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Using augmented reality in marketing courses[1]

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Abstract

The development of the new technological changes in mobile communications and through the use of the internet as mobile, create new communication channels. Based on the development of technology, teaching methods and materials are also changed and improved. Developments in communication technology firstly affect the educational technology through distance learning activities also using mobile tools in education provided the new possibilities. Internet usage with Mobil devices provide the distance learning have been moved to the mobile environment. Mobil education term can be described when using mobile communication tools in educational activities. And the newest mobile learning trend can be described as augmented learning. The study was designed as a theoretical work. The relevant literature has been examined for this purpose. The fact that there is not much work on the use of the augmented reality in marketing courses in the related literature shows the importance of working. It is aimed that the study will be guided by the academicians working on this field.

Keywords: *Augmented Reality, Education, Marketing Courses*

1. Introduction

The development of new technological changes in mobile communications and the use of the internet which is considered to be mobile has created new communication channels. According to Kemp (2016), 3.709 billion of the total population of the world are individual mobile users, and people all over the world spend an average of 2,9 hour at least per day on their mobile phones. Internet, which is continuously developing, is seen as the most important communication channel of the century. The internet has become increasingly mobile, with the increase in the number of smartphone users. However, at the same time, smart tools which can digitalize all kinds of written and visual information have become accessible.

For example, all kinds of information such as images, videos, books, written materials, news, films, etc. can be converted into digital formats.

Consequently, these advantages and issues have led to the use of mobile devices for different purposes. The advantages of using smart tools include speed - being able to work with it faster. Thus, users can find bigger scale than they could find before; people are not charged for the time; they can share the data with each other easily; they can have all their data in one place, and smart tools provide easy accessibility - people are able to quickly communicate with each other.

Students can obtain data easily via digital technology. Also, almost all students are particularly familiar with mobile technology because the new generation of young people has been showing

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strong interest. Especially with the new generation of young people, their lives have become intertwined at almost every point and moment with this technology in their daily lives. Therefore, companies, marketers, and advertisers who want to reach out to young people have begun to use mobile communication channels. In addition, mobile communication channels are not used only by marketers or advertisers.

In proportion to the development of technology, teaching methods and materials have also been changed and improved. Developments in communication technology firstly affected the educational technology through distance learning activities. This new development was possible using mobile tools in education. Internet usage with the use of mobile devices for distance learning has been moved to the mobile environment. Mobile education, as a term, can be described as the process of using mobile communication tools in educational activities.

Nowadays, digital technologies have created equal opportunities for all students and they are particularly familiar with mobile technology. As a result, they can adopt the new mobile education easily. And for students who are not able to come to the city where the university is located, they can use the mobile technology for distance learning.

Recently, mobile educational activities were introduced in the university and to academics and student. In addition, many lessons have been made suitable for mobile learning. Mobile learning can take advantage of many applications within the scope of its activities. One of these applications is augmented reality. In addition, one of the lessons within the context of mobile learning courses is marketing.

2. The aim and the importance of the study

One of the lessons given in mobile learning is marketing courses. The newest of the applications that can be exploited in the context of mobile learning can be expressed as augmented reality. Augmented reality is used mostly in medicine and science in the field of education. Although the applied reality applications started to be used in the field of marketing strategies of brands, there was no study about the usage of AR in marketing courses. So this study aims to offer suggestions on how to use the augmented reality in marketing lessons. Though there are studies on the use of augmented reality in education in the literature, the fact that there is no work related to the use of augmented reality in marketing courses shows the importance of the study.

3. Methodology

The study is designed as a theoretical research. The related literature has been searched for this purpose. Time is one of the limits of the study. The fact that the study is designed as a theoretical work, can be counted another constraint of the work.

4. Distance learning

With the development of communication technologies, education tools have undergone some changes. Nowadays, students can be educated with mobile learning tools. Nevertheless, the ancestor of mobile learning is distance learning.

As new technologies were developed, distance instruction was delivered through media such as audiotape, videotape, radio and television broadcasting, and satellite transmission (Kerka, 1996). According to Phipps and Merisotis (1999), distance learning is not a new phenomenon.

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With the development of the postal service in the 19th century, commercial correspondence colleges provided distance education to students across the country. This trend continued well into the 20th century with the advent of radio, television, and other media that supports learning from a distance.

According to Keegan (1996), distance learning and traditional learning has some differences. With distance learning, synchronous learning time is not necessary. Students can watch or listen to courses in asynchronous time. With distance learning, education can be practiced at any time and in any place. Subsequently, in traditional learning, students have to come to the classrooms. Distance learning also has a lower cost when compared with traditional learning. Distance learning provides many different types of information for students to access easily.

Distance learning is an increasingly important aspect of higher education. This is because it meets the needs of an expanding pool of nontraditional students who find education necessary for jobs in today's information age. Distance learning provides a convenient, flexible, and manageable alternative for this developing segment of the society (Brown, 2001). According to Phipps and Merisotis (1999), distance learning has some advantages. The outcomes of students' grades or test scores are more positive than traditional learning. Also, student's participation in distance learning courses is more effective.

In distance learning, students and teachers play different roles than the norm in traditional education. The teacher is no longer the sole source of knowledge, but instead, he/she becomes a facilitator to support the student learning. On the other hand, the student actively participates in what and how the knowledge is being imparted (Galusha, 1998).

4.1. Advantages of distance learning

People learn differently. As a result, distance learning provides people the opportunity to learn how and what they want. Distance learning provides long life learning. Also, disabled people can benefit from distance learning and obtain educational opportunities. When teachers, students and equipment are in different locations, distance learning provides the platform to educate.

According to Kerka (1996), distance learning includes flexibility to meet specific needs, provides equity of educational opportunity to students in varying localities, has low-cost alternatives, new learning experiences, and expanded resource. Designed correctly and specifically, distance learning options create great learning opportunities for students with a broad range of abilities and disabilities (Burgstahler, 2001).

5. Mobile learning

The usage of the internet via mobile devices brings distance learning a new opportunity. This opportunity can be described as mobile learning. Mobile learning can be explained as a revolution in distance learning. Mobile learning provides educational contents on smartphones, tablets, laptops or PDAs. The mobility of digital devices creates a new learning process. Mobile learning provides students mobility for their education process. It is clear that most intense users of digital devices are students. Hence, in order to reach these students in their learning life, mobile learning can be considered as a good alternative. Using mobile devices in learning activities gave universities an opportunity to reach a larger number of students.

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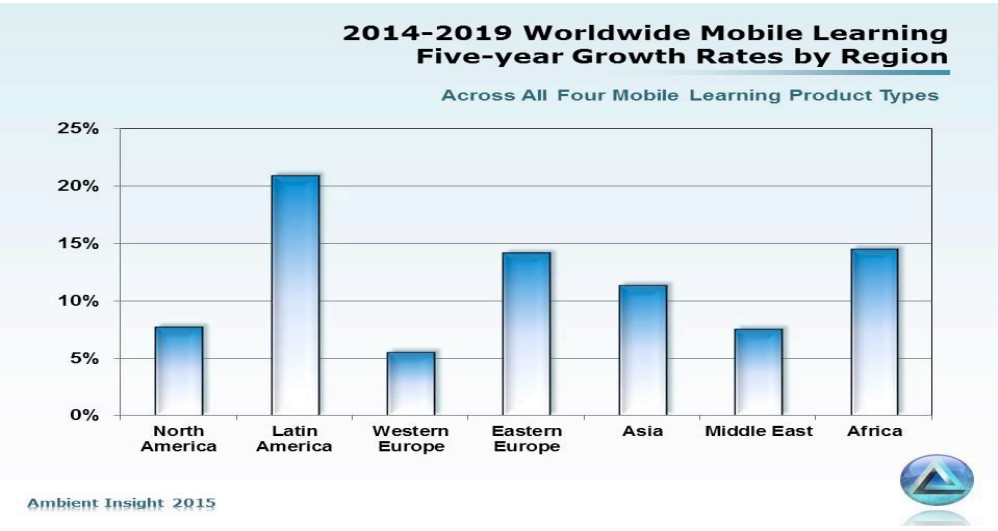
The place independence of mobile devices provides several benefits for e-learning environments, such as allowing students and instructors to utilize their spare time while traveling in trains or buses so as to finish their homework or lesson preparation (Virvou & Alepis, 2005).

According to Traxler (2009), mobile learning has growing visibility and significance in higher education. According to Kukulska-Hulme (2005), teachers and students adopt mobile technologies in higher education. Mobile learning pushes the boundaries of knowledge. Mobile phones, Personal Digital Assistants, MP3 players, and e-mails can be counted as tools for mobile learning. Mobile learning provides students some beneficial situations. Mobile learning is a learner-centered learning style. Thus, students can create a learning program which enables them to reason from their own experiences. Mobile learning is knowledge centered. Also, mobile learning is assessment centered (Sharples et al., 2005). According to Winters (2007), mobile learning is a technocentric learning system. Mobile learning can also be counted as an extension of e-learning. Mobile learning has some characteristic features. The context of mobile learning is more than time and space. Mobile technology changes the pattern of learning and enables students to achieve understanding. Therefore, access anywhere and anytime to the courses makes mobile learning more effective. Mobile learning also supports personalized learning.

It is clear that the intense usage of smartphones will continue in the future, and it is clear that the most intense users of smartphones are young people. Thus, in order to reach out to young people, educators employed new technologies also. Today's children will be students in the future and they will be used to using new communication technologies in their everyday life. Therefore, sitting in the classrooms under a one-sided communication method will not be appropriate for them. The flow of information is very fast, and students can have access to the information they want, especially when they want it very fast. As a result, educators have to use some new kind of education technologies. However, mobile technologies help educators to create new education technologies. Currently, many universities use distance learning and mobile learning applications in their education process. According to Ambient Insight Report (2015), the mobile learning market is growing. This growth is illustrated in figure 1 below.

Figure 1. Worldwide Mobile Learning Five-year Growth Rates by Region



Source: www.ambientinsight.com

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According to the report, mobile learning is growing fast worldwide. Most rapid growth can be seen in Latin America, Eastern Europe, and Africa.

There are different types of learning trends which are being used in mobile learning. These trends have been explained below. The most used version of mobile learning can be counted as "Open Access Courses." Many universities in the world, for example, Harvard, MIT and Yale, have created open access courses to reach many students all over the world. Open access courses can be described as online courses aimed at unlimited participation and open access via the web (Bozkurt, 2015). In addition to traditional course materials such as filmed lectures, readings, and problem sets, many open access courses provide interactive user forums to support community interactions among students, professors, and teaching assistants.

Another mobile learning trend is "Flipped Classrooms." The flipped classroom is an instructional strategy and a type of blended learning that reverses the traditional learning environment by delivering instructional content, often online, outside of the classroom. It moves activities, including those that may have traditionally been considered as homework, into the classroom (www.washington.edu, 2015). In a flipped classroom, students watch online lectures, collaborate in online discussions, carry out research from home, and engage in concepts in the classroom with the guidance of a mentor.

Gamification is also a new trend that can be used in mobile learning and can be connected with flipped classrooms. Gamification can be described as transferring information via games. Especially when learning a new language, Gamification will be very effective as a learning tool.

Personalization is one of the newest trends in mobile learning technologies too. With personalization, every student can be able to create their own learning process. Augmented Reality can be described as the newest trend in mobile learning. With the developments in mobile technologies, augmented reality became a learning tool in mobile learning.

6. Augmented reality

What is "augmented reality"? Augmented reality, comprises a live view of a real-world environment ("reality") with computer-generated input (including sound, graphics, text, video, and GPS information) supplementing ("augmenting") the visual elements in the view. In other words, AR provides us with an enhanced view of the real world (Haag, 2013). According to Adkins (2015), augmented reality will be an effective mobile learning tool in the future. Mobile Augmented reality is an ideal technology for Mobile Learning and there are dozens of successful products on the market. Mobile augmented reality, overlays images, schematics, multimedia, 3D objects, animation, location data, and other forms of digital content on real-world objects and locations via the device's camera. Also, most AR contents are interactive. In the last decade, augmented reality has progressed from a specialist, relatively expensive technology to one that is now commonly available to the general public, due to technological advances in mobile computing and sensor integration (FitzGerald et al., 2013).

Until recently, augmented reality applications were mostly available for powerful workstations and high-power personal computers. Mobile AR allows devising and designing of innovative learning scenarios in real-world settings. This carries much promise for enhanced learning experiences in situated learning (Specht et al., 2011).

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The augmented elements are "triggered" by object recognition, print-based markers, barcodes, and geotags (collectively, these are known as triggers). Mobile augmented reality educational apps emerged in 2010 and had a rocky start (Adkins, 2015). Supported by wearables like Smart watches and Google Glass etc, augmented reality will allow the expansion of the learning environment.

Mobile augmented learning is also spreading to the schools. London-based Blippar sells an AR authoring tool called Blippbuilder that embeds AR triggers in print material (Adkins, 2015).

6.1. Augmented reality in mobile learning

With augmented reality, the lot of difference can be made to the practice in the classroom. Students can do their homework by scanning a QR code. They can visit a virtual hospital or a store and make practice. They can watch a video, share a video, or create a video for their courses. So, it can be said that there are endless ideas and possibilities for using augmented reality in the education process. Augmented reality also helps the student to engage in lessons with joy, flexibility, and ease of learning.

Augmented reality will change the education process. There are many applications of augmented reality to be used in classrooms. One of these applications can be described as Aurasma. With Aurasma app., teachers can create their augmented reality experiences and engage students in creative ways. Other augmented reality apps can be counted as Popar Toys, Daqri, Quiver, and Chromville (Brown, 2015).

The possibilities for augmented learning and teaching are being used by the educators. The coexistence of virtual objects and real environments helps students to understand complex spatial relationships and abstract concepts (Arvanitis et al., 2007). When the literature survey on the use of the augmented reality in educational activities was made, the following studies were reached. A study where AR was used in a static environment, using desktop computers both at school and home, showed that AR supported particular learning activities, such as problem-solving in a highly interactive and memorable fashion (Luckin & StantonFraser, 2011). Salmi et al. (2012), analyzed the use of augmented reality in the Science Center to Go project, in which a special suitcase of miniature exhibits of a science center was designed. The study investigates the pedagogical benefits of using Augmented Reality technology applications in teaching sciences at school, the role of augmented reality in teaching sciences at school differ from the role of using traditional ICT applications and how does the tool known as New Educational Models or Paradigms originally developed for ICT-education research purposes, and as the modified version, fit for the research of AR among the teachers and teacher trainees. The sample is consisting of 292 person, 128 in-service teachers and 164 teacher students. According to results of the study, it can be said that with AR it is possible to combine real objects with virtual ones and to place suitable information into real surroundings.

The possibility of AR to make convergence of education is challenging as the technology optimizes and expand. The project implements AR tools that visualizing the invisible (forces, fields) by projecting virtual objects onto a real experimental setting. And as a result of the study, it can be said that AR will be an education routine because of its usability. In their Study, Cadavieco et al. (2012), aimed to propose an app of AR for the specific educational purpose. According to the result of the study, the proposed app will be beneficial for higher education and will provide

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methodological breakthroughs. Martin-Gutierrez et al. (2012) also create an app for teaching practice for engineering students. According to the results of their study, the augmented reality app helps the students in specific tasks' training. The survey shows that all students expressed the positive attitude to the augmented reality technology and the augmented contents. The overall appreciation of the training was excellent and most students considered it very useful, very interesting and they were satisfied with the technology and methodology. According to the results of the study, all students considered that AR system is pleasant to use. Fonseca et al. (2013), aimed to assess in their study whether a new teaching approach, focused on the use of mobile technologies for visualization and presentation of architectural models in 3D, is better suited to the technological profile of the student over traditional techniques.

The study was carried out with the 73 students of "Informatics Tools I", a module in the first-year course of Architecture and Building Engineering. According to the result of the study, the new methodology which designed in the study, help students to acquire a better spatial understanding of their work, directly contributing to an improvement in their curriculum evaluation. FitzGerald et al. (2013), discussed the theoretical underpinning of AR in relation to situated learning and created a taxonomy of AR mobile learning projects as an interesting way of analyzing current trends and exploring the potential for future development in their study. According to their conclusions, FitzGerald et al. (2013), emphasizes that AR can be used very successfully for resident and constructivist learning, especially where collaboration and student inquiry are key aspects. Cuendet, Bonnard, Do-Lenh and Dillenbourg (2013), working on the use of augmented real-world technology in the classroom environment, not just in the environment, but also in the classroom environment. Within the scope of the exercises, the applicability of the augmented reality applications in the classroom environment has been tested.

The results of the study suggest that augmented real-world technology can be used in the classroom without constraining the course. Arslan and Elibol (2015) investigate the educational augmented reality applications developed for mobile devices. Fist 100 mobile app in Google Play Store which searched under the key words " augmented reality and education". According to the results of their study, it was concluded that augmented reality applications run mainly on paper and when the pointer on the paper is swiped as augmented reality they are video –playing applications. The authors pointed that, developing applications including all subjects of a lesson is important. Ibili and Şahin (2015) prepared a 3D geometry book using the augmented reality application. As a result of their study, it has been found that AG-supported geometry teaching contributes to the cognitive and emotional learning of the students both in the use of the computer laboratory and in the classroom environment, and this educational effect is supported by teacher and student views.

In Balak and Kısa's study (2017), the effect of Augmented Reality technology which can be used as an educational tool, on technical drawing course to teach the course in an attractive and more entertaining way and improve spatial abilities of students in shorter time than the classical teaching method without losing their motivation is discussed. After applying Augmented Reality technology with smart phones at technical drawing course in the 2015-2016 summer semester, outcomes of the students were measured. According to the results of the study and the pre-last tests, it has been determined that the spatial animation skills have significantly improved, the students have understood, adopted and improved the teaching of this technology, which is the modern educational tool, AR technology.

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Another study which is about augmented reality in education (Çakır et al. 2015), investigate the effect of augmented reality technology, which was developed to enrich instructional environments and make them efficient, on students' academic achievement and motivation through its implementation in a classroom. As a result of the study, it was observed that the students who were taught with the augmented reality technology were significantly more successful. In addition, "Material Motivation Survey" was used to measure the motivation of the students about the materials developed for teaching English words prepared with the augmented reality technology. When the results are examined, it is seen that the motivation of the students is high. The results of the study show that the use of augmented reality technology in teaching foreign language vocabulary has a positive effect on the performance of students. Küçük et al. (2014) found that secondary school students are pleased with learning English by the aid of AR, they have a low anxiety level and they want such applications to be used their courses in future.

Taşkıran et al. (2015) also found that the augmented reality applications can be used as an effective learning material in foreign language teaching. According to the findings, AR applications are highly interactive, beneficial to the learning process and easy to use during learning-teaching. Learners are pleased about the use of augmented reality practices in teaching foreign languages. It is expressed that augmented reality seems to be fun, motivating, enabling learning by living and allowing learners to actively participate in the learning process. Koşan (2014), has examined the applicability of augmented reality applications to accounting courses in his work. According to the research, the use of the augmented reality applications in the social sciences such as science will increase gradually. Küçük et al. (2015), determine the medical faculty students'views on anatomy learning via ‘mobile augmented reality' technology. According to results of the study, students' views toward augmented reality-based learning were highly positive. Students especially emphasized how augmented reality-based learning generated sense of the reality, materialized the subjects, increased interest in the lesson and was beneficial for individual study by providing a flexible learning environment.

6.2. Use of augmented reality in marketing course

It can be seen that the augmented reality can also be used in the social sciences when the literature on the use of the augmented reality in educational activities is searched. So it is also possible to use increased reality applications in marketing courses. Marketing courses can be described as the most dynamic courses in Business Administration programs. Marketing courses can be counted as Brand Management, Consumer Behavior, Strategic Marketing Management, Advertisement Management etc. So, it is clear that when these kinds of courses are engaged with augmented reality, it can bring an effective learning process to students. With augmented reality, it can be said that students enjoy the lessons more than in traditional education. Also, there will be an interactive study environment between students and teachers as well.

At present, lecturers are not infrequent use of AR applications in the current marketing courses. Although the use of AR in marketing courses has not started, AR applications for marketing activities for companies have begun. Virtual cabins, promotional campaigns with AR, gamification, AR catalogues, cosmetic AR applications, interactive advertising and virtual showrooms have been used by companies. Hotels, restaurants, and cities also organize virtual tours and utilize AR applications to advertise. Museums also started to use AR Apps in virtual museum activities for marketing. It can be seen that AR applications have started to become an important

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tool for service marketing. Therefore, it can be stated that AR applications can make lessons useful in-service marketing courses. Students should be aware of these applications at a time when companies start using AR applications. So using AR applications while marketing courses are being processed will also be useful for students in business life. In the future, it is foreseeable that these apps will be used in marketing courses frequently too. So how can educators use AR in marketing courses?

With the application of augmented reality in marketing courses, teachers can create a hybrid education environment. It can be used to create a virtual store where students can learn Consumer Relationship Management like they are in a real store. Also, students can act like employees and learn how to behave towards consumers. In this sense, it can be said that applying augmented reality to marketing courses can bring a highlight of innovation in higher education.

QR codes can provide hybrid course materials. Thus, interactive marketing courses can be created. With QR codes, videos, and images, presentations can be added to the course materials. This would help students to find an opportunity to see the examples of related subjects at the same time.

Textbooks called magic books that contain pictures etc. previously placed in which is compatible with AR applications, will make marketing courses more interesting and interactive.

Using AR with location-based applications, students can achieve the opportunity to reach any 2D or 3D marketing sources they want, without the need of traveling around the world. Using AR in advertising course will make the course more engaging. Students will be able to watch firms' advertisements with AR apps during the course. Also, one of the important subjects of marketing courses can be explained as Marketing Mix. As it is well known, the basic part of the Marketing Mix contains four elements. These elements are Product, Price, Promotion, and Place. While teaching marketing mix, in explaining the Product, the educator can explain the Production Process with AR. So, when students watch a production process video via AR, they can learn all the production process easily. Also, educators can use AR during the teaching of Price, Promotion, and Place. With AR apps, educators can create learning games and Quizzes so students can repeat the marketing subjects before their final exams. According to Allred and Swenson (2006), the use of technology in marketing education is common and is even on a constant rise. Furthermore, these studies indicate that the use of technology affects student participation.

Consequently, successfully engaging students in the learning process present a significant challenge to marketing educators (Levin and Dawis, 2007). Also, according to Brooks et al. (2006), marketing professors are embracing computer-based simulations within their classrooms. These simulations do offer an impressive array of benefits through an experiential-based learning approach.

7. Conclusion

The development of digital technologies and communication have opened new doors to educators. Though distance learning is not a new development, the usage of internet via mobile devices is a revolution in distance learning. This revolution can be known as mobile learning. Mobile learning provides long life learning which leads to more student participation, teamwork, and flexibility. Making education process via mobile devices can be described as mobile learning, and

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the newest trend in mobile learning can be explained as augmented reality. It is seen that it contributes to the educational activities of AR applications, even though it is used in different types of courses. It can, therefore, be predicted that the use of your increased reality in marketing courses will provide a similar benefit.

Augmented reality brings a new way in the mobile learning process. With augmented reality, students enjoy the lessons and are more interactive in the classroom. One of the lessons that can be efficiently practiced through mobile learning is the marketing courses, and it can be said that applying augmented reality to marketing courses can bring a highlight of innovation in higher education. Augmented learning reduces the geographic limitations and has a direct feedback. So, whether being a student or not, everyone who wants to practice marketing courses can benefit from this process. Augmented reality is used mostly in medicine and science in the field of education. Although the AR applications started to be used in the field of marketing, there was no study about usage in marketing courses. So this study aimed to offer suggestions on how to use the augmented reality in marketing lessons. When the studies in the literature are examined, it has been found that the use of AR applications in lessons makes the courses more interesting, increases the interactivity, creates a positive attitude in the students, benefits the learning process and in the future students want to benefit from the applications like AR applications. To sum it all up, it can be said that AR will make a difference in students' education life and make the marketing lessons more understandable. Furthermore, every student has a different learning style and capability, and AR will assist them in learning. AR applications can be used as an ideal tool in education because it is a learning tool that supports, attracts and motivates learning. The widespread availability of AR applications will depend on the ability of the trainers to effectively use these applications and the appropriateness of the specifications. Therefore, the fact that the trainers who run marketing courses have mastered the subject will increase the availability of AR applications. Today's students and future young people are made up of individuals who closely follow technological innovations and changes in their daily lives.

So, the use of new technologies such as AR in marketing lessons will also make it easier to reach these young people.

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