

## ARTICLE

# A REVIEW ON ANDROID APPLICATIONS FOR ARABIC LANGUAGE LEARNING

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## ABSTRACT

There are various disabilities that have a major implication on the whole concept of verbal communication. Autistic people are the most affected. Autism ultimately ends up limiting the range of social interactions of patients and crucial activities such as playing. Over the past few years, there has been a rapid increase in the number of children that have been diagnosed with Autism Spectrum Disorders. Mobile applications have continued to be generally accepted among children with ASD as they are easy to use. The applications have proven to be convenient to use so that children with issues regarding autism can be in a position to employ the use of technology. It is essential to note that autistic children, more so those that are still very young, are not in any way similar to non-autistic children.

## INTRODUCTION

There are various disabilities that have implication on the whole concept of verbal communication. On top of the list of those that are most affected are people with autism, which end up limiting the range of social interactions and even activities such as playing. It can, therefore, be said to be a scenario which has implications on the daily functions among the upcoming lives of people. Some of the impairments that accrue from Autism Spectrum Disorder affect the whole process of social interaction and even communication. ASD results in a complex developmental disability that normally appears during the first 3 years of their lives. The condition is associated with a neurological disorder [1]. Over the past few years, there has been a rapid increase in the number of children that have been diagnosed with Autism Spectrum Disorders. This has sparked an increase in mobile applications that are focused on making improvements and enhancing the social skills among children with ASD. One of the major disciplines that have proven to experience immense changes is the emergence of Arabic mobile applications. These applications have been designed with the aim of being used to the advantage of children with Autism Spectrum Disorder [2].

## LITERATURE REVIEW

### ANDROID APPLICATIONS FOR ARABIC LANGUAGE LEARNING

Mobile applications have continued to be generally accepted since they are easy to use especially for children who have been diagnosed with ASD [3]. Mobile applications can be said to be software applications normally designed to run in mobile devices ranging from smartphones to tablets. Mobile applications are available on platforms which run on the various mobile devices. Some of the platforms which have embraced the initiative are available in Apple store and Google play store.

The past few years have been characterized by an increase in mobile applications, which has ultimately led to an increase in the number applications that are difficult to use for some users. Some of the issues that can be used to determine the ease of use of some of the applications include assessing the usability of the applications. Basing on the definition outlined by the International Organization for Standardization, usability entails the extent to which a particular mobile application goes so that it can be in a position to achieve effectiveness, satisfaction and also efficiency [4].

Effectiveness is concerned with the accuracy of the application or the aspects of completeness which can be met by particular users of the application. Efficiency, on the other hand, looks into some of the resources which the application exploits so as to come up with the desired results. Satisfaction is about ensuring that the application is in a position to ensure comfort and also ensuring that it achieves acceptability among the users of the application [5].

It is therefore essential to ensure that Arabic applications, more so those that are aimed at benefiting the children that have been diagnosed with ASD, are in a position to present maximum usability. The children that are of central focus fall in between the age bracket of three and twelve. The applications should also be usable by people that are concerned with aiding the children with these conditions. Users should not at all have challenges in manipulating the applications and ensure that high productivity is achieved [6].

## METHOD

The people affected by the usability of such applications are not only those that have been diagnosed but also their teachers, parents and even non-autistic children. The usability of these applications can be

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assessed and even analyzed based on a series of measures that have been standardized and recommended. Some of the applications include 'Touch to Speak' devices and 'Tap to Talk' devices which have managed to embrace the Arabic languages among other major languages such as English.

The two forms of communication that have been employed extensively by application developers have acted as the forms of the most precise alternative forms of communication which are also augmentative. They give models which can be used to express needs, wants and even thoughts. They can be used to give expressions of ways to convey ideas because they employ the use of augmentative aids. Some of the augmentative aids which are usually employed are use of symbols as a mode of communication or in some cases pictures. The aids are essential because they help in ensuring people are in a position to express themselves, which sometimes integrate the use of electronic devices [7].

Children with ASD have serious issues in terms of making speeches or extensive language problems and the two aids ('Touch to speak' and 'Tap to Talk') have proven to be essential to them. The fact that it is in a position to cater for the needs of some people with special needs gives them the opportunity to also learn Arabic [8]. It is thus clear why mobile technology has been in a position to adopt a variety of applications created for the sole purposes of ensuring that people with such conditions do not face challenges in establishing communications and interactions [9].

A very essential aspect of mobile technology is that games have also been integrated to tackle the needs of children with special needs. Various studies conducted in the past have come up with important conclusions regarding the essence of mobile technology [10]. The researchers came to the conclusion that mobile technology plays a very crucial role in cognitive development. Some of the other positive aspects highly likely to be recorded include general development in psychological capabilities and also positive results in the general academic performance of such children.

## RESULTS

The results which aided in the conclusions were based on studies involving interviews conducted with tutors and also an extensive examination of some of the software that has been utilized to assist in boosting the performance of children with ASD. The researchers find out that autistic children showed immense satisfaction with the technology which had been adopted, more so those that they used in playing. Some of the research focused on finding out how educational games aided in the performance of autistic children [11].

However, there has been immense concern pointing to the essence of techniques that can be used to evaluate the usability of some of the games [12]. The techniques have been adopted so that the interface of some of these games and even the mechanics of the game can be assessed and aid in the establishment of whether they are in a position to enhance interactivity among children with ASD. A huge aspect that is prevalent, based on the games aimed at assisting children with ASD, is that they end up coming up with routines [13]. The routines are also accompanied by a predictable environment which has always been essential for cognitive development.

Children diagnosed with ASD are seen to be visual learners and most of them also do not always seem to respond to the audio cues [14]. It is therefore essential for mobile application developers to take into account some of the issues that should be integrated to the applications, which will eventually ease the use of mobile devices among those with ASD. It is fundamental that there is a consideration for some aspect of difficulty to ensure that maximum results are achieved. The results can be assessed based on the ease of use of the mobile application and the ability for the users to learn. There is also need to ensure that the application is in a position to be interactive and eventually translate to easier learning and usage [15]. Mobile applications have therefore proven to be convenient to autistic children and they can easily employ helpful aspects. Arabic concepts can also be grasped through such platforms which will enhance communication and interactivity. However, it is important to ensure that the forms of mobile application technology should be standardized in such a way that there will be no negative effects be recorded as a result of problems usually associated with some of the technological devices [16].

It is crucial to ensure that the special needs of the users have been taken into account during the process of developing the applications [17]. Some of the issues which can be addressed include the interface designs, considering that there are varied categories that are essential for the applications to be of great use. This consideration will ensure that all the aspects of the developed application are taken into consideration. It is an approach which may address the issues of those that may find visual presentations more crucial since they do employ these illustrations [18]. The images can be used as a way of creating connections with some of the places familiar with the users or even their family members.

A key factor that cannot be ignored is that the audio levels of mobile applications need to be regulated in such a way that there will be minimal disturbances. In the event that the children with autism begin interacting with the applications, extreme audio levels are likely to result in disturbances and discomfort. Audio should, therefore, be strictly regulated since it is a concept which is very essential for interaction with other people. One challenge that is prevalent among children with autism is that they tend to show a preference for people that they have always known. This is a clear implication that a major challenge may arise when establishing alternative ways to train them to embrace new ways of interactions. A complete

way of making interactions, where for this scenario is the use of mobile technology, may prove to be a challenge. It may be a challenge to introduce the type of technology more so if it is from new parties [19].

It is however very clear that the whole process of exploiting some of these applications is relatively easy. This despite the fact that in some cases, the visuals used in the mobile technology may be a challenge to evaluate and even translate [20]. The applications should be in a position to address the whole aspect of customizing them so that they can be adjusted to suit the needs and the taste of the patient. Some of the applications may be accompanied by other issues which may come as a result of the unpredictability of the mobile application [21].

## CONCLUSION

Autism Spectrum Disorder is a condition which has been on the rise throughout the past decade despite some failing to be diagnosed. Most Arab countries have experienced the issue and have not been in a position to adequately blend in the technology of mobile application as much as they have advanced in technology. As much as there have been applications which have been adequately crafted to meet the needs of children with ASD, all the usability aspects should be paramount so as to enhance the productivity of such applications.

## RECOMMENDATION

It should, therefore, be paramount to ensure that there is an optimal design which will ensure that mobile applications can serve as an alternative for the for the conventional methods of communication [22]. Benefits of the technology should be embraced and blended to ensure that the issues associated with the mobile applications can be minimized by all means. New features can be essential based on prevailing experiences and study of some of the aspects that are likely to be essential. New features are necessary for the recommended standards of the platform to be achieved. All in all, there is a need for a robust framework that will tackle the issues which may come in terms of functionalities through the presence of guides that will assist users [23].

## FUTURE WORK

It is essential to note that autistic children are not in any way similar to non-autistic children, more so those that are still very young. They easily get bored while performing various tasks [24]. There is a call for more research to dwell on ways to find out different approaches that can be employed to ensure that children with ASD do not maintain certain specific positions for a significant amount of time [25]. It is a proposal based on the fact that most of the applications that have been under intensive research, have not tackled issues related to boredom as a result of sticking to one position for a while.

## CONFLICT OF INTEREST

No conflict of interest

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