role of music in improving the lives of people with vision impairment.

In the international arena, the creation of appropriate mechanisms to transfer technology and other people’s experiences to Iran so this process is not affected by political tensions and its consequences. Lifting economic sanctions on Braille music software, for instance, can pave the way for overcoming many of the aforementioned challenges, and decrease the difficulties along this path.